

SPECIAL NUMBER

ANCIENT PAKISTAN

BULLETIN OF THE DEPARTMENT OF ARCHAEOLOGY
UNIVERSITY OF PESHAWAR

VOL. V — 1970-71



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DEPARTMENT OF ARCHAEOLOGY
UNIVERSITY OF PESHAWAR.

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Title Cover
Terracotta
Snake-goddess
from Gumla (See Page 68).

All Communications to be addressed to the Editor.

Price \$ 10/-

Published by
THE CHAIRMAN, DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF
PESHAWAR, PAKISTAN.

PRINTED AT THE KHYBER MAIL PRESS, PESHAWAR.

Excavations in The Gomal Valley

By

PROF: AHMAD HASAN DANI



1 a. Painted sherds having lion and ass from Gumla, Period II;
birds from Hathala; Horned deity from Gumla period III.

FOREWORD

With the publication of the fifth volume of this Bulletin the University of Peshawar has completed a study in the archaeology of a new area which had been so far neglected. The Gomal plain, which lies at the foot of 'Takht-i-Sulaiman, opens into the vast Indus Valley on the east and connects through the Gomal Pass the extensive valley of Arghandab in southern Afghanistan. The two valleys have been in touch throughout history and the Gomal plain has afforded the needed stop-over for the historic *Powindas* who have moved to and fro in search of food for themselves and fodder for their animals. After all Gomal is the "land of cattle" and its irrigated plain has produced food sufficient to sustain a sizeable population.

It was therefore no wonder that the Department of Archaeology should have directed their attention to the search of the lost culture of man in this zone. It is satisfying to note that their first season's work has proved to be far-reaching in throwing light on the most important aspect of the Bronze Age Civilization of Pakistan. While Gomal plain has been placed on the archaeological map of the world, the discoveries

have produced stratigraphic evidence not only to trace the antecedents of the Indus Valley Civilization but also to follow its successors in the later stages.

For all this achievement I congratulate Prof. Ahmad Hasan Dani, Chairman of the Department of Archaeology, and Mr. Sardar Muhammad Khan, the Field Superintendent, who conducted the excavations. Professor Dani, an eminent archaeologist, occupied the chair in Archaeology in this University for the last nine years and has during this period contributed a great deal to the History of Pakistan in general and the History of North West Frontier Province in particular through the excavations and researches conducted by him. I also thank Dr. M. Raziuddin Siddiqi, the Vice-Chancellor, University of Islamabad, for allowing Prof. Dani to complete his report in spite of his present responsibility as Professor of Cultural History and Dean of Social Sciences in the University of Islamabad.

Professor Dani has asked me to thank the Pakistan Air Force for supplying the Department with the aerial photograph of Rahman Dheri.

Abdul Hashim Khan, S.Q.A.
Vice-Chancellor
University of Peshawar.

SUMMARY OF RESULTS

The Gomal excavations have revealed the archaeological treasures of a hitherto unknown area and opened up a new possibility of better understanding the links between the Bronze Age Civilizations of the valleys of the Indus in Pakistan and of the Arghandab in southern Afghanistan. The Gomal route is the shortest between the two valleys and the excavations here have produced a time scale to view their cultural material in their true sequence. The different stages in the evolution of the Bronze Age is now fully evidenced at Gumla. The material unearthed speaks eloquently on the predecessors of the Indus Valley Civilization as well as on its successors. On the one hand it goes back to the Neolithic age of non-ceramic culture and on the other it introduces a new horse-riding people, who inheriting the remnant of the older Bronze Age Culture, made bold for a new age that lingered on to the historic period.

The Gomal has widened the geographic horizon and for the first time provided a large context for understanding the scattered cultures known from Kot Diji, Kalibangan, Jalilpur and Saraikhola, and further added a culture of the Gomal zone itself. By inter-linking them all to the Gomal

route, it has re-emphasized the historic path through which the rays of the Bronze Age Civilization in Pakistan and India must have spread. Baluchistan is now reduced to a hinter hill zone where cultural infiltration served as a refuge area as it has been throughout history. The Gomal has now produced the key to the understanding of the dawn of civilization in Pakistan.

The discovery of the well-planned city site at Rahman Dheri in the Gomal plain has brightened up a new prospect to trace the origin of the Indus Valley Civilization.

The recognition of a new grave complex in the Gomal plain and its spread into the Indus Valley has now made possible to speak firmly on the history of the Aryans.

In the Gomal area itself the history of Dera Ismail Khan district has been extended from the historic period back into the Bronze Age and to the Neolithic stage of human settlement. The North West Frontier Province can now take pride in finding its due share in the earliest civilizations of the world and adding to the make-up of the world famous Indus Valley Civilization.

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1 b. Painted sherds (1) Deer from Hathala; (2) Horned deity from Gumla, period III; (3) Deer from Gumla, period III; (4) Horned deity from Hathala.

CHAPTER 1

THE GOMAL VALLEY

Nomenclature:—

The Gomal is a vast alluvial plain of the "Derajat" in West Pakistan. Extending along the right bank of the river Indus, the plain slopes south-eastward and drains the water into the Indus from the western hills that separate Pakistan from Afghanistan. Once across these hills the traveller has a breathing space for rest in the Gomal valley, which leads him directly without any further hilly barrier over the great Indus river to the extensive plains that have constituted the main granary of the region. For those coming from the side of Afghanistan, particularly along the southern margin of flats right over Herat, Kandahar and Ghazni, the Gomal provides an easy access — alike to the travellers, settlers and invaders who have had an avaricious eye for the rich harvest of the Indus. No wonder that from time immemorial right down till today the Gomal has been a rendezvous of the Powindas' — "foot-marchers" through long currents of time from Afghanistan into Pakistan. As these *Powindas*, and other men of their kind, have been coming from the Central high massifs of Afghanistan into the plains of Pakistan along with their cattle, camels and goats during the cold months of the winter to find food for themselves and fodder for their animals, the river channel through which they pass and the plain where they encamp, have both borne the significant name of Gomal, deriving from the Vedic Sanskrit *Gomati*, meaning "Possessing cows".²

With this name the scholars have generally associated another word *Thatagush*, which appears in the inscriptions³ of the Achaemenian emperor Darius. It has been Sanskritised by Dr. Sircar as *Satagu*, obviously implying "a land of hundred cattles". This meaning brings the word closest to the usual form of Gomal. Resemblance has also been sought with the term *Sattagudai* used by Herodotus in the following passage:

"The Sattagudai and the Gandariol and the Dadikai and the Aparutai, who were all reckoned together, paid 170 talents. This was the seventh satrapy".⁴

Sir Olaf Caroe⁵ has discussed in detail the identification and has also gone a step further in associating with it the Pukhtun tribes, the Khattaks and the Shitaks. However, these tribes have never been associated with the Gomal Valley.

Western Hills:— Sir Aurel Stein⁶ has quoted two literary evidences to trace the ancient history of the western hills. The first is taken from Hiuen Tsang, which is given below:

"The common report says on the western frontier of this country (i.e. Fa-La-Na = Bannu) is the kingdom of Ki-Kiang-na (Kikana?). The people live amid the great mountains and valleys in separate clans. They have no chief ruler. They breed an immense quantity of sheep and horses. The shen horses are of a large size, and the

1. The word is thus explained. "پوینده" *Powindah*, s.m. (6th) (P.V. پویند). The name given to the nomad tribes of Afghans who move about with their flocks and herds and act as carriers between their own country and India". Raverty — *Dictionary of the Pushto language*, Pp. 1106, 1140 and 1153.
2. A.A. Macdonell and A.B. Keith — *Vedic Index*, Vol. 1, reprinted by Motilal, 1967, P. 238.

3. D.C. Sircar — *Select Inscriptions*, Calcutta, 1942, Pp. 5 ff.
4. *Herodotus*, Book 3, 91.
5. Sir Olaf Caroe: *The Pathans*, London, 1902, Pp. 36-40
6. "An Archaeological Tour in Waziristan and Baluchistan in *Memoirs of the Archaeological Survey of India*. No. 37 Pp. 29-30.

countries around breed but few, and therefore they are highly valued".¹

Sir Aurel Stein gives the variant reading *Chi-chiang-na* and identifies it with the hill region now known as Waziristan. He further quotes from Baladhuri² and refers to the early Arab raid and defeat in *Qiqan* of "a large host of Turkish horsemen the fastness of whose mounts is specially praised". This raid took place along with the Arab advance into Bannu. As *Qiqan* is said to have lain between Multan and Kabul, it is generally believed that the Arab place name is identical with that given by Hiuen Tsang and that finally it should signify modern Waziristan. However, there is no record of these place names in any subsequent literature.

Later Names:—

In the early British records "Derajat" is a familiar word used for this trans-Indus region. It is the plural of "Derah" signifying "encampment," or in general "a house or dwelling" and implies jointly the areas included within the control of Dera Ismail Khan, Dera Fateh Khan and Dera Ghazi Khan — three well-known towns named after three Baloch chiefs who, originally hailing from Kech Makran, founded them in the late fifteenth century A.D. Since then the Baloch tribe has played a prominent part in this region. The British constituted two districts named after Dera Ismail Khan and Dera Ghazi Khan, both of which still continue although their boundaries have changed considerably. Today while Dera Ismail Khan lies west of the Indus, the city of Dera Ghazi Khan

lies to its east. But it must be noted that the old city of Dera Ismail Khan has been washed away by the river. The new city at its present site was founded in 1823 by Nawab Sher Mohammad Khan.³

Another old term still remembered is the *Makkalwad*⁴ or *Makkalwadh*.⁵ Raverty rightly discards the old spellings "Mukelwad" and "Mucklewad", and observes: "In the most recent maps, this tract appears as 'Kolache. The town (now a tehsil head-quarter) of Kulachi lies a little over 26 miles west of Derah-i-Ismail Khan." The Gazetteer records: "The term *Daman* (see below) originally applied only to that portion of the trans-Indus tract lying immediately under the hills and forming the *Daman* or the skirt of the hills. The eastern portion of the tract towards the Indus was known as *Makkalwad*. The term *Daman* is now applied indiscriminately to the whole country from the Indus to the hills. The term *Makkalwad* has fallen out of use though it is occasionally employed to distinguish the country towards the Indus from the submontane tracts, which are mainly occupied by the Pathan tribes". Raverty quoting from a Persian work *Sair-ul-Bilad* gives a complete picture in connection with the tribe "the Hut".⁶ He translates:—

"This is a noble tribe of the Baluch, and consists about 20,000 families, who dwell in the territory of Derah-i-Ismail Khan. Their portion of it extends from the village of Rang (Rangpur) to Paharpur, a distance of 50 kuroh in length, and from the Sind river to *Daman*, 12 kuroh in breadth. The cultivation is much the same as that of the District of Derah-i-Ghazi Khan, and the water of the river Gumul which issues from the mountain barrier to the west, is expended in the irrigation

1. Samuel Beal — *Chinese Accounts of India*, reprinted in Calcutta, 1958, Vol. IV. P. 468.
2. For original see *Futuh-ul-Buldan*, Urdu tr. by Sayyid Abul Khair Maududi, Karachi, 1962, Pp. 613-614. Arabic text, Cairo edition, Pp. 438-39.
3. *Gazetteer of the Dera Ismail Khan District* (1883-84) P. 199.

4. *Ibid*, Pp. 3-4.
5. H.G. Raverty — *Notes on Afghanistan and part of Baluchistan*, London 1888, Pp. 4-5. Pp. 36-40.
6. *Ibid*, Pp. 451-452.

of the tract of the country held by the Hut tribe. The lands also which the waters of that river reach, are called Gumul.

"As this tribe resided, in times by-gone, at the town of Makkalwadh, — the plain country immediately north of Sanghar, on the right bank of the Sind river, is so called, — their country is also called Makkalwadh. It brings in a revenue of just five lakhs of rupees. The seat of Government of this part, that is to say, Makkalwadh, is Derah-i-Ismail Khan, a considerable city, founded by Ismail Khan of the Hut tribe; and the products of Sind and Hind, Iran and Turan are disposed of here."

Later on while tracing the route from Khushab on the Jhelam to D.I. Khan, Raverty again quotes from the same work. "From Harnoli you go fourteen kuroh west, inclining south-west to Kahlur (modern Kallar Kot), an ancient town with sixty villages and their lands dependent on it. The Sind river lies two kuroh to the west of the place; and one kuroh south of it is Naghari (correctly Nagari) from which you go another kuroh in the same direction to Nuwan, another to Umar Wali, and three in the direction of south-west, to Suwadpur. Half a kuroh more brings you to Makkalwadh, previously mentioned in the account of the Baluch tribe of Hut. Both these last-named places are ancient towns, and the latter was, in the olden time, the capital of the Hut tribe. When Ismail Khan and other chiefs of the Hut acquired considerable state and dignity, they abandoned the territory which had been their former dwelling place (i.e. Makran), and founded a large city (town) on the other side of the Sind, and styled it the Derah of Ismail Khan. From that period these two towns began to go to decay, and were neglected and now they are desolate.

"Upto this period of time the tract of country extending from Kahlur to Darya

Khan, and from the Derah of Ismail Khan to Paharpur, they call Makkalwadh, after the above-mentioned old town."

Thus according to this Persian source *Makkalwad* included both trans-Indus as well as cis-Indus areas, and in the last century the district of Dera Ismail Khan incorporated both these tracts. But today the cis-Indus area, generally known as *Sind Sagar Doab*, comprising Laiyya and Bhakkar tehsils, has been cut off from that district and joined with Panjab districts. There is no trace of the old town of Makkalwad.

The meaning of the word *Makkalwad* is not difficult to surmise. It consists of two parts — *Makkal* and *wad*. The latter is derived from *Wada'* meaning an enclosed area. *Makkal* appears to be a proper name. Its original form is difficult to surmise. In any case the term *Makkalwad* appears to be a survival from the pre-Muslim period. Can we look into it the form *Qiqan* which we get from the Arab sources?

The Daman:— Raverty has given a good account. He writes:² "Daman, as its name indicates, lies at the foot or skirt of the Koh-i-Sulaiman, and extends from Tak to Chaudh Wa'an and west to Zarkani so-called after a clan or section of the Shpun Baitnis. On the east it joins the district dependent on the Derah of Ismail Khan; and on the west, extends to the foot of the mountains — the easternmost skirts of the great range — which the Afghan inhabitants here style *Ghar*, — the Pushto word for mountain — and also *Shu'al*. Daman, therefore, is about forty kuroh long, from north to south and about twenty kuroh broad, from west to east. Its surface is generally flat, and is sometimes sandy, but consists chiefly of clay and sand which

1. *Apte's Sanskrit — English Dictionary*, Revised edition, Poona 1959, P. 1410.

2. Raverty, *Op. Cit.*, P. 328.

have become considerably hardened, indicating that it has been formed of the debris washed down from the mighty range in the course of centuries, but, more particularly, from the easternmost or lowest ridges of the outer chain, which are composed of sandstone grey in colour. Near the hills this hardened surface is partially covered by a broad belt of boulders and small loose stones washed down in time of floods. Where there is no water available for irrigation purposes, this surface is bare of grass but it is partially covered with low tamarisk *jangal*, and the *jawasa* or camel-thorn (*hedysarum alhagi*), but the trees are few, and seldom attain any considerable height. The rainy season of this part is the winter; and the custom of sinking wells is unknown, and river water is used for all purposes. When the rivers become dry they dig in their beds to about the depth of a man's stature, and pure water issues forth, and suffices for the use of man and beast".

Mihtar Sulaiman:— The Daman can be understood only in term of the lofty western hill that intervenes between the Derajat and the Kandahar — Ghazni area of Afghanistan. Raverty has collected together all the traditions and the details of the routes that pass over it to the west. First to quote is the distant view. "The westernmost ridges, which can be plainly distinguished from Multan, a distance of over eighty miles, on a clear day, and the highest of which is snow-capped in winter, are what is commonly known as the range of *Mihtar Sulaiman*, from its highest peak, called the *Takht-i-Sulaiman*, previously referred to, but styled by the Musalman people of these parts the *Koh-i-Siyah*, and by Hindus, *Kala Pahar*, or Black Mountains, for such is the colour they assume, while the lower or easternmost range, by reason of their colour, a yellowish red, are styled the *Koh-i-Surkh*, and *Rata Pahar*, but the latter name is not so common as the former, both to Musalmans and Hindus".¹ It

is further narrated, "West of the town of Chaudh Wa'an (see Fig. 1) rises that lofty peak of the *Koh-i-Sulaiman* or *Koh-i-Siyah*, called the *Takht-i-Sulaiman*, or 'Solomon's Throne' (see Pl. 2 a), giving name to the whole of the stupendous range. The Afghans style it *Kesah-Ghar*, and *Kasi-Ghar*, and also *Shu-al*. It is a very lofty mountain, and on the summit of it is the place of pilgrimage, known to the Afghan people as the *Ziarat* (or Shrine or place of Pilgrimage) of the Patriarch, Suliman

"From the town of Chaudh-Wa'an to the *Ziarat* of Hazrat Suliman, on its summit, is a distance of twenty-five kuroh, and the way thither is well-known. This great range of mountains intervenes between Kandahar and the Derah-jat, extending lengthways from the Darah of Khaibar and Jalalabad on the north, to Siwi and Dadar on the south, a distance of just three hundred kuroh, and in breadth, including its offshoots, one hundred kuroh. Within these limits, forming an extensive territory there are numerous darahs and plateaus; and it was herein, but especially in the vicinity of, and around, Kasi-Ghar, or Shu-al, that the Afghan tribes, according to their traditions, first took up their abode, and subsequently spread out in all directions".²

Raverty further gives the tradition in full; "The Afghans call it *Ghar*, *Kasi Ghar*, and *Kesah Ghar*, which they say, is because it is the father³ of, and the greatest among, mountains. They likewise call it *Shu-al*, and *Shu-al Ghar*, as previously mentioned. Persian speaking people, or Tajziks, call it *Koh-i-Suliman*, and *Koh-i-Siyah*; and these names are applied as the general designation of the whole of this great range. The tradition among the people of this

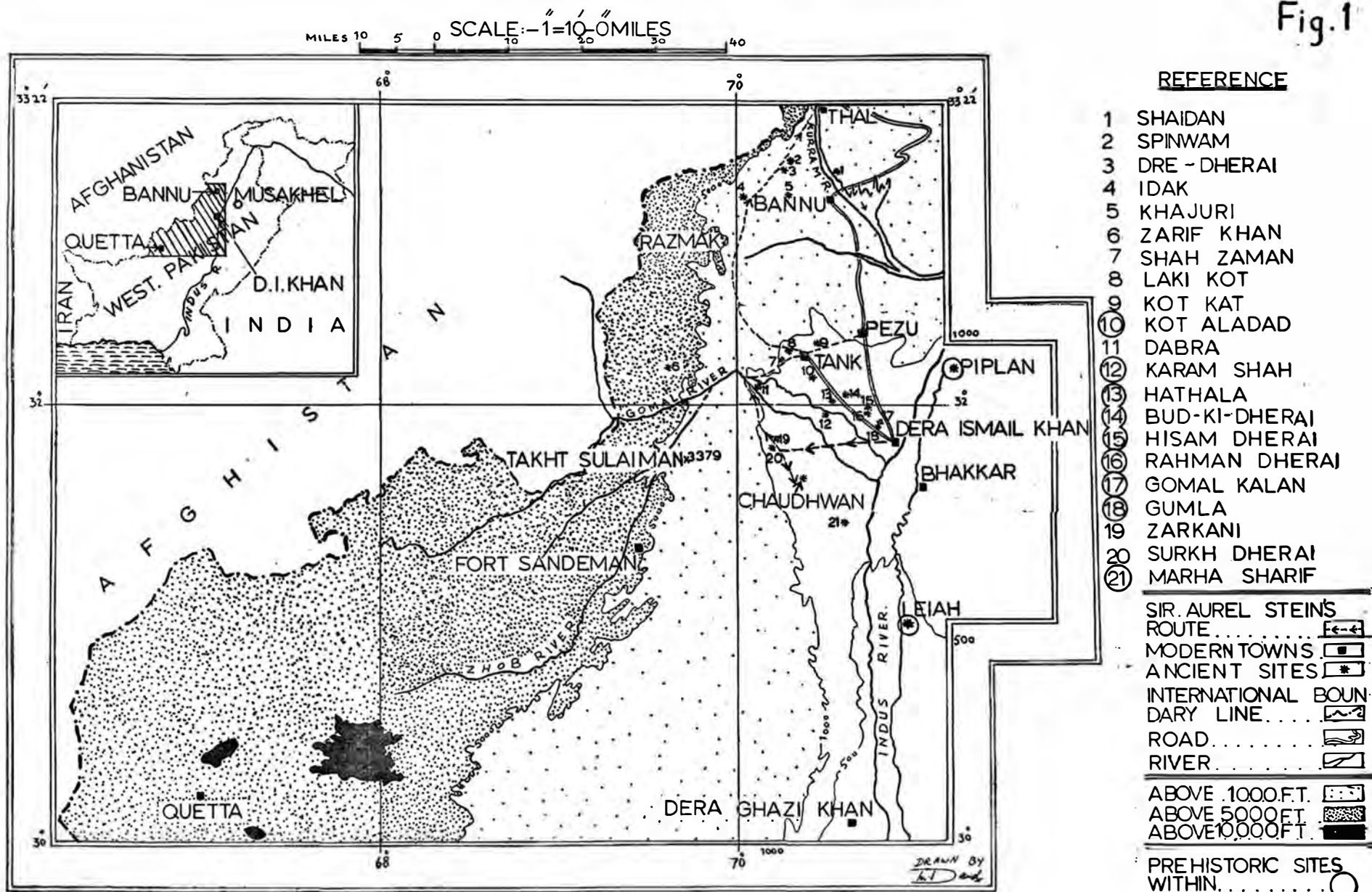
2. *Ibid*, P. 329.

3. Raverty notes the probability that "Kasi Ghar is a corruption of *Kaisi Ghar*, or the mountain of the descendants of Kais-i-Abdur-Rashid, the founder of the Afghan race". Foot note on P. 522.

1. Raverty, *Op. Cit.*, P. 5.

ANCIENT MOUNDS IN GOMAL & KURRAM VALLEYS

Fig.1



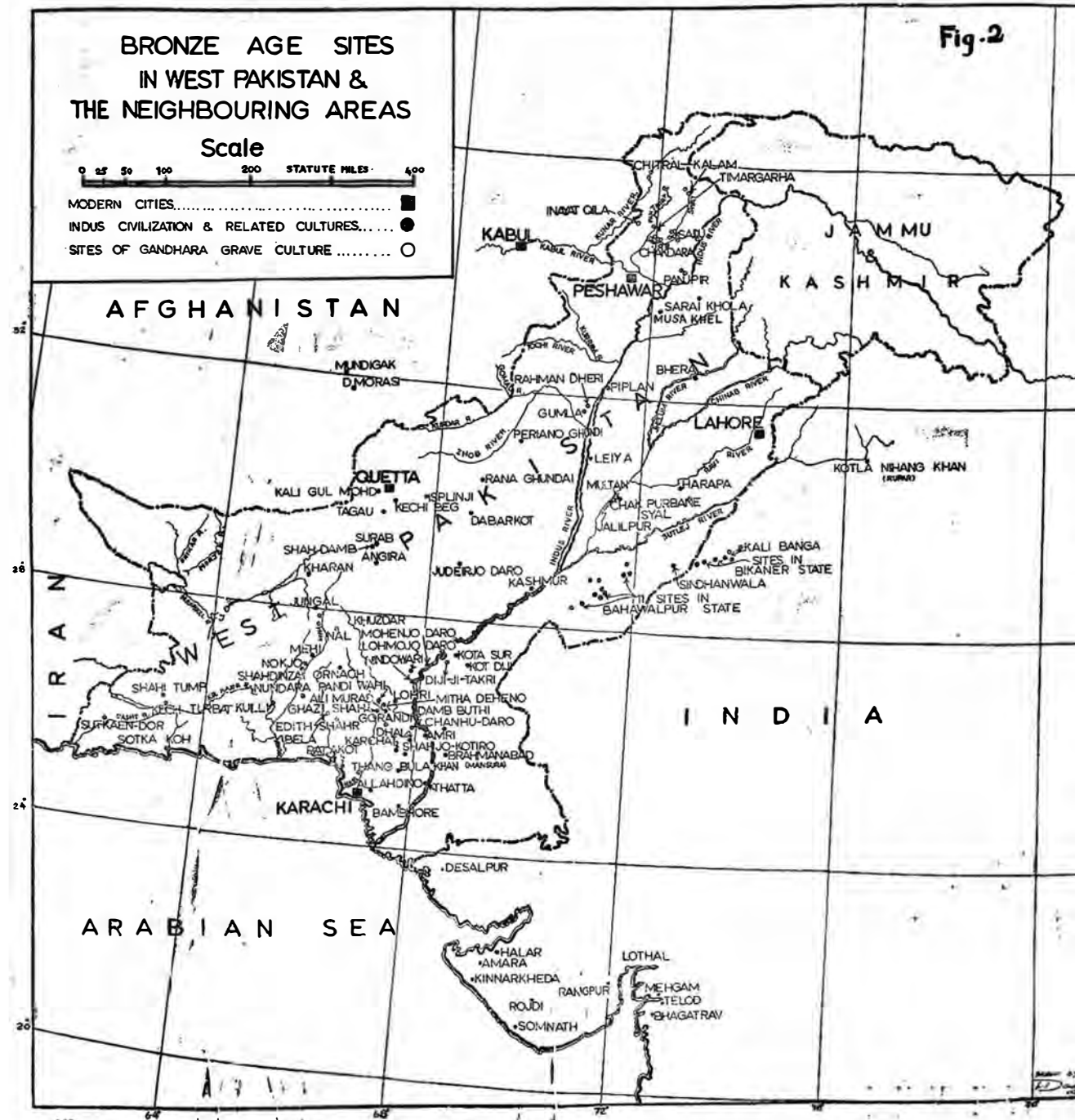


Fig.3



BRONZE AGE SITES IN
IRAN , AFGHANISTAN , PAKISTAN

part is, that the Patriarch Suliman (Solomon) used to sit at, or upon (hence the name *Takht*), a certain place thereon, on a ledge of rock, and that, close to the place in question, there is a small masjid..... which is said to be of that Patriarch's founding, and which is resorted to by the Afghans as a place of pilgrimage. Further, that there is a great copper pot or caldron to be seen there, large enough to cook a hundred *manns* of food, and iron rivets of sufficient size and strength to support this great caldron. Near the place where this vessel lies, a Muhammadan *darvesh* has built himself a dwelling, and there he performs his devotions. On the summit of this place a red flag is raised, after the manner of *darweshes*. The sides of this vast mountain range are clothed, every here and there, especially on the lower sides, and in the great clefts, but chiefly in the more sheltered places towards the summit, by dense forests of firs and wild olives; and about its sides and on its offshoots, and near its *Ziarat-Gah*, or place of Pilgrimage, the Afghan tribe of Sherani, which contains many branches or divisions, dwell".¹

Physical features of Mihtar Sulaiman:—Raverty defines the northern limit thus. "In reality the river Kurmah (i.e. Kurram) and its affluents above the Darah of Kurmah, separate the Spin Ghar, or Koh-i-Safed, or White Mountain range from the range of Mihtar Sulaiman".² About the marginal ranges Raverty writes: "Range of Mihtar Sulaiman is flanked on the outside, more or less, on all four sides, from the Indus on the east, to the Tarnak on the west, and from the river of the Kurmah Darah on the north, to the plain of Kachchhi on the south, I may first mention that the Pushto and Tajzik words for red are constantly occurring in the names of these parts; namely *Sur* (the feminine form of which is *Sarah*) in the former language, and *Surkh* in the latter. The Turkish equi-

valent of Koh-i-Surkh would be *Kizil Tash* or *Ulan Tagh*, which we have. On the eastern or Indus side we have the addition of the Hindi names for both ranges, red being *rata*; while farther south again, even on the western boundary of the Siwistan province of Thathah or Sind, we have the same reference to the peculiar colour of the red range, in Koh-i-Lakha and Lakhi Range. It will be thus observed that the Koh-i-Surkh, or Sur Ghar, or Ulan Tagh, runs most regularly outside the eastern and western slopes of the range of Mihtar Sulaiman or Koh-i-Siyah; and, that, while on the north it is not quite so clearly defined, it is on the south, but like the higher range, is the most disturbed and deranged in that direction".³ He further adds: "On the south-east or Indus side, both ranges are strangely confused, and the Koh-i-Surkh dies away towards the Indus, and the plain of Kachchhi or Kachch Gandabah; while in the south-west direction, in the neighbourhood of Kandahar, the Koh-i-Surkh range dies away in the red sandy tract towards the Arghand Ab or Arghand River, and the Hirmand or Hilmand, where the former river unites with the latter, and other tributaries".⁴ About the main mountain, Raverty says: "The different branch ranges of the Koh-i-Mihtar Sulaiman or Koh-i-Siyah may be termed the four walls of a vast irregular parallelogram rising up from the tracts around. Its eastern, and one of its longest sides, runs from north to south, with a slight inclination to the westwards towards its lower end; while the opposite one, which is the longest of all, runs on the average, from its extreme northern point, in the direction of south-west or very nearly so. The upper or northern side, extending from Mi-yandzey Lari Ghashaey towards Tal or Talah, on the river Kurmah, runs in a direction nearly south-east, and is the narrowest of all; and the lower or southern one runs

1. Raverty, *Op. Cit.*, Pp. 522-23.

2. *Ibid.* P. 454.

3. *Ibid.* Pp. 458-59.

4. *Ibid.* P. 460.

from west to east with a slight bend southwards, but is very much broader in proportion than the northern side. The whole irregular parallelogram is extending about seventy-five miles in breadth on the north, one hundred and seventy-five miles on the south, two hundred and fifty miles long on the east, and three hundred miles long on the west.

"The immense space enclosed between these four boundaries thus explained, though less in elevation than its boundary walls, is of much greater elevation than the tracts of country outside them; and this intermediate space is what is known as the *pusht* or back of the Koh-i-Mihtar Sulaiman. The upper portion of this intermediate space again is much more elevated than the lower; there is a depression in the middle; the north-western portion is higher than the north-eastern, and the south-western than the south-eastern, the general run of the country being from north-west to south-east, but the part north of Gumul, where that river runs from west to east, is more mountainous than the southern portion, and where the Gumul flows towards the Indus this depression is greatest, as the run of the different rivers plainly indicates".¹

Raverty also describes the various ridges of the Mihtar Sulaiman: "The western boundary of the Derah-jat consists of a mighty mountain barrier, containing two ranges, in some parts rising to the height of nearly 12000 feet, including numerous singularly parallel ridges running almost due north and south. What I refer to here more particularly commence, on the north, from the Ghwaliri pass, where the river Gumul pierces the two ranges. These ranges here commence with two ridges, the western one being the higher. These ridges increase in number as they run southwards, especially those of the easternmost and less elevated range of

mountains. A little to the south of the Ghwaliri pass, and a little to the north of the Takht-i-Sulaiman, or Sulaiman's Throne, there are no less than seven distinct ridges, not including the highest ridge, in which is the Takht-i-Sulaiman, three of which belong to the former, and the rest to the latter range of mountains. It is here about that the three rivers or mountain streams pierce these mountains, and form passes. These ridges continue, with variation in their number from four to ten until, at the point where the Suri river, forming the pass of that name, in the district of Derah-i-Ghazl Khan pierces the two chains, we have no less than twelve distinct ridges, like battalions which increase in height from east to west to the highest range".² Raverty³ again identifies the northern point where the two ranges separate with *Maidan-i-Rustam*, as noted by Babar. He quotes here Babar:

"The Maidan-i-Rustam lies in the midst of a Kohistan or mountain tract, near to the crest of a mountain range, and is an exceedingly pleasant spot. Between two mountains a long *jal-gah* stretches out, and towards the south side of it, at the foot of an eminence or rising ground, there is a small spring, and around it are several very large poplar trees. On the way that leads up from the side of Gardaiz upon this Maidan-i-Rustam there are other pleasant springs, and there are numerous trees there likewise, but these trees are not large. Although the *jal-gah* in that direction is the most contracted, nevertheless, below this again, the trees are exceedingly green, and the *ulang* verdant and very pleasant. We came upon a mountain which is on the south side of the Maidan-i-Rustam; and the Kohistan of Karmash (Karman and Kurmah), and the Kohistan of Bangash lie spread out at you feet like a carpet".

In the southern part of this *jal-gah* the

1. *Ibid.* Pp. 463-65.

2. *Ibid.* P. 5.

3. *Ibid.* Pp. 455-57.

Tochi river and the river of Zurmat take their rise. Raverty also believed that the Right-hand Gumul also rose therein. According to him in the vicinity of this *Maidan* lie the ruins of the ancient fortified city of Zabul. Whether this is true or not, that region is now called *Shawal* and lies at the western extremity of North Waziristan.

Routes through the western hills:— The routes are generally divided into two groups — (a) those which run through lower Derajat and over the southern portion of Mihtar Sulaiman, and (b) those which go across upper Derajat and over the northern portion of the Sulaiman mountain. The routes of group (a) converge on to Dera Ghazi Khan and Multan on the east and towards the west cut across the Zhob and finally lead on to Kandahar. The routes of group (b) cover a wide range on the east from Multan to Lahore and also feed across the Salt Range to Rawalpindi. On the west they by-pass the Takht-i-Sulaiman and leaving it on the south they proceed onward and finally divide into two — the first leading to Kandahar and the second to Ghazni and Kabul. It has, however, been shown above that there are routes running north and south in between the parallel ridges of Mihtar Sulaiman. These routes connect the various terrains within the hill ranges from one to the other. But in general the usual caravans follow the direction noted above. With the perpetuation of the usual routes we will note clear demarcation of the cultural affiliations.

Routes of group (a):— Raverty¹ has counted twenty-five routes in this part. From the north he begins from the Kaurah pass, 5½ miles north of the Wahwa pass, which generally divides the districts of Dera Ismail Khan and Dera Ghazi Khan. But the most important pass of this part is the Sanghar darah, which leads to Kandahar by Chotiali, Dogh and Tal, and people can

also go over to Ghazni and Kabul by passing on to Borah route. The Zhob hill separates Chotiali and Borah. From the eastern slope of this hill the river Zhob takes its origin. A route branching off from Sanghar goes over to Sakhi Sarwar pass, named after a saint Muhammad Pir who died in A.D. 1291 and whose tomb stands there. Raverty notes. "In the reign of Akbar Badshah couriers are said to have been in the constant habit of reaching Multan from Kandahar, by this route, in six days, and mangoes used to be conveyed to that city from Multan in the same period of time".² The southernmost route is through the Suri pass named after that of the river, which rises on the east side of the southern portion of the Koh-i-Siyah, encircling the Shum plain on the south.

Routes of group (b):— Raverty³ has given a detailed description of the passes leading westwards from the upper Derajat. Sir Thomas Holdich⁴ has noticed in a general way the routes adopted by Vigne and Broadfoot from this part of Ghazni. It seems that he has not read Raverty at all and relied more on the recent explorations than on the informations gathered from literature and from the caravan marchers as was mostly done by Raverty although he has discussed in detail the explorations of Vigne and Broadfoot. Vigne started from Drabind and followed the Gomal route along the Gomal river and then to Sarwandi pass to Gazdarra and onward to Ghazni. Broadfoot started from Ghazni southwards to Pandah and then to Sarwandi Pass.

Raverty speaks of over a hundred passes which lead westwards. Some of these merely lead into the outer ridges of the Koh-i-Surkh but most of them traverse the highest and inner ridges of that range.

1. *Ibid.* Pp. 7-21.

2. *Ibid.* P. 12.

3. *Ibid.* Pp. 470-85.

4. *The Gates of India*, London, 1910, Chapter XV and XVI.

Only a few of them lead into the main passes which go beyond. In this part they exist chiefly south of Tank. Raverty records only seven main passes "which lead over the mighty range of eastern Sulaiman, and these, commencing from the north from the Tonchi Ghashaey, down as far as the Kaurah Pass in the Lower Derah-jat are — that by the Kewa Tangaey and up the darah of the Kewa river and the Tanghran Tangaey, into the upper part of the Tonchi Darah, and from thence by Urghun and Sih-Rauzah to Ghaznin over the western range of Mihtar Sulaiman, already described; by the Tak pass up the darah of Dzarnad river, and by Zabul to Kabul; by the Ghwayi-Larey Ghashaey up the darah of the Gumul; the Zao or Naraey Tarkaey Ghashaey; the Drabhan Ghashaey; the Shingao Ghashaey; and the Shwayey Larey by the Dahanah Ghashaey".

Raverty rightly remarks that the route by Gomal hits directly Kabul and Kandahar as well as Ghazni. He points out the advantage "that, after the crest of the great western range of Mihtar Sulaiman is crossed, there is a choice of four parallel routes, near each other, leading to Ghaznin; and routes to Kabul, one of which Outram followed in 1839; others to Kandahar, and to Pushang (Pishin) and Kwatah (Quetta), by which the Bombay Column of the Army of the Indus returned in that same year, and which cross two other routes from the Derah-jat".

Approach to Gomal Plain:— Raverty has rightly included the Kurrum and Tochi routes for an exit from Derajat to the west. As will be discussed below, the Bannu and Gomal plains are so intimately linked that a slight detour would make the above northerly routes easily approachable. These latter routes can be approached by passing directly from the Gomal plain to Bannu plain through Pezu gap or by following the hilly track westward from Tank and then going northward via Razmak and Spinwam

from South to North Waziristan, as was done by Sir Aurel Stein in 1927. We also know that the Arabs, who were coming from Sijistan, first struck Bannu by following either Tochi or Kurrum route, and from there they looked forward towards Al-Ahwar (modern Lahur in Swabi Tehsil of Mardan district) or towards Multan en route Gomal plain. This plain is an intermediary between the Indus valley and the western hills and, as has been said before, it affords a resting place to the people coming from the west. But this sojourn is of a different type from the one obtained in the Peshawar valley. From Peshawar one has to pass eastward again through a broken country until one has cleared the Salt Range in the district of Jhelum. Similarly in the south the whole desert of Baluchistan intervenes before one reaches the mouths of the Indus. Through Gomal alone one can pass directly into the plains of the Panjab. Hereabout the trans-Indus and Cis-Indus regions form a unitary pattern, and therefore the Gomal plain and the Sind Sagar Doab — the tract between the Indus and the Jhelum — have been intimately connected throughout history. It is through the Gomal plain that the routes lead to Central and southern Panjab and further down to Sind on one side and eastward to Rajasthan, East Panjab and the Ganges Valley. On the western side the valleys of Argandab and Helmand can be reached directly. While the cities of Ghazni and Kabul lie to the north, Kandahar stands in the south. For those coming from the direction of ancient Aria and Arachosia Gomal plain has the greatest attraction. Any cultural pattern that develops on either side of the intervening Koh-i-Sulaiman has the greatest chance of influencing one to the other. The mountain chain is no doubt a great barrier but the frequented routes are likely to provide the necessary links.

The Salt Range:— Raverty has also described the routes leading from this plain to Peshawar. The early British travellers,

like Elphinstone, passed on from Gomal plain to Peshawar. Today there is a motorable road going from Peshawar via Kohat and Bannu to Dera Ismail Khan. That road is now being developed further via Taunsa Sharif to Multan. There is only one rail connection coming from Mianwali and Kalabagh leading on one side to Bannu and on the other via Pezu gap to Tank. But there is no direct rail connection from Peshawar to Kohat — a distance of only forty miles, or from Kohat to Bannu — a distance of seventy-nine miles, or from Bannu to Dera Ismail Khan — a distance of eighty-nine miles. Partly this is due to the British policy of building rail communications emanating from Rawalpindi westward for the purpose of defence. Hence all the rail connections to Peshawar, Kohat, Bannu and Tank link up with the main British cantonment at Rawalpindi. But to a certain extent the physical barrier has also to be reckoned. When one passes by road from Peshawar to Kohat, the hills of the Adamkhel darra start from 20th mile and continue just 2 miles short of Kohat — a name which is very significant, literally implying the "Hill Market Town" (*Koh + hat* or *hatti* in Panjabi). Actually there are hills in and around the Kohat city. Only a small *toya* (stream) brings down the water from the upper hills. This has been tamed into Tanda dam for the supply of water to this part. On going south, hardly five miles away, the hills again show up. We have to cross several ranges of bare rocks, in between which some land is brought under scanty cultivation until we come to the Salt-mining zone where every vegetation comes to an end. It is difficult even to maintain the roads as they are eaten away by the sub-soil salt. The water is also scarce in this area. The denuded rocks stand like walls and the road passes in a very winding fashion. This feature continues until we come to Latambar — the last village occupied by the Khattak tribe on this side. It is hardly twenty miles from Bannu.

Thereafter the hills disappear and the Bannu plain generally slopes towards the Pezu gap and Shaikh Buddin hill.

The ranges of hills starting from Adamkhel darra to Latambar, continue almost eighty miles and stand like a great barrier between Gomal-Bannu plain and Peshawar valley. It is only for this reason that the Gandhara art, which developed in the latter valley in the early historic period, had practically no influence at all in the former plain. The intervening hills, which include the great salt-bearing ranges, spread out eastward. The Kurram river skirts these ranges on the south and breaks through it at Darra-i-Tang just before joining with the Indus river, not far from Shaikh Buddin hill. The Salt Range crosses the Indus around Kalabagh and continues the same pattern eastward in the districts of Mianwali, Campbellpur, Rawalpindi and Jhelam. This range makes a big swoop from Kalabagh to almost the vicinity of Jhelam city. The main Panjab plain lies outside the circle of this swoop. On its inner side the land is broken and stony with patches of thick loessic soil deposit. Along with this Salt Range the hill pattern also continues eastward and we meet with the long chain of Kala-Chitta range in Campbellpur district and Margalla range in Rawalpindi district. These ranges hang on to the spurs that shoot down from the Himalayas. As a result for a traveller passing through the northern passes, like Khaibar, the hills and the broken country face him every now and then. Although several routes go over the Salt Range from south to north, this Range has a peculiar geographic and geologic phenomenon and has affected the life pattern in the Indus Zone throughout history. Apart from the fact that later in history the hill tops of this Range, from Jhelam to Shaikh Buddin hill, were utilised for holding fortresses, stupas and temples, as we note during the days of the Hindu

Shahis (8th to 10th centuries A.D.), it makes for a great difference in the landscape and consequent life pattern of the people. It is therefore easy for us to find different cultural patterns north and south of the Salt Range.

Bannu Plain:— Bannu plain may roughly be said to start from south of Latambar in the north to Pezu gap — a distance of nearly sixty miles, and descending from the western hills and the gorge at Kurramgarhi it is closed by the Salt Range on the east. The plain is watered by three main rivers — Kurram, Tochi and Gambhill and ultimately all of them join together before breaking through Darra-i-Tang. The plain is in the hands of mainly Banuchis in the north and Marwats in the south. The Banuchi area is well watered from the Kurramgarhi water works but the Marwat plain is dry and sandy. The plain slopes from north-west to south-east. At Kurramgarhi the water works have now cut through the mounds and ancient ruins (fortified) that were earlier recorded by Sir Aurel Stein.¹ The pot-sherds are still strewn over a wide area. From that site right upto Gambhila several mounds are seen by the road side. It is at the old confluence of Tochi and Kurram rivers that the famous site of Akkra is situated. The Marwat plain on the south "is a vast treeless plain of undulating sandy downs, merging to the west into a fringe of soft loamy clay, furrowed, as with some giant's plough, with numerous deep narrow water-courses, which converge almost at the same point, in the Gambhila, or lose themselves before reaching it in the sand. Immediately under the hills to the west this loamy soil is overlaid by a layer of gravel, and smooth rounded stones, called by the people "*dozakhi kanri*", or "hell-stones", owing to their black scorched appearance It is a country of wonderful contrasts. Seen in autumn or in a year of drought, it appears a bleak howling wilderness, fit for home

for the whistling heat-laden dust storm that often sweeps across its surface in the hot months; but seen in late spring, if a few showers of blessed rain have fallen opportunely, it presents to the eye an interminable waving sea of wheat".²

As we proceed southward from Bannu on the motorable road we pass through countless trees of dates planted on either side and far in the midst of green fields. This verdure green extends only to that part where the water for irrigation is available. Further southward the land gradually rises and the soil is mixed up with heaps of sand so much so that on either side of the road sand banks follow up for miles. Just before the Pezu gap begins, we find ourselves on a height of about two thousand feet. From the right a range comes from Mihtar Sulaiman. It is called Bhitani hill from the fact that the Bhitani tribe occupies the western part of this range. At the Pezu gap it suddenly drops down and makes a severe warping (Pl. 3 a) of the earth for a distance of about four miles. As a result our road descends and winds through the broken ridges of this hill. A dried up river of an earlier age intervenes and we pass on to a next series of ranges showing many pleistocene deposits above sandstone blocks. Far down at the height of 1000 feet stands the village of Pezu that lies at the foot of Shaikh Buddin hill soaring all alone like a majestic outcrop (Pl. 3 b).

The Intervening hills:— The low hills that intervene between Bannu and Dera Ismail Khan districts do not require any great risk in crossing. From Bannu side they look like a marginal hedging demarcating the two districts. From the Indus side they provide a solid bank to the firm flow of the river. The nearest line of hills on this side is called the Khasor range. It is also known as *Ratta Roh* or red mountains from the fact of the red loamy earth that covers it. It varies from 2000 to 3500 feet in height. The description is well worth quoting:

1. Sir Aurel Stein, *Memoirs of A.S.I.* No. 37, Pp. 18-20.

2. S.S. Thorburn, *Bannu*, London, 1876, Pp. 7-8.

"It runs along the Indus for some 25 miles from Isa Khel to Chura near Bilot, and then turns to the west, terminating at Paniala, 16 miles from the Indus. The west and north-west aspect of the Khasor is entirely composed of miocene sandstone and conglomerate, which also extends under the narrow valley which separates it from the Mohar (Sheikh Buddin) range. Under the miocene are seen some thin beds of turassic limestone, very partial and evidently much denuded. Under these are very extensive beds of turassic limestone, shales and clays, rich in fossils, but no salt. Under the trias are very large and thick beds of carboniferous limestone, which form the whole of the east and north aspect of the range, which swarms with fossils to an incredible extent. These fossils are described by Dr. Verchere in papers contributed to the Asiatic Society's Journal, in 1866 and 1867. The range is generally stony and destitute of vegetation and water. Here and there springs are to be found, and their presence is generally marked by a clump of palms. The largest of these is the Garoba spring, near Kirri Khasor. Its waters run for a mile or two along a narrow ravine, fringed with date palms. These springs are generally situated too low to allow of their being utilised for irrigation".¹ Today the position of irrigation and cultivation has completely changed. The Chashma barrage built across the Indus at this point takes the water and throws a channel into Paharpur irrigation scheme further down. As a result the land further down is highly cultivated.

"Parallel to the Khasor range to the north-west, runs another range of hills, known as the Nila Koh, or blue mountains. The Nila Koh separates this district from Bannu, and terminates in the peak of Shaikh Buddin, 4516 feet high. This range consists of two divisions — the Bhittanni range, which is a continuation of the Waziri

hills upon the Bannu frontier, and the Shaikh Buddin range which curves towards the north-west and north from the extremity of the Bhittanni hills in to the Indus and strikes the Kurram river in Bannu a few miles above its debouchement. The principal passes between this district and Bannu are those of Bain and Pezu, the former at the western and the latter at the eastern extremity of the Bhittanni hills. There are several inner passes. Shaikh Buddin is much higher than the rest of the range, and is almost an isolated hill. It is the sanitorium of Dera Ismail Khan and Bannu districts".²

"The hill on which it (sanitorium) is situated rises abruptly from the low range of Mohar, of which it is the highest point. The whole range is mostly composed of tertiary sandstone, conglomerate, and clay, and is rich in mammalian fossils, which are identical in age, formation, and form with those of the Siwalik range. The hill itself is composed of a mass of triassic limestone, and is very barren, having only a few stunted mild olives, *babul*, bog myrtle, acacia, and dwarf palm trees on it. The general dip of the strata is towards the north and then strikes from east to west. The angle which the dip forms with the horizon is a good deal more than a right angle. The upper portion of the hills is composed chiefly of limestone, which very often is stained red and yellow by peroxide and bisulphuret of iron. Lower down the hill there is more clay-stone, mixed with blocks of limestone; and at the foot of the hill we meet with the low sand (sandstone) hills continued with the Pezu range".³

The Largi Valley:— "Between the Nila Koh and Khasor ranges, lies the Largi valley, a stretch of level sandy country, varying from 5 miles to 1 mile in width, and debouching at one end on the open country round Isa Khel, and at the other on the Paniala Thal, an open sandy plain, which

1. *Gazetteer of the Dera Ismail Khan District*, P. 9.

2. *Ibid*, Pp. 9-10.

3. *Ibid*, P. 207.

gives place towards the south to the Dera Ismail Khan Daman. This Thal or sandy tract extends from the Rug-Paharpur depression on the east, sweeps round Shaikh Buddin, and continues along the southern slope of the Bhattanni range, so as to include the northern portions of the Tank and Kulachi tehsils. It is bounded on the south by the *pat* country, irrigated from the Soheli and the Takwara. The character of the soil in the Paniala Thal and in the Largi valley, is similar to that of the Marwat valley. In places the cultivation is pure *barani*, and spreads out over open fields and rolling sand hills. In other places the fields are more or less embanked, so as to intercept the drainage from the neighbouring hills'.¹ This description of the Largi valley still holds good and as we come down from Bannu by road, this dreary aspect of Dera Ismail Khan district first meets our eyes. At Pezu the road bifurcates — one leads westward to Tank and the other southward to Dera Ismail Khan but both the roads pass through this sandy patch. However, what was the extent of the sandy patch in the past, is difficult to guess. The existence of ancient mounds along Tank — Pezu road as well as along a line from Hathala south-eastward to Rahman Dheri, about 14 miles north of Dera Ismail Khan suggests a considerable change in the physical aspect of the country in recent centuries. The whole area is parched and sandy today but if the water from Tank zam could be brought in here, the land could yield rich harvests.

The Gomal Plain:— The Gomal plain is the real Daman of the trans-Indus district of Dera Ismail Khan. This tract is surrounded on all sides except the south by natural boundaries. It stretches along the Indus for about 110 miles and is broadest to the north, where the distance from the Indus to the western hills is 50 miles. These hills gradually close in to the south, and the plain narrows till opposite Dera Fatih Khan it is not more than 20 miles across. The

plain stretches on in an unbroken sweep to the south, where it forms the Dera Ghazi Khan *Pachad*. The character of the plain is thus described:

"The Daman country includes the whole area of the trans-Indus *tehsils*, except a narrow strip of river land along the Indus, and a tract to the north, which includes the Paharpur, Paniala and Khasor circles. Where uncultivated the Daman stretches out in level plains, flat as a billiard table, generally without a tree or particle of vegetation, except a few scattered bushes of *lana*. Grass does not grow on it naturally, and even the *lana* disappears in places, leaving nothing to break the uniformity of the mud-coloured expanse. This sort of bare level ground is locally known as the *pat*. The soil is a clay, firm when dry; tough generally to a certain extent elastic and yielding, and delightful to gallop over. Water does not sink into it readily, and ordinary rain runs off at once; but wherever water stands for any time, or after long continued rain, the soil for a few inches in depth becomes a soft tenacious mud, and roads very soon become almost impassable. The soil of the Daman is generally very fertile, consisting of silt deposits brought down by hill torrents. Wherever the ground is good, it can be readily broken up for cultivation. In places, owing to the action of water, it becomes hard and unfruitful to such an extent sometimes as to be quite unculturable. The hardest soil turns when wet into the worst mud. It preserves also all inequalities caused by cattle trampling over it when wet, or in similar ways. This trampled ground petrifies as it dries, and is then known as *kurbin*. Although water soaks into the Daman soil with difficulty, yet that soil is very readily cut up by running streams. Even the rain water running off forms ravines, and the hill torrents all make deep beds for themselves far below the level of the surrounding *pat*. These ravines intersect the Daman in all directions, forming deep cracks in the otherwise level expanse. The banks of these torrent beds

1. *Ibid.* P. 10.

are very precipitous, and the water supply of the country runs away in them much too far below the level of the country to benefit it in any way; while the falling in of the banks and the force of the current prevent the growth of trees even in their immediate vicinity. Sometimes, however, a fringe of *faras* trees spring up in places where the torrent bed has been widened by erosion, so as to leave room for a strip of low ground between the stream and the bank. A strip of land of this sort is called a *kach* and some of these *kaches*, when cultivated, are very productive.

"The *pat* extends up to the mouths of the stony gorges from which the hill torrents issue. Between these gorges along the skirt of the hills, the *pat* generally gives way to stony slopes covered with coarse grass. There are a few natural depressions in the Daman where water lies, and where grass and jungle bushes grow freely; but these are the exception, and its distinctive features are the bare level *pat* and its intersecting ravines. These ravines are dry for the greater part of the year. After rain they are occupied by roaring torrents, which pass away with greater or less rapidity as their sources are in the immediate vicinity or in the more distant hills towards Ghazni. These hill streams are fully described in the Settlement Report. All the more important of the hill streams have a small perennial flow, which is, however, expended long before it reaches the Indus. The perennial supply is known as the *kalapani* or black water, on account of its clear colour to distinguish it from the *sufed pani*, or white water, the latter being the discoloured silty water that issues after rain. These perennial springs are known by the local name of *zam*. Thus we have the Chaudwan *zam*, the Tank *zam*, etc."¹

Hill torrents:— This description applies to the whole tract from Tank to Vahowa

in the south. The following are the hill streams. "The Takwara which collects the flood waters from the Tank *zam* and some other passes, and irrigates the northern portion of the tract; the Luni, which is the largest of all, and which issuing from the Gumal Pass, takes a south-easterly course, and falls into the Indus some fifteen miles below the town of Dera Ismail Khan; and the Vahowa, which waters the southern portion of the Daman, round the towns of Dera Fatih Khan and Vahowa. Few of these streams have a clearly marked channel of their own for any distance from the hills. Owing to the irrigation system in force, the waters of one are thrown into another, till the channels form a complete network. Owing to this, the original name of a stream is, as a rule, very soon lost. Its waters get sub-divided and carried off in different channels, where they mix with those of other hill streams, and each of these channels gets a local name of its own. The nomenclature therefore becomes somewhat confusing. Hardly a single stream is known by the same name for its whole course from the hills to the Indus"²

Banni and Sind lands:— The Gazetteer gives a detailed description of these lands as they appeared hundred years ago. It says. "Only a narrow strip of the Indus alluvial tract is attached to the trans-Indus tehsils. In old days, however, the Indus appears to have run far to the west of its present course. Traces of a high bank are found at intervals from Paharpur in the north down to Babbi and Kathgarh, on the border of the Dera Ghazi Khan district. This bank, locally termed the *Kur*, runs at a distance of about five or six miles from the edge of the Indus *Kachi*. In all those portions of the Daman where the hill-torrent irrigation is abundant, all trace of this bank has long since been obliterated by constant deposits of fresh silt, though its

1. *Ibid.* Pp. 4.5.

2. *Ibid.* Pp. 6.7.

former existence can still be traced in the nomenclature of the country; the lands below the bank being called *Sind*, and the upper lands *Banni*. Where, however, the hill torrents are of small volume as they are in the tract between the Luni and the Vahowa, the old bank still stands clearly marked, rising to a height of seven or eight feet or more above the level of the low-lying *Sind* lands. In such places the hill-torrents, though spread out in the usual way over the cultivated lands, where they issue from the hills, generally cut themselves tolerably deep channels further east, down to the level of the *Sind* lands. The *Banni* lands, immediately above the old bank are generally dry and barren, getting no irrigation; but having fields banked in to catch the rain water. Below the bank the flood waters spread out, and wherever there are clearly marked *Sind* lands as distinguished from the high-lying or *Banni* lands, the former are rich and well irrigated while the latter are little better than a desert. The portions of the district where this *Sind-Banni* formation is still to be seen, are in the Rug-Paharpur tract, lying between the Khasor range and the Takwara irrigated country; south of the Luni from Ada Khaira in Chuni where the Vahowa irrigation commences; and again south of the Vahowa to the end of the district. In the centre of the Daman, opposite the town of Dera Ismail Khan, the united Luni-Takwara irrigation has made a clear sweep of the old bank for a distance of some 25 miles, and the Daman here slopes continuously from the hills to the Indus, where it ends suddenly in a sharp drop, the banks of accumulated silt rising well above the Indus even during the highest floods. Where, however, the *Sind* lands have not been silted up, their level is but little above that of the Indus. In the Kahiri ilaqua near Miran, the *Sind* tract still terminates in a narrow strip of alluvial land irrigated by the Indus, from which there is a gradual rise to the higher lands, which, though below the *Kur* bank, are purely Daman in

character".¹

Trans-Indus tract along the Khasor range.— North of the Takwara the *Sind* tract lies beyond the action of the greater hill torrents. The only drainage that it receives is from the Largi stream and the adjoining portion of the Khasor range. This tract differs from the Daman country. It forms the Rug-Paharpur circle. North of the Paharpur circle the Indus runs close under the Khasor range and it included in the past a rich cultivable low land, called *Kachchhi* or *Nasheb*. This whole area is very fruitful and is today well irrigated by Paharpur canal. Now-a-days it is the richest granary of the district. It is to defend this rich alluvial tract against foreign inroads that two forts were built in the late Hindu period — one at the northern end of the Khasor range at Malot and the other at the southern end near Bilot. Both of them are known as Kafirkot. Shaikh Buddin hill stands as a high tower of defence for these Hindu forts. Later when they were conquered by the Muslims, a *Makhdam* family established a holy seat at Bilot.

Settlement Pattern.— The Indus being the main highway in the Gomal plain, the main cities have stood not far from the great river. Other towns and villages have occupied the main highways that come down along the passes but again close to the streams and hill torrents, where there has been the possibility of getting water. A change in the course of the stream is bound to affect the location of the towns. But in the case of the hill torrents such changes are rare and hence the mounds are generally seen at the head of these channels, wherever high land for occupation was available. Lower down in the Gomal plain the ancient mounds lie in a line where the old courses ran. But today the mounds appear isolated as no modern villages stand near them for the paucity of water.

1. *Ibid*, P. 7.

CHAPTER II

A REVIEW OF THE EARLIER EXPE DITIONS IN THE GOMAL VALLEY

The Hindu Shahi remains:—

It was in 1878-79 that Major General Sir Alexander Cunningham¹ first went to Dera Ismail Khan district and examined the Hindu Shahi fortifications and temples "situated on a projecting spur of the Khisar range of hills overhanging the Indus just 8 miles below the junction of the Kuram River". He records: "The tradition is that there were three brothers, named Til, Bil and Akil, each of whom built a fort and named it after himself. Til Raja's Kot, or fort, is now generally known simply as Kafir-kot, but the other two places still preserve the names of their reputed founders. Bil Raja's place was called Bil-kot, now Bilot, on the Indus 25 miles below Kafir-kot, and Akil's fort was called Akil-kot or Akilot, now Akra in the Bannu valley. The people believe them to have been Pandus, or even call them Devatas, whence the name of Devata-kot, which is often applied to Kafir-kot". Since Cunningham's visit these archaeological remains have been inspected by a number of archaeological officers² and they have been preserved to a certain extent. But beyond a bare description and comparison with similar monuments of the period on the

Salt Range, no one has placed them in their proper environmental and historical perspective. In fact these monuments did not encourage any further archaeological research in the area simply because they were treated as the end chain of the remains on the Salt Range.

The only exception was the work of that great archaeologist-explorer, Sir Aurel Stein, who writes. "A special reason for approaching this area from the north was supplied by the information which Mr. Evelyn Howell, C.S.I., C.I.E., Resident in Waziristan, had previously communicated to Mr. Hargreaves, Superintendent of the Frontier Circle, regarding certain ancient mounds and other remains he had noticed both within Waziristan and along its foothills on the Dera Ismail Khan border, and which so far had remained unsurveyed. I was all the more anxious to follow up this information by an actual examination of these sites since the barren hilltracts held now by the Wazirs and neighbouring Pathan tribes present a distinct historical interest to the student of India's north-western borderlands".¹ However, Sir Aurel Stein had to work under certain limitations and he defines his aim thus: "The object to be kept in view could be only a general survey of the ancient remains traceable and not their complete exploration. Such a survey would necessarily aim at determining the general character, and if possible the approximate epoch, of each site examined. But excavations undertaken for this purpose at special sites were to be confined to the measure needed to secure reliable data for settling essential points; no attempt could be made at complete clearing".² But the worst part of it was that Sir Aurel Stein could go on a track well laid before and

1 For his account see *Archaeological Survey Report*, Vol. XIV, Pp. 26-28.

2. For details see *Annual Report of Archaeological Survey of India*, Frontier Circle, 1911-12, Pp. 7-9, *Annual Report Archaeological Survey of India*, 1911-12 P. 12; 914-15, P. 4; 1920-21, Pp. 6 and 7; 1921-22 Pp. 9 and 10; and 1922-23, P. 16. H. Hargreaves — *Inspection and conservation Notes on the Brahmanical Temples at Bilot-Kafir-kot*, Lahore, 1914. A Stein — *Report of Archaeological Survey work in the N.W.F.P. and Baluchistan in 1904-5* Pp. 10-17; *Conservation and Inspection Notes on the North Kafir-kot at Mian-dakot*, Dera Ismail Khan district, Peshawar, 1922.

1. *Memoirs of the Archaeological Survey of India*, No. 37, P. 2.

2. *Ibid*, P. 4.

examine the sites that were known to the political officers. He was actually led to the sites and he could at best examine them and record his opinion. He had neither the time nor the chance to do independent and free exploration. The result achieved therefore could only be partial. As the earlier archaeologists had confined themselves to the Hindu Shahi remains on the Khasor hill, Sir Aurel Stein started on January 11, 1927 along the Western foothills from Dera Ismail Khan and proceeded into the interior of the hills. Thus he was able to see the sites along the western hills alone. As a result the whole of the Gomal Valley in between the Khasor Range and the western hills was by-passed. The nature of Gomal plain habitation could hardly be obtained.

Route of Sir Aurel Stein:— Sir Aurel Stein followed the motorable road and went off the road just to reach the mounds. His route has been shown in figure I. He first went to Draband, and after examining the site, called Surkh Dheri, near this place, he went south to Chaudhwan and then came back and proceeded northward, as has been shown in the map. His next halting place was Tank, and after examining the sites in its vicinity, he followed the new British road to Jandola and from there he passed on to Razmak in North Waziristan and finally to Kurram Valley.

In the Gomal Valley he visited nine sites in all and all of them lie on or near a hill stream. The southernmost site *Chaudhwan* "lies nine miles to the south of Draband and occupies a closely corresponding position near the foot of the outermost hills of the Takht-i-Sulaiman range. The hill stream from which Chaudhwan receives its irrigation, debouches from the valley followed by the most direct route leading to Fort Sandeman on the Zhob. A dry torrent bed from the

mouth of the same Valley passes the flat alluvial fan not far from the mound".¹ The direct route mentioned by Stein, joins the modern road to Sandeman from Draband. But earlier in Chapter I, we have seen Chaudhwan playing an important role in leading north-westwards. The Shinghao Ghashaey opens the route to the west. The second site *Surkh Dheri* is about 3½ miles of Draband not far from a road leading to Drazinda and about half a mile north of the Draband stream, also known as Lohra.² The third site "*The Chicha-dherai mound* lies close to the mouth of the valley in which the Zao stream descends from the Takht-i-Sulaiman range The position thus closely corresponds to that in which the old sites of Draband (*Surkh Dheri*) and Chaudhwan are found".³ The next are the two low mounds near the village of *Kot-Azam*, a little beyond the main bed of the Gomal river near Luni post. The next mound stands near *Dabra* just at the mouth of the main Gomal river. It lies on the route which passes up the defiles of the river.⁴ The sixth is a very big mound, called *Shah Zaman Dheri*, not far from *Tank Zam*. To the south side of the stream there is a small mound called *Laki Kot*. The eighth site lies at the northern end of *Tank* near the Railway Station. There are two mounds here, called *Aba-Khel* and *Kot Pathan*. Following the Takwara flood beds eastward we have *Kot-kat dheri* four miles east of *Tank*. Most of them are very high mounds and speak of the continuous occupation of the sites along the traditional routes.

The route adopted by Sir Aurel Stein enabled him to spot the high mounds at

1. *Ibid*, P. 9
2. *Ibid*, P. 6.
3. *Ibid*, P. 10.
4. *Ibid*, P. 11.

the foot of the western hills. Only in one direction along the Takwara stream he moved eastward just to reach his halting place at Tank. If he had gone down other streams, he would have certainly found other sites and understood exactly the pattern of cultures in the Gomal plain. As it is, he was able to examine only upstream sites which, more or less, exhibit hill pattern of cultures. The only exceptions were the sites in the neighbourhood of Tank. When we discuss the detail about these sites, we will get a true picture. In the following description we have kept the names of the sites and their order in the same fashion, as has been given by Sir Aurel Stein in his *Memoir*.

1. *Surkh Dheri near Draband* (Pl. 2 b)

This is a tall conspicuous mound near Draband and stands under the shadow of Takht-i-Sulaiman. Not far from it a motorable road passes to Drazinda and onward to Ford Sandeman. The general appearance of the mound is still the same as was seen by Sir Aurel Stein. Its dimension 800 yards by 300 yards remains in tact. The maximum height today is 60 feet on the steep side where it is washed by a streamlet. The main Draband stream flows on the south. The mound is tallest to the north and it gradually slopes to the south. The pot-sherds are washed down right to the river bed. The great height of the mound no doubt suggests a prolonged occupation of the site but nothing definite was found about its beginning. The pot-sherds suggest that it must have continued right down till the early historic period, probably to the beginning of the Christian era. The surface collection shows a great variation in the texture of the pottery. It is possible to make at least three main divisions in the surface collection.

- a) Painted pot-sherds
- b) Incised pot-sherds
- c) The third group includes broad

flat-rimmed wares and sherds having applied bands or designs on the surface when wet.

This classification applies also to the collection of Sir Aurel Stein, although Stein has made only two divisions but his S.D. 10, 11 and 12 actually fall in our category (c). Stein has also observed that in his S.D. 1, 14, 27-29, 33 and 42 "painting is combined with incised or raised ornament". We have not made a separate class of these sherds because such sherds actually continue the older painting tradition in the later period. However, none of the painted sherds go back to an early period. As we now know the sequence of the pottery in the Gomal plain, it is possible to say definitely that the present collection does not include anything belonging to periods II, III and IV of the Gumla site. However, it seems that the tradition of painting continued here later and the specimens appear to belong to the later phase. We publish here a new plate 58 to define the local pottery.

a) Pl. 58. No. 13-A thin red ware sherd having whitish slip at the exterior and a design in fugitive chocolate. The preserved portion shows a vigorous face of a youthful bearded man on the left and a vertical ladder design on the right. The face of the man is drawn in outline with his almond-shaped eyes having round pupil within, round face, conch-shaped ear having ear-ornament. The representation of this human face is unique. The ware does not belong to the early period. The texture is coarse and the firing is not well done. The ware resembles similar sherds found from the Iron Age site of Kot Allah-dad (see next chapter).

Pl. 58, No. 3 — It is a rim fragment of a water vessel, the rim having a triangular shape. The body of the fragment has a red slip at the exterior and a black band is painted on it. The rim itself has a black

band painted on the exterior and a series of festoons at the interior. This design has not been found at Gumla.

Pl. 58, No. 1 — is a rim fragment of a red ware with a deep red slip on the exterior and only at the lip on the interior. The texture has a profusion of mica particles. The rim is out-turned. The decoration is similar to the above, having black bands at the exterior and at the tip of the rim and broad festoons on the inner side of the lip. In this case the festoons cross each other while in the above example they touch each other.

Pl. 58, No. 7 — is a pot-herd of a small pot. The fabric is coarse. The exterior is red slipped with further painted decoration in black.

Pl. 58, No. 9 — is a pot-herd made of well-leigated clay with pinkish white slip on the exterior. It is further painted with a series of black squares alternating with the original slip colour. This design of alternating square blocks has been found at Gumla and also in the Quetta Valley.

Pl. 58, No. 2 — This is a thick rim fragment of a big bowl having red slip at the exterior and at the rim and showing further black painted band below the rim and at the top of the rim, which is flat.

Pl. 58, No. 8 — This is a pot-herd of a red ware having an applique band below the neck, from which hangs down a series of applied pendants. Below and above these pendants it has deep red slip showing further painted design in black divided into separate horizontal motifs. One of them is a series of circles and the second is a series of teeth. The ware is of the same type as No. 2 above.

(b) Pl. 58, No. 4 — is a rim fragment of a big bowl having reddish slip both at the exterior and at the interior with a series of incised decoration below the rim, which is flat on the top.

Pl. 58, No. 5 — is a pot-herd of a similar ware as No. 4 above, has a reddish slip and incised decoration on a raised band. In both these sherds the texture is coarse.

(c) Pl. 58, No. 6 — is a rim fragment of a plain water vessel having a comparatively tall neck. The rim is flat on the top. Such vessels are well-known in the early historic period.

Pl. 58, No. 11 — is a pot-herd of a plain vessel, having a whitish wash at the exterior. A rosette is stamped on the exterior similar to the pots known in the early historic period.

Pl. 58, No. 10 — is a fragment of a knobbed lid, the knob is on the inner side. Such lids are well-known in the early historic period.

Pl. 58, No. 12 — is a broken example of a terracotta humped bull. Its hump is very prominent. The head and the lower portion are broken off.

We have not illustrated several examples of sherds having applied bands or designs made during wet condition. Sir Aurel Stein has rightly distinguished this site from the late historic sites in the main valley of Gandhara and also from those seen in North Waziristan. But it will be too much to say that the painted sherds published by him show any great affinity with the pre-historic sites in Baluchistan. Their link should be with the sites in the Gomal valley but the pottery found so far has a remote connection with them. It is possible that the buried levels at the lower depth may show up the earlier cultural material. The site is well worth excavating.

2. Chaudhwan Mound

This is another big site lying under the shadow of Takht-i-Sulaiman about nine miles south of Draband. It is directly connected with Fort Sandeman on the Zhob, and if there is any influence from the

Zhob cultural zone, it must reach here. The mound is almost rectangular measuring 600 yards by 400 yards and it is still preserved to a height of 60 feet. The potsherds are scattered all over the mound and far into the neighbouring plain. Fortunately at this site Sir Aurel Stein has himself recognised materials of a late period. In his plate II he has given examples. Nos. Ch. 6, 11 and 13 with a definite late painted tradition. His Ch. 28 "shows the torso and left foreleg of a harnessed horse, with a trace passing along the body and up the breast". Other late examples may be seen in the incised and stamped potsherds (Ch. 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27). But there are indications of an earlier period. The cross hatching in Ch. 3, the comb motif in Ch. 9 and probably pipal leaf in Ch. 4 are older designs. The festoons in Ch. 6 are also fairly early. Thus this mound has produced so far the same type of the potsherds as have been found at Surkh Dheri. No objects show any special link with the Zhob cultural zone.

3. *Chicha-dherai and Zarkani*

This mound lies $6\frac{1}{4}$ miles north of Draband and is connected with the small village of Zarkani. The mound is one and the same. As has been noted by Sir Aurel Stein, it is a small mound, measuring 150 by 110 yards and is nearly 20 feet high at present. Here again mixed up materials have been found. The early type of painted sherds includes Stein's Ch. D. 9 and 13 showing alternate block squares. But his bull Ch. D. 1, the knobbed lid, Ch. D. 8 and spout Ch. D. 5 are late examples. Our collection (see Pl. 59a) includes one example of an iron arrow-head (No. 9) so well-known in the historic period. All the potsherds that we collected are all very late. No. 11 is a knobbed lid. Nos. 3 and 4 are rim fragments having incised designs. The remainder are sherds of red ware having red slip with black painted design.

4. *Dabra Mounds and Gomal Bazar*

Sir Aurel Stein went on the new military road from Draband towards Tank. After crossing the Gomal river near Luni post he came to the village of Kot Azam. About $1\frac{1}{2}$ miles to the NNW of the village two small mounds of a later period were visited by Stein. Further beyond four miles. Stein paid a visit to a twenty-foot high mound near the village of Dabra. If we proceed further, we come to the village of Gomal Bazar. To the east of the village there is a widely-spread mound, about one square mile in area but rising only to a height of about 12 feet. We made some collection at this last mound (Pl. 60). Stein's collection from the Dabra mound (see his plate III) includes incised as well as painted sherds. The incised sherds are all very late and they are not different from those obtained from Gomal Bazar. Of the painted sherds two are very important. His D. 2 shows the thin type of pottery with simple bands known at the site of Gumla. His D. 12 having cross hatched pattern is also very significant.

From Gomal Bazar only two painted sherds are illustrated. From this site a glazed sherd of the Muslim period (not illustrated) was also picked up.

Pl. 60, No. 9 — shows a typical example of a sherd of red ware having four parallel horizontal bands in black.

Pl. 60, No. 10 — is a piece of a small bowl of reddish ware showing further linear decoration in red on its inner side.

Pl. 60, Nos. 12, 13 and 14 — are simple spouts of red ware.

Pl. 60, Nos. 1, 2, 4, 5, 7, 8 & 11 — are pieces of red ware bowls, some of them having incised lines or wavy lines as decorative motifs.

Pl. 60, Nos. 3 and 6 are sherds of big jars having applique decoration.

All these pieces from Gomal Bazar

speak of a late historic cultural milieu.

5. *Shah Zaman Dheri*

The tall mound is situated 3 miles to the south-west of Tank and is conspicuously visible from the main road that leads from Tank to Jandola. Sir Aurel Stein gives the measurements as "310 yards from east to west, with a width of circ. 160 yards", and its height is over 70 feet. Stein's following remark still holds good.

"Far advanced erosion has cut up the mound into a series of steep and narrow ridges running down into a small horse-shoe-shaped depression which a lower mound bounds on the south-west". All over the pot-sherds are strewn. Stein concludes "that the lowest of its debris deposits may go back to a comparatively early age". This conclusion is based on his find of painted sherds (his Pl. III) and pieces of bone and shell bangles. But there is nothing in these painted sherds that speak of a very early age. A representative surface collection is illustrated by us in plate 61. The plate includes small finds as well as painted and incised pottery.

Pl. 61, No. 14 — is a broken specimen of a hubbed wheel, the hub is only on one side.

Pl. 61, No. 16 — is a torso of a terracotta male figurine, modelled with hand. It has extended arms, now broken, and an applied necklace. The type does not appear to be early in date.

Pl. 61, No. 17 — is a broken front part of a humped bull having reddish slip.

Pl. 61, No. 18 — is a piece of feeder having two mouths, one of them is broken.

Pl. 61, No. 19 — is an extremely damaged example of a bull.

Pl. 61, Nos. 20-23 are examples of rim fragments of plain ware. No. 20 is a handled vase, the handle being broken. No. 23

is a cup having parallel horizontal lines. The rim of No. 22 is scoured at the exterior.

Pl. 61, Nos. 1-4 are examples of incised pottery. No. 4 has a flat-topped rim and is met with in the early historic period. No. 2 has a graffiti on it.

Pl. 61, Nos. 24-26 are rim fragments of bowls having black painted designs. Nos. 24 and 26 have reddish wash and show linear pattern on the rim. No. 25 has a whitish wash and shows a second pattern of irregular motif.

Pl. 61, No. 15 is a spout having black painted lines.

Pl. 61, No. 6 is a chocolate coloured pot-sherd with a series of loops painted in black.

The remaining painted sherds are all red ware, having, black painted lines on red background. None of them shows earlier type.

But here we have an extensive mound with rich materials of a late period on the surface. It is possible that the earlier materials are buried deep down. It is well worth excavating.

6. *Laki-Kot*

The mound rises to a height of about ten feet outside the town of Tank, a mile to its west, and measures 360 by 150 yards. As has been observed by Stein, this is a late mound yielding pottery of the Muslim period. A representative collection is illustrated by us.

Pl. 62, No. 1 is the lower part of a pedestal cup of red ware.

Pl. 62, No. 2 is the neck of a red ware vessel having faint red painted lines at the neck.

Pl. 62, No. 3 is a club-shaped rim of a plain ware.

Pl. 62, No. 4 is the lower part of a sagger-based bowl having red painted lines on the inner side.

Pl. 62, No. 5 is a terracotta bead, biconical in shape.

Pl. 62, No. 6 is a rim fragment of a bowl, the rim being collared.

Pl. 62, No. 7 is a rim fragment of a thin ware bowl, having red slip at the exterior.

Pl. 62, No. 8 is a small cup fragment of a red ware.

Pl. 62, No. 9 is a piece of a handled flesh rubber of terracotta. The rubbing face shows the roughness.

7. Abakhel and Kot Pathan

These two small mounds stand not far from the railway station of Tank. The Abakhel mound produced painted and plain pottery and is published by Stein in his plate III. The patterns are all new, as is suggested also by the find of incised pottery. Here an iron spearhead or missile was also picked up by Stein. The second mound of Kot Pathan also yielded similar pottery. Pl. 59 b illustrates the representative specimens.

No. 1 is a piece of flat-rimmed bowl of red ware, having red slip.

No. 2 is an out-turned rim of a water vessel having reddish slip at the exterior and the inner side of the rim.

No. 3 is a collared rim of a bowl, as is also seen in Pl. 62, No. 6.

Nos. 4-7 are various types of rims of plain red ware.

Nos. 8-10 are pieces of red ware having a row of black painted loops under a horizontal line.

8. Kot Kat Dheri

The mound stands four miles east of Tank on a dried up bed of the Takwara

stream. According to Stein "it rises to a height of about 40 feet and extends for circ. 300 yards from NE. to SW". All over the mound the pot-sherds are scattered. Stein has illustrated painted sherds of the same type as have been found in the mounds close to the town of Tank. He has also published bone bangles apparently of a later period. We publish here a representative collection of plain and incised pottery — all speaking of a late date.

Plate 63, Nos. 1-3 are rim fragments with wavy linear incisions.

No. 1 has on its inner side an incised circle and a graffiti partly broken.

Pl. 63, No. 5 is a broken handle of red ware.

Pl. 63, Nos. 4, 7 and 8 are rim fragments of plain red bowls having red slips.

Pl. 63, Nos. 9, 13 are pieces of red pottery having applied linear pattern.

Pl. 63, Nos. 14 and 15 are pieces of the same bowl with incised decoration on the inner side. The decoration consists of a series of dots within two parallel lines over and above the two wavy lines.

Pl. 63, No. 16 is a fragment of a small carinated cup of red ware.

Pl. 63, No. 17 is a complete terracotta lamp with pinched mouth.

Pl. 63, No. 18 is a piece of a large-size lid.

Pl. 63, No. 6 is a fragment of a brick with mortice hole on one face.

All the sites described in this chapter have yielded materials of the early historic period from the surface collection. Some of the painted pot-sherds are also of later origin. There is very little that could be compared with the bronze age sites. The top materials all relate to the iron age, as is proved by the find of iron in some of the mounds.

CHAPTER III NEW EXPLORATIONS IN THE GOMAL VALLEY

Story of exploration:— It was in 1967 that Mr. Iftikharuddin, C.S.P., the then Assistant Political Agent of South Waziristan, extended to me an invitation to pay a visit to the area and assess the importance of the archaeological ruins. I accepted the invitation, and although I was busy in excavation in Chakdara area, I thought it worthwhile to pay a brief visit and examine the mounds already seen by Sir Aurel Stein. My halt at Tank enabled me to visit all the mounds that lay in its vicinity. My observation has been given in the last chapter. This visit also enabled me to go up to Wana and follow the course of the Gomal river for some length. In the big open plain of Gomal-Kachh I looked for the ruins but had no luck. But the place gave me a good idea of the routes that led to Fort Sandeman on the south, to Birmal and Kandahar on the west and to Wana on the north-west. I heard of a number of historic period sites and rock inscriptions in this hilly area, but there was no time to examine them. On the return journey I decided to call upon the Commissioner of D.I. Khan and explore the possibility of work in this division.

Discovery of Gumla site:— On our way from Tank to D.I. Khan I chanced to see a low mound just by the side of the road. The existence of such a mound in an open plain was unique. So far all the mounds that I had examined, were very tall and conspicuous from the road side. This was an insignificant low mound and hence had not attracted attention before. As it was an absolutely new site, not visited by Sir Aurel Stein, I decided to stop the car and have a look of the surface materials. All over the mound the pot-sherds were strewn. I could pick up painted and plain ware, pieces of perforated jars, dish-on-stand, ledged vessels, lids of various types, terracotta missiles, triangular cakes, chert flakes, innumerable bangles, bulls, toy carts and wheels, conch shell pieces and beads — the materials were all very exciting. Such

objects had not been seen by me in the sites so far examined by Sir Aurel Stein or by myself. This was the first site that convincingly attested the spread of the bronze age cultures in the Gomal plain. The discovery of these materials right on the surface suggested that the site was never occupied in the later periods, as had been the case with the other sites noted in the last chapter. The location of this site was also different. While all other sites were near the hills, the site of Gumla was hardly three miles from the river Indus and it seemed that once it lay on a river bank. The understanding of this new geographic locale of the site at once suggested that there must be more sites of similar nature in the plain country away from the hills. But there was hardly any more time that year to look for more mounds.

Discovery of Hathala and Karam Shah:— In the meanwhile I explored the possibility of getting funds for further exploration and excavation in the Gomal plain. In 1968 the then Provincial Government of West Pakistan accepted my proposal and allocated a sum of Rupees two lakhs to meet the cost of the future work. My temporary assignment in the Australian National University in 1969 delayed the execution of the project. Before my return I wrote to Mr. F.A. Durrani and other members of the staff at Peshawar to visit the district of D.I. Khan, explore new sites and make some administrative arrangement for the excavation. It is on this mission in December, 1969 that two new sites were located by this team. The first site lay not far from Hathala, about seventeen miles south of Tank, and the second site was named Karam Shah from the fact of a tomb of that name existing on the top of the mound. This second site is near Pul-i-Aman, about five miles before the tehsil headquarter of Kulachi, on the left side of the road from Hathala to Kulachi. After locating these two sites the team went on to Quetta via Fort Sandeman to study the

sites in northern Baluchistan and examine the possibility of any cultural link with that area. The second objective was not well rewarded. Both the sites of Hathala and Karam Shah were reported to be extensive but the mounds were low in the same fashion as that of Gumla. The team recommended the excavation of these two sites. However, they failed to note that they were both covered by modern Muslim graves and that there would be difficulties in their excavations.

Karam Shah (Pl. 5 b)

For the first time I paid a visit to this mound in December, 1970. It is a very low mound about a furlong away from the main road, measuring about 500 feet. by 400 feet. The mound gradually rises as we proceed to the southern side, on the highest point of which a Muslim grave is standing. Pot-sherds are strewn all over. Some of them have been collected together and deposited on the top of the Muslim graves. The pot-sherds found here are exactly of the same varieties as we get at Hathala. Terracotta bangles and chert flakes are also picked up here and there. Terracotta and stone balls of various sizes are also found on the mound. But we could not get a single piece of toy cart, wheel, perforated vessel, terracotta missile or triangular cake. The absence of these objects is rather conspicuous and is difficult to account when it is known that they are found in the other sites not far from this place. It is possible that the site was given up before other cultural materials could reach here. A long piece of solid chert, 10 inches in length and one inch square in section was found at this site.

The pottery from the surface collection is much varied. We did not find here a single piece of thin pottery so characteristic of period II at Gumla (see chapter X). But almost all other types, found in periods III and IV at Gumla, are obtained at this site. The similarities extend both in painted and unpainted pottery. The major

portion of the pottery is red ware with reddish or whitish slip. A few examples of buff ware sherds were also found. The buff ware sherds are usually unpainted but the decorations on them resemble the Quetta wet ware. The applied designs take various zigzag shapes. Among the red ware sherds mention must be made of dish-on stand. The stand is hollow and the stem sometimes is painted with three or four black bands at the upper end. There are several examples of straight sided cups of medium fabric (Pl. 64 b, Nos. 4 and 6). These cups continue the shapes of period II at Gumla but there they bear extremely fine painting. Here they are either simply red-slipped or at times there is a black band painted at the lip or at base. Another type of sherds shows a series of scourings at the exterior and come up to the middle of the body or to three-fourth of the height. The scoured wares are found from period II at Gumla. A variation is seen when the scourings are replaced by incised wavy lines. This incision is entirely of a different type from those seen in the historic period. Examples from Gumla have been illustrated. Another important variety has an inconspicuous rim with a broad red band below the rim (Pl. 64 b, No. 3). This type is well-known from Kot Diji and is widely spread in all the sites of the Gomal plain. The painted pottery found at Karam Shah has the greatest affinity with those of period IV at Gumla. The ware, the shapes of the vessels and the designs are almost all duplicated in the two sites. As has been said before, all the painted sherds are in red ware and they all have pinkish or whitish slip on them. On this slip the designs are painted with brush in deep chocolate or black colour. A few examples have been illustrated. The paintings are seen on the inner side of a bowl or dish, on the exterior of a ledged rim vessel, on the exterior of rimless jar or of an open-mouthed *lota*. One sherd is most important. Pl. 64 a No. 3 is a piece of a plate showing the hind part of an animal painted in dim black colour. The make-up of

the body, the tail and the rigidly straight legs suggest that it is perhaps a deer.

Pl. 64 a, No. 1 is a piece of ledged rim showing a comb pattern combined with a broken design of a circular shape divided into four segments by thick black lines.

Pl. 64 a, No. 2 is a piece of ledged rim having a painted design consisting of a series of ovals separated by a combination of parallel lines or a stepped motif.

Pl. 64 a, No. 4 is a piece of ledged rim having a hatched pattern in between parallel horizontal lines.

Pl. 64 a, No. 5 is a piece of ledged rim having a single row of half intersecting circles between parallel lines. The vacant spaces are filled by cross hatchings and the resulting segments give the appearance of an eye.

Pl. 64 a, No. 6 is a piece of ledged rim having a row of dumbles in between parallel lines. The main body of dumble is cross hatched.

Pl. 64 a, No. 7 is a small sherd showing two rows of dumble formation by the same method of intersecting circles. The vacant segments are here filled by red blob.

Pl. 64 a, No. 8 is a small pot-herd of a ledged pot showing two dumbles on the preserved portion. These dumbles should not be taken to be window pattern.

Pl. 64 a, No. 9 is a sherd having dumble pattern in between parallel lines.

Pl. 64 a, No. 10 is a sherd having two rows of painted designs preserved. One row shows a double dumble separated by parallel lines and another row has a series of hatched triangles.

Pl. 64 a, No. 11 is a sherd of the same type as No. 10 above. Here the two dumbles are very clear.

Pl. 64 a, No. 12 is a sherd showing a series of parallel curves between parallel lines.

Pl. 64 a, No. 13 is a sherd having a series of loops in the fashion of the scale pattern. Inside the loops there is a red blob.

Pl. 64 b, No. 1 is a sherd showing an alternate squares, one of them is hatched and the other has a red blob.

Pl. 64 b, No. 2 is a sherd having inconspicuous rim with two rows of wavy lines in between parallel lines.

Pl. 64 b, No. 5 is a piece of a small *lota* and is painted with alternate square design, one of them is cross-hatched and the other is left plain.

Hathala

In chapter V we have described in detail the mound at Hathala and its excavation. On account of the large number of Muslim graves existing on the top of the mound the excavation here was very difficult. It was impossible to keep any one trench in its stratigraphic sequence. The intrusion of the Muslim graves in the different trenches had mixed up the materials. After two weeks' digging in selected areas it was found that stratigraphic order of materials could not be ascertained because of earlier pit digging for graves and scattering of the materials here and there. However, our excavation did produce pottery of different types which could be relegated to the different periods on comparison with the sequence of pottery found in our Gumla excavation. We therefore describe and illustrate here selected specimens of the painted pottery found in our excavation and surface collection just to show the identity of the materials found in the two sites. As the main idea is to establish typological similarity, no attempt is made here to record the layers. Our excavation here could not go beyond period IV of the Gumla sequence and for unavoidable reasons we

had to stop the work. However, on the top we observed two periods of late burials—one having cremated bones and ashes and the other having flexed burial with open mouth. Those sherds which were found in the graves will be particularly mentioned.

PLATE 65

In this plate we illustrate the potsherds which, except for Nos. 14, 16 and 17, show the characteristic types and designs which have been found in period II at Gumla. All these sherds are thin and they almost all relate to different types of bowls. They are all of pinkish ware and they are painted in bichrome or tri-chrome. The background is invariably white and on it the designs are drawn in chocolate colour of differing hues. Additional colour used is yellow and red.

No. 1. is a sherd of a straight sided bowl having a design separated by a double vertical line. (The design is drawn by a double outline and it consists of two half squares joined by a middle bar. The space within the lines are filled by yellow paint. This design is also found at Gumla.

No. 2 is a sherd of a straight sided bowl having a series of hatched squares on a white background. The squares are stepped and the white space left vacant has a T-shaped design in yellow. This yellow shade is mixed up with chocolate.

No. 3 is a sherd of small cup. The exterior has a band of cross hatching just below the lip and then a red band after a gap of white. The inner side has a chocolate band at the lip over a broad red slip.

No. 4 is a sherd of a wide-mouthed bowl with flaring simple rim. The exterior is divided into different zones by chocolate coloured lines on white background. The uppermost zone has a double snake motif separated by a series of vertical lines. The

inner side has a broad chocolate paint at the lip.

No. 5 is the rim fragment of a bowl showing on the exterior wavy lines in chocolate on white. At the lip there is a thin chocolate band both at the inner as well as outer sides.

No. 6 is the rim fragment of straight sided bowl having a varied design consisting of wavy lines and wooden writing board separated by lines in white. The vacant space is here filled with deep chocolate colour.

No. 7 is the rim fragment of a bowl having three different patterns in the three horizontal zones. The lowermost one is a red band. The middle one consists of two zigzag lines in chocolate. The topmost one is a hill design in chocolate.

No. 8 is the rim fragment of a bowl having a red coloured triangle above two chocolate lines, below which is a red band. The sides of the triangle are further bounded by double zigzag lines.

No. 9 is the rim fragment of a bowl having a hatched design in chocolate on white background.

No. 10 is the rim fragment of a cup having a design in between two deep chocolate bands. The design consists of a group of sigmas separated by vertical lines.

No. 11 is the rim fragment of a bowl having a design formed by inter-meeting circles. The junction is hachured while each circle, that falls within the space of the bowl, has three concentric lines. The innermost small one has an X-motif on a deep chocolate background.

No. 12 is a potsherd having above the rows of chocolate bands a motif consisting of crossed lines.

No. 13 is the rim fragment of a bowl having angular designs. Each side of the angle has triplicate wavy lines within double outline.

No. 15 is a pot-shoulder showing the hill design as is seen in No. 7 above.

No. 18 is the rim fragment of a small cup having a series of semicircles in the lower register and above, a triplicate snake motif separated by vertical lines.

No. 19 is the rim fragment of a bowl having a minaret design above the double horizontal lines. On either side of the minaret is a series of vertical lines in red.

The following three sherds are of entirely different ware and they do not belong to the above group. These are all red ware and they have deep red slip on them. The design is painted in black. Thus here we have black-on-red. The ware is the same as we get in the Indus valley Civilization,

No. 14 is the rim fragment of a bowl showing a running deer with its two wavy horns and standing ears. The tail and the legs are dimly visible. This is a very graphic representation of a deer.

No. 16 is the fragment of a saucer with sigmas and other zigzag patterns drawn in black on red background.

No. 17 is the rim-fragment of a jar having an out-curved rim painted with chocolate band. Below it on a red background is drawn a horned deity in black. The face of the deity is dimly visible. It is of the same type as has been found at Gumla in period III and is similar to the horned deity of Kot Diji.

PLATE 66

In this plate the materials are mixed up. The painted designs continue the old tradition, i.e. the design in chocolate on

white background with rare exceptions. The pottery includes both thin and thick ware.

No. 1 is a part of a wide-mouthed carinated bowl having concave sides and disc base. The carination is in between red bands and on the exterior below the rim there is a series of hanging loops. The interior of the bowl is red slipped and at the base there is also a series of loops on the inner side of a double circle.

No. 2 is a pot-shoulder having hatched eye motif in chocolate on white background.

No. 3 is a thin rim fragment of a bowl having a design similar to No. 5 of Plate 65, i.e. double wavy lines between horizontal lines.

No. 4 is the rim fragment of a thick bowl having preserved probably a curved horn in outline on a white background.

No. 5 is a piece of a thin carinated bowl having below the rim a line of loops, in each of which is a red blob.

No. 6 is a rim fragment of a thick bowl having a broad chocolate band below the rim and further below a series of vertical lines to separate a motif.

No. 7 is a fragment of a thick plate having two wavy lines on the inner side.

No. 18 is a rim fragment of a thick bowl having double vertical lines probably to separate a motif.

No. 9 is a rim fragment of a straight sided cup with deep chocolate slip at the exterior and the inner lip. On the exterior two vertical lines are drawn in white.

No. 10 is a thick pot-shoulder having pinkish slip. On it is a series of squares, block squares alternating with crossed ones.

No. 11 is a fragment of a thick jar showing a leaf pattern in red and other lines in chocolate on white background.

No. 12 is a fragment of a thick bowl having in the interior hatched lines between two hill motifs. The sherd has white slip on the exterior and pinkish slip on the interior.

No. 13 is a rim fragment of a thick bowl having preserved a curved horn probably of a deity similar to plate 65 No. 17.

PLATE 67

This is a red ware stemmed vessel having red slip on the exterior and faint reddish wash on the interior. The stem is hollow. The vessel appears to be a wide dish and it bears a great affinity with the Harappan dish-on-stand. The lower side of the dish has triple bands in black just above the junction with the stand. Occasional streaks of zigzag lines in black further decorate the underside of the dish.

PLATE 68

The pot-sherds illustrated in this plate have been found with the exception of Nos. 6 and 7, in association with the later graves. Some of them were actually found under the bones and the remainder were thrown in along with other buried materials. It is difficult to say whether they were actually made by those people who buried their dead here. At Gumla also we found similar pot-sherds from inside the graves. Even if they were not made by the grave people themselves, such pottery must have continued and survived in their time. The pottery is rather coarse and the colour is also fugitive.

No. 1 is a rim fragment of a big storage jar having red slip on the exterior and interior. The fabric is thick and the texture is coarse. The design is absolutely new, painted in chocolate on a pinkish white

background. The design consists of rectangles drawn in triplicate lines. Within the rectangles the space is divided into a combination of motifs.

No. 2 is a fragment of a ledged rim having preserved one hole at the ledge. The texture is coarse and is not well fired. The design consists of concentric semi-circles in chocolate on white background.

No. 2 is a fragment of a ledged rim having two holes at the ledge. The texture is comparatively better and is well fired. The design is painted in faint yellow on white background and it consists of sigmas and eye motif separated by a group of lines.

No. 4 is a pot-sherd of a thick vessel, coarse texture, having pinkish slip with a design consisting of hatched dumbles formed by the technique of intersecting circles. This is a part of a ledged rim vessel.

No. 5 is a rim fragment of a ledged rim vessel having pinkish white slip with a design of intersecting circles, the intersecting space having a red blob and the cross-section is hatched.

No. 6 is a rim fragment of a thin bowl having below the rim a line of stepped motif separated by vertical lines. This motif is different from the one seen in the Nal pottery.

No. 7 is a fragment of small ledged rim vessel having on the exterior a series of loops with red blobs in between horizontal lines.

No. 8 is a fragment of a ledged rim having two holes. Its interior is red slipped. The outside motif drawn in faint chocolate on white is gone.

No. 9 is a fragment of a ledged rim having only one hole preserved. The inte-

rior is red slipped and the exterior shows two rows of dumbles, or correctly intersecting circles with hatched cross-section separated by vertical lines.

No. 10 is a fragment of a ledged rim with two rows of loops in the opposite direction below the rim. In between the loops we have hatched sections.

No. 11 is a fragment of a ledged rim with multiple motifs on the exterior.

RAHMAN DHERI

While we were excavating at Gumla in March 1971, several sites were explored by us in the off time. The biggest site is known as Rahman Dheri, about 14 miles away from Dera Ismail Khan on the main road side from Dera Ismail Khan to Bannu. The red top surface of the mound is visible from the road. It is one mile away from the road on the left hand side as we advance from Dera Ismail Khan. Actually there are two mounds (see Pl. 4 a) in the neighbourhood. The second mound is called Hisam Dheri (see description below). The Rahman Dheri mound is the biggest so far discovered in the Gomal plain. It measures 1700 feet north to south and 1200 feet east to west. It is a low mound about 15 feet high from the present ground level, which lies in the flood plain of the Gomal river although today the river does not flow here. The highest part of the mound is in the south-west corner. The top of the mound is almost flat but the rain water has cut many channels. The aerial photograph (Pl. 4 b) gives a graphic picture of the site and clearly brings out the channels and the gullies cut by rain. But on the whole the picture presents the ruins of a well-designed city making a rough parallelogram. The water channels that have been cut all follow a rigid pattern of parallel lines and it seems that these channels follow the old lines of street alignment. Apparently the city ruins are most exciting and instructive. Only proper excavations

will show whether the pattern follows the same system as is seen at Mohenjodaro.

There is just one or two Muslim graves on the top of the mound. But there are several circular lined pits (Pl. 5 a) on the top of the mound. These pits are full of ashes and they may be burial pits or furnaces. On the surface we collected some antiquities and pottery. They are all exactly of the same type as is obtained from the excavation at Gumla. The selected specimens are described below.

PLATE 69

No. 1 Fragment of a shallow bowl of thick fabric red washed inside but the outside is slipped white and is painted with alternate red and chocolate lines.

No. 2 Fragment of a dish in coarse ware having a white slip on the inner side of the lip and painted with a double row of triangles.

No. 3 Fragment of a dish in coarse ware having white slip on the inner side. On it is painted a bird motif in chocolate. The bird may be a peacock.

No. 4 Rim fragment of a red ware bowl with reddish slip and at the lip on the inner side. On the outside there is a *svastika* motif painted in black.

No. 5 Pot-herd of red ware having red slip and a painted design of concentric triangles in black.

No. 6 Fragment of a carinated bowl of red ware having red slip. Above the carination there is a black band and on it two tree motifs.

No. 7 Pot-herd of coarse texture with white slip on the inner side and painted over with leaf design.

No. 8 Rim fragment of a small red ware bowl having *svastika* painted in black on red.

No. 9 Pot-herd of red ware having a triangle design painted in black on red.

No. 10 Pot-herd of pinkish ware having white slip with intersecting circle design, the cross-sections are hatched, giving the appearance of dumbles.

No. 11 Rim fragment of a very small cup in red ware having hatched decorated design on the exterior.

No. 12 Rim fragment of a medium sized jar having its exterior body coarse but with a red band below the rim painted over with a different type of *svastika*.

No. 13 Pot-herd of red ware having wavy line painted in chocolate on white.

No. 14 Pot-herd of coarse ware having white slip on the exterior with hatched triangle and double row of loops painted in chocolate.

PLATE 70

No. 1 Fragment of a ledged rim having preserved one hole and below the rim on a white background intersecting circles make a line of hatched sections. The vacant spaces have red blobs.

No. 2 Fragment of a ledged rim having only one hole with a design of hatched squares meeting at ends.

No. 3 Fragment of a ledged rim of red ware with red slip. Below the rim there is a row of legged design under the parallel lines.

No. 4 Fragment of a ledged rim having white slip on the outside and a design consisting of ovals and lines.

No. 5 Fragment of a ledged rim having white slip on the exterior and further painted with a rectangular design separated by wavy lines. Inside the rectangle are smaller triangles, squares and rectangles.

No. 6 Fragment of a ledged rim having

pinkish slip and showing two hatched sections with a red blob in the oval space.

No. 7 Fragment of a ledged rim having pinkish slip with oval design painted in black.

No. 8 Fragment of a ledged rim having white slip with a part of the hatched section and two blobs in loops.

No. 9 Fragment of a ledged rim having pinkish slip painted over in black.

No. 10 Fragment of a ledged rim having whitish slip with a very faint design in chocolate.

No. 11 Pot-herd of red ware having a series of hatched square motif.

No. 12 Fragment of a ledged rim having white slip painted over with a double row of ovals and hatched sections in between.

No. 13 Fragment of a ledged rim having white slip painted over with hatched sections and ovals having red blob within.

No. 14 Fragment of a ledged rim having white slip painted over with a design of triangles separated by a wavy line.

No. 15 Fragment of a ledged rim having white slip. Only part of the painted design is preserved.

No. 16 Fragment of a ledged rim having white slip with painting in chocolate.

PLATE 71

No. 1 — Lower part of a second variety of dish-on-stand with its base widely spreading. Compare Marshall, *Op. Cit.* Pl. LXXIX, Nos. 2, 3, 5 and 6. It is plain.

No. 2 — Fragment of a concave sided bowl of red ware having whitish slip with a chocolate lining at the rim and at the inner side of the lip. At the lower end it is carinated. There are triplicate lines of chocolate painting above the carination.

No. 3 — Fragment of a sagger-based bowl of red ware, thin in section. It has slight carination at the lower end. From the carination to the rim and on the inner side of the lip it has deep chocolate slip.

No. 4 — Part of the stem of a bowl-on-stand of red ware having reddish slip and chocolate painted lines at the upper part of the stem. This is similar to Marshall Pl. LXXIX, No. 1.

No. 5 — Rim fragment of a bowl with its rim flaring. On the interior it has whitish slip and on the exterior light chocolate slip. Towards the base and at the rim on the exterior there is a deep broad lining. Across the body there is a wavy line in chocolate on white background.

No. 6 — A small cup in red ware having reddish slip with two deep chocolate bands, one at the rim and another towards the base.

No. 7 — Fragment of a concave sided bowl with flaring rim having reddish slip and deep chocolate lining at the rim and towards the base.

No. 8 — Fragment of a plate of red ware having a wide marginal lip. It has chocolate slip. In the middle of the plate there is a design within a circular space defined by three incised lines. The design originates from the centre of the plate and assumes the form of curved lines moving in clock-wise direction. The lines are formed by the technique of indentations. This type of plate has been found at Gumla.

No. 9 — A small sagger-based cup having reddish slip and traces of chocolate lining at the rim and towards the base.

No. 10 — Fragment of a flat lid with a slightly raised upright rim. It has whitish slip and chocolate bands. This type is found plentifully at Gumla.

No. 11 — Fragment of a plate of red ware having outcurved lip. It has reddish

slip and chocolate band at the rim.

No. 12 — Fragment of a plain concave sided bowl, having reddish slip and double incised circular lines on the inner side of the base.

No. 13 — Fragment of a bowl having outcurved sides and flat rim, red-slipped.

PLATE 72

A representative collection of small finds is given in this plate.

No. 1 — A broken terracotta missile with dimple on either face.

No. 2 — Headless and legless terracotta bull with no hump at all.

No. 3 — A terracotta imitation of sea-shell having preserved one hole. Such imitations are known from Gumla.

No. 4 — A terracotta humped bull with its legs and horns gone.

No. 5 — A stone cube generally found under the bones of a buried skeleton, also found at Gumla.

No. 6 — Another piece of terracotta imitation sea-shell.

No. 7 — Another stone cube seen under the bones.

No. 8 — Front part of a terracotta humped bull with the horns and mouth gone.

No. 9 — A tiny ritual pot so well-known from Gumla.

Nos. 10 and 11 — Pieces of perforated ware.

Nos. 12-18 — Various shapes of terracotta bangles. No. 18 is bifoliate and is of black colour.

No. 19-21 — Lower part of seated female figurines with out-stretched conventionalised, stem-like legs.

No. 22 — A waste chert flake yellowish in colour.

Nos. 23 and 24 — Heads of female figu-

rines, No. 23 still retaining the scarf piece on the head.

HISHAM DHERI

As has been said before, this small low mound, measuring 250 feet east to west by 200 feet north to south, lies 1200 feet away to the north of Rahman Dheri. This looks like a fortified citadel. In between the two mounds there is a wide gap, the meaning of which is not understood now. The surface collection at this site differs slightly from that of Rahman Dheri, Hathala and Karam Shah but it is of the same type as is found at Gumla, Mahra Sharif and Musa Khel (see below). Unlike the collection at Rahman Dheri, here on the surface we have numerous quantity of terracotta missiles, triangular cakes, sling balls, perforated wares, painted pottery of black-on-red type, toy carts, wheels and bangles. Why such materials are less at Rahman Dheri, so close to it, is difficult to explain in the present stage of our knowledge. A few specimens are illustrated below:

PLATE 73

Nos. 1-3 and 5 — Terracotta missiles of two varieties. No. 1 is oval in shape and the remainder are circular in shape.

Nos. 4 and 6 — Fragments of triangular cakes.

No. 7 — Pot-sherd having reddish slip with a part of hatched leaf and other lines in black.

Nos. 8-9 — Rim fragments of plain red ware.

No. 10 — A terracotta red bangle piece, round in section.

No. 11 — Pot-sherd having reddish slip with a *pipal* leaf design in black.

No. 12 — A piece of perforated ware.

MAHRA SHARIF (Pl. 6 a)

We had earlier heard of the Tughlaq period tombs at Mahra Sharif, a small village 25 miles south of Dera Ismail Khan on way to Multan. From the main road the village is removed four miles to the west. On 22nd February we paid a visit and to our surprise we noted that the main mausoleum had fallen down but four tombs are still standing. All these buildings are standing on a widely extensive mound, one part of which a photograph is published here, yielded the same type of materials as we get in Gumla and Hisham Dheri. On the top of this mound there was a damaged skeleton (Pl. 6 b), lying in a flexed position with its mouth wide open in the same fashion as has been found at Hathala. A few selected pieces are described below:—

PLATE 74 a.

No. 1 — A stone cube generally seen under the bones.

No. 2 — Fragment of dish-on-stand.

No. 3 — Lower part of a female figurine.

No. 4 — A pot-sherd having impression of a woven cloth.

Nos. 5 and 6 — Pieces of perforated ware.

No. 7 — A piece of toy cart.

Nos. 8-10 — Pieces of triangular cake.

Nos. 11-14 — Pieces of terracotta bangles.

PLATE 74 b.

No. 1 — A complete brick measuring 9.3x6 inches and 1¾ inches thick. It has six indentations on one side. It is of the Tughlaq period.

Nos. 2 and 4 — Two brick cones with turquoise blue glaze on one side. Tughlaq period.

No. 3 — A pot-sherd with turquoise blue glaze on one side. This colour of glaze

was popular in the Tughlaq period.

PLATE 75

MUSA KHEL

We received news of a number of old mounds east of the river Indus in the Sind Sagar Doab. The site of Piplan is now covered by sand and stands not far from the railway station of Kundiya. Another promising site wherefrom painted pottery, toy carts, wheels, bangle pieces and other objects have been obtained lies at the main route near the modern town of Laiya. We could pay a visit only to one site at Musa Khel about 13 miles north of the city of Mianwali on the main Mianwali-Rawalpindi road. The village of Musa Khel stands four miles south of the Salt range and is a connecting link between this zone and the area north of the Sale Range in the district of Campbellpur. From Musa Khel one could go over the rough fields directly to Kala Bagh and over to Bannu. In between the site of Sarai Khola near Taxila and the bronze age sites in the Gomal plain, Musa Khel provides a connecting link just as the site at Laiya gives a link with Harappa and Jalilpur in Multan district. Intensive exploration in Sind Sagar Doab is bound to reveal more sites of this period.

At the northern extremity of the village of Musa Khel there are two mounds called Sultan Dheri and Faqir Dheri. Actually they are two high parts of one and the same mound. In between the space is now covered by Muslim graves. The two high parts are now occupied by Muslim *Ziarats*. The whole area is sandy, the sand being brought by wind action. Even the modern graves are partly buried under sand. A portion of the high mound at Sultan Dheri is now exposed. It is from this mound that a few objects were collected. The top is full of potsherds, bangles, brick pieces and terracotta objects. Selected specimens are illustrated below:—

No. 1 — Lower part of a terracotta female figurine.

No. 2 — A small gamesman of terracotta, circular in section. It is .8 inches high.

No. 3 — A part of pottery lid, plain red ware.

No. 4 — A piece of perforated ware.

No. 5 — A fragment of pot having red slip with a wavy line painted in chocolate on white background.

No. 6 — A piece of a plate having incised concentric circles in the middle.

Nos. 7 and 9 — Complete terracotta missiles, circular in shape.

No. 8 — Fragment of a terracotta missile, oval in section.

No. 10 — A trapezoidal brick measuring $1\frac{1}{2}$ inches high, $9\frac{3}{4}$ inches long, 5 inches wide on one side and 4 inches on the other.

BUD KI DHERI

There are a number of other mounds in the vicinity of Gumla and Rahman Dheri where identical objects have been found. One low mound was noted about two hundred feet north of the Gumla site. The second is known as Bud Ki Dheri about 3 miles north-east of Hathala on a Kachcha road. Here also we have painted pottery, toy carts, terracotta missiles, tiny ritual pots, bulls, chert flakes, and bangles. These mounds confirm the widely-spread nature of the bronze-age culture.

KOT ALLAH-DAD

There are other mounds in this locality, which are of entirely different nature. Two of them were examined by us. One is known as Gomal Kalan, on which a modern village of the same name is situated. This mound lies about two miles north-east of

the Gumla site. Here the painted pot-sherds and antiquities are entirely of a different nature. The second mound is near the village of Kot Allah-dad which is two miles away from the deserted village of Manjikhel on the main road from Tank to Dera Ismail Khan. The village is situated on a part of the mound, which measures about 300 feet by 300 feet. It is a low mound rising to a height of about twelve feet. The higher part of the mound is on the west and on the eastern side late period grave circles are visible on the surface. It is from one of these grave circles that an iron bent knife (Pl. 39 No. 11) was found. The whole mound is strewn over with pottery, in which the plain red sherds predominate. Shell bangles and terracotta bangles are also found here and there. The mound does not appear to be earlier than the iron age. As the following illustrated plate will show, the materials are similar to those found in the sites described in the last chapter.

PLATE 76

No. 1 — Rim fragment of a plain red ware bowl, the rim is of triangular shape, having two grooves below the rim at the exterior.

No. 2 — Rim fragment of a plain red ware, the rim is out-turned and cut in the underside.

No. 3 — Rim fragment of a plain red vase, the rim being square in shape.

No. 4 — Fragment of a red ware bowl with red slip at the exterior and a line of P-shaped motifs between two bands in black. This painting in black-on-red is entirely of a different type from that seen at Gumla, Rahman Dheri and other sites described in this chapter. But the painting tradition is similar to the one described in the last chapter.

No. 5 — Pot-fragment of similar ware as No. 4 above, having red slip on the ex-

terior and a series of inclined strokes between double circular lines. The painting is of the same nature as is known in No. 4 above.

No. 6 — Rim of a red ware bowl with black linear painting-on-red of the same nature as in the above two sherds.

No. 7 — Pot-sherd of red ware with black fugitive painting on red in the above tradition.

No. 8 — Pot-sherd of red ware showing the old design of a series of loops in black on pinkish background. The ware is the same as the above example.

No. 9 — Pot-sherd of red ware, same as above, having applique band with incised motif, resembling rope pattern, and further painted black band on red background.

No. 10 — A handled incense burner having fritted rim and red slip from the rim to the incised line. The ware is the same as of the above pieces.

No. 11 — Potsherd of red ware having three black bands in black-on-red.

No. 12 — Pot-sherd having white slip at the exterior with linear painting in fugitive chocolate colour on white. The ware is the same as the above pieces.

No. 13 — Pot-sherd of red ware with finger tip impressions.

No. 14 — Pot-sherd similar to No. 12 with similar painting.

No. 15 — A fragment of a terracotta bull, having its hind part preserved.

No. 16 — A terracotta lid, the handle being conical in shape.

No. 17 — A terracotta broken horn.

Here several examples of spout, incised and stamped pot-sherds, sherds with applied bands, grey-ware sherds have been

found. These have not been illustrated as similar specimens have been published by Sir Aurel Stein, and we have already discussed them in the last chapter.

CONCLUSION

Our exploration in the Gomal plain has produced two different types of sites — one group of them was explored by Sir Aurel Stein. These are of the similar type

as our sites of Kot Allah-dad and Gomal Kalan. They belong to the Iron Age and continue in the early historic period. The second type of the sites belong to the Bronze Age. This second type of the sites lies in the plain of the Gomal valley and they have a different environmental background. These sites were not found or seen by Sir Aurel Stein. They have been for the first time described in this chapter.

CHAPTER IV EXCAVATION AT GUMLA

Introduction

In the last chapter the circumstances that led to the discovery of the Gumla site has been narrated. Its importance was recognised right from the beginning from the very fact that right on the surface of the mound materials identical with the Harappan culture had been picked up. It was therefore clear that the top levels would yield definite evidence of occupation contemporaneous with the Harappan culture. If this was so, there was great hope of finding pre-Harappan sequence at the site and of getting materials that would throw light on the transition from the pre-Harappan to the Harappan. This was the first objective in selecting this site for excavation. The need for such an objective was all the more greater because the earlier excavations in the plains of the Indus at Kot Diji¹ and Amri² had not led to the definitive solution of the problem. The second objective was to establish a sequence relation with the bronze age sites in Zhob and Loralai valleys and study the mutual relationship between this plain of the Gomal valley and the hill pattern of the Zhob, which actually joins with the Gomal river, as has been described in Chapter I. There was a further hope that with the establishment of this sequence relationship, it would be possible to visualise in a better manner the real place of the Harappan culture in the total picture of the Bronze Age cultures of the Indus region and the surrounding areas. The third objective was of still greater importance. Here in the Gomal plain we had caught the Harappan cultural elements very close to the western hills, which, although standing as a wall between the Indus plain on the one hand and the plains of the Argandab and Helmand on the

other yet the hills are not inseparable barrier. They open out several connecting links either way. This geographic perspective suggested that it would be possible to get strong basis for closer relationship between the Bronze Age cultures of the Indus region with those of southern Afghanistan. With these triple objectives the excavation was planned to have a complete picture of the Gumla site in order to establish a firm basis of cultural sequence in the Gomal plain. It is fortunate that all these three objectives have been fulfilled.

The excavation was conducted directly under my personal supervision with the assistance of Mr. Sardar Mohammad Khan the Field Superintendent of the Department, who looked after the administrative arrangement and also participated in the excavation along with Mr. Amin Jan, a student of the Department. Mr. Mohammad Sabir, the photographer and Mr. Mohammad Daud Kamal the draughtsman also acted as supervisors. The then Commissioner of D.I. Khan Mr. Jamil Ahmad, C.S.P., and the Deputy Commissioner, Mr. Sajjadul Hasan, C.S.P. were good enough to provide the necessary permission. Lt. General K.M. Azhar Khan, the then Governor of the N.W. Frontier Province paid a visit to the excavation and took keen interest in the progress of the work. Mr. Abdul Hashim Khan, the Vice-Chancellor of the University of Peshawar, released the funds for carrying out the excavation. As this was the first archaeological excavation conducted in Dera Ismail Khan district, the local gentry took great interest in the work.

The Mound at Gumla

The site is named after the neighbouring village of Gumla that lies to its north although it stands in between this village and Garhi Hayat on the south. The mound is actually a few yards away from the main

1. *Pakistan Archaeology* Vol. II, Excavation at Kot Diji, henceforward abbreviated as *Kot Diji*.
2. J.M. Casal *Fouilles d'Amri*, abbreviated as *Amri*.

road on its northern side between 7th and 8th mile stones from Dera Ismail Khan. Its pottery strewn red surface boldly distinguishes this mound from many other smaller heaps of earth that lie on the road side. These latter are modern brick kilns. To the south-east of the mound, about hundred yards away, there is an old dilapidated Mughal *baoli* (stepped well) made of small bricks and is quite impressive by its dimensions. As its water is brackish, it is not in use now. Similar brackish water has been noted in a few wells dug in the neighbouring villages. But in the deep tube wells, excavated for irrigation purposes, sweet water is available. It seems that in the recent centuries, particularly after the Mughal period, because of the change of the river course of the Indus and its main affluent, the Gomal river, the subsoil salt has come up to the surface and turned the sweet water into brackish taste. However, deep down the sweet water is still procurable. The very fact that the Mughals had to dig a huge well at this site, and many more in the neighbourhood on their usual route through the Gomal pass, suggests that drinking water had become scarce even at that time. How long ago had this happened, it is difficult to say. But between this site and the village of Gomal Kalan, about two miles to the north-east there is a dried-up bed of a river, probably an affluent of the river Indus that flows today three miles away from the site to E.E.N. It seems that the original site of Gumla stood not far from a river bed but the very size of the site suggests that it was a small village occupation. After all the main city site of Rahman Dheri is hardly five miles to N.N.W. and it is clear that this village site is the rural extension from that urban centre.

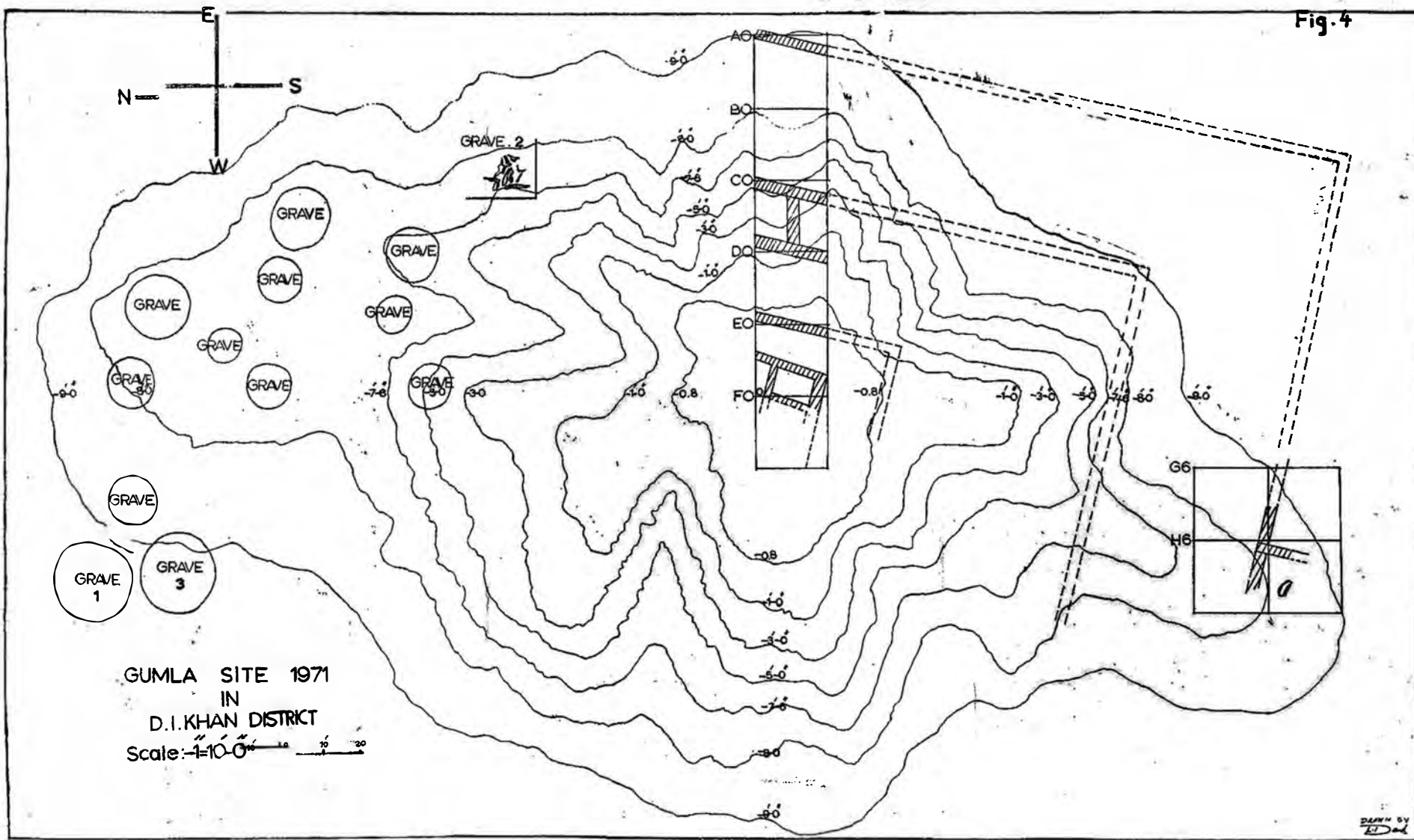
The main mound is almost a square, measuring 200 feet each side, with a thirty feet extension on the south and a further seventy feet extension on the north. Thus the north-south axis actually measures 300 feet. Today the mound is cut up by rain

and the gullies (see Fig. 4) have been made at the four diagonal corners where much of the cultural deposit has been washed away. The extension on the south apparently seems to be of the main entrance but the later disturbance of grave digging had left very little for correct identification. The extension on the north did not show up any structural remains but a series of circular formations were noted, which later proved to be of cremated graves. But no such circles were visible on the top surface of the mound because of some recent building activity that actually existed there.

There was very little vegetation on the top of the mound (Pl. 7 a) although scrubs were plentiful in its surrounding. The top (Pl. 7 b) was full of pot-sherds, broken terracotta missiles, brick bats, broken bangles, toy carts and wheels, human and animal figurines — all washed clean by rain and some deposited in quantity in the gullies cut by rain water. Here we could pick up varieties of materials that belonged to the top levels. On the top of the mound there was a level plain, measuring about 65 feet by 50 feet. It was this area that had been used in recent years for building purposes. But the surface find on this restricted area had made it quite clear that it was not raised by modern man. Our later excavation showed that it was made by ancient man with a deliberate end in view. The rain gullies had not been able to break the main sides of this central massive area but it had approached from the corners and ultimately tried to eat away the cultural deposit.

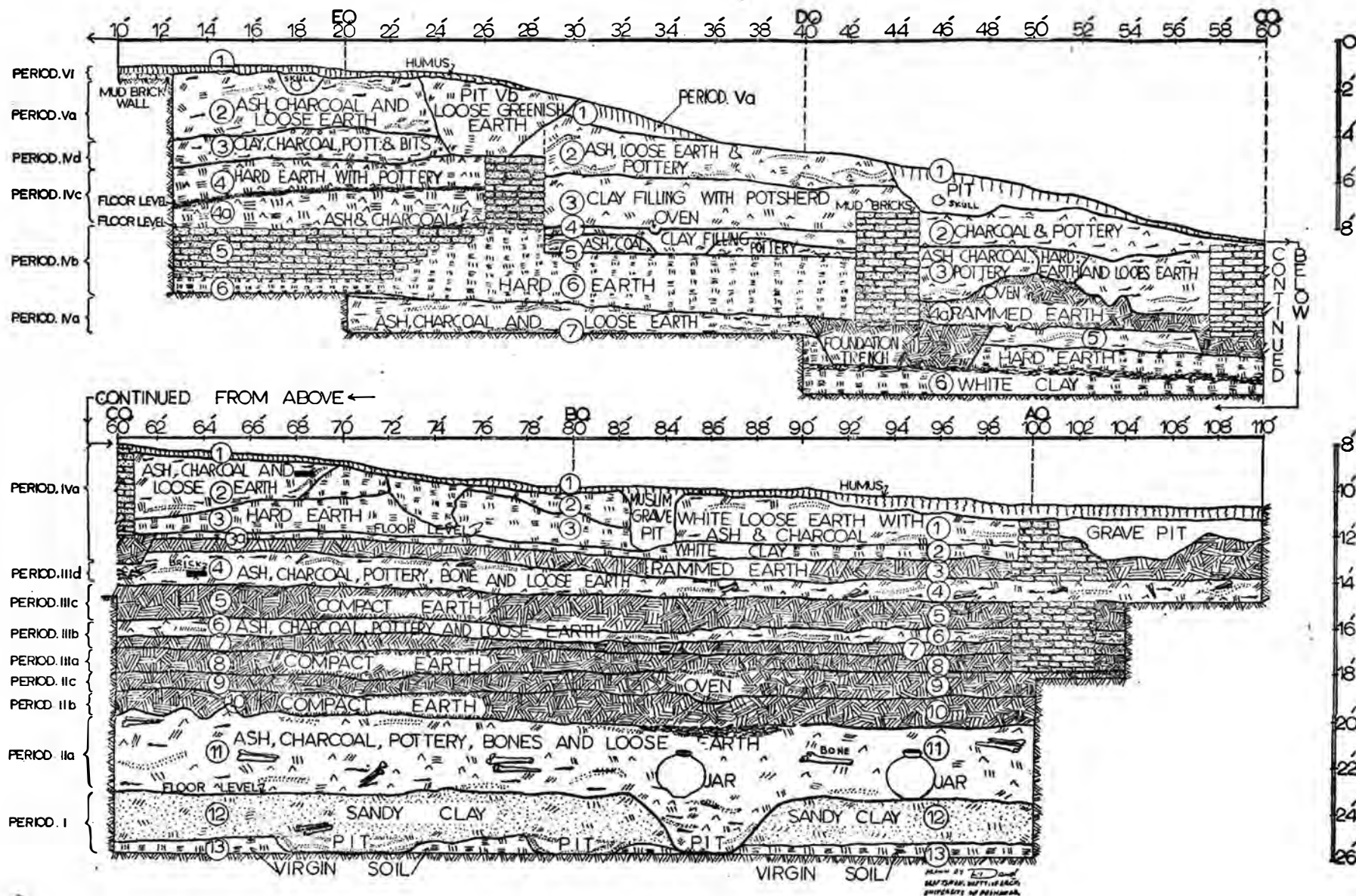
The western ground level was slightly higher than the eastern side. As no mean sea level was available in the neighbourhood, we decided to fix the zero point on the level top of the mound. Here the main datum line was fixed and all other measurements were from this top to the present ground level. From the figure No. 4 it will be clear that the main north-south axis drops to -7.6 inches and thereafter we

Fig. 4



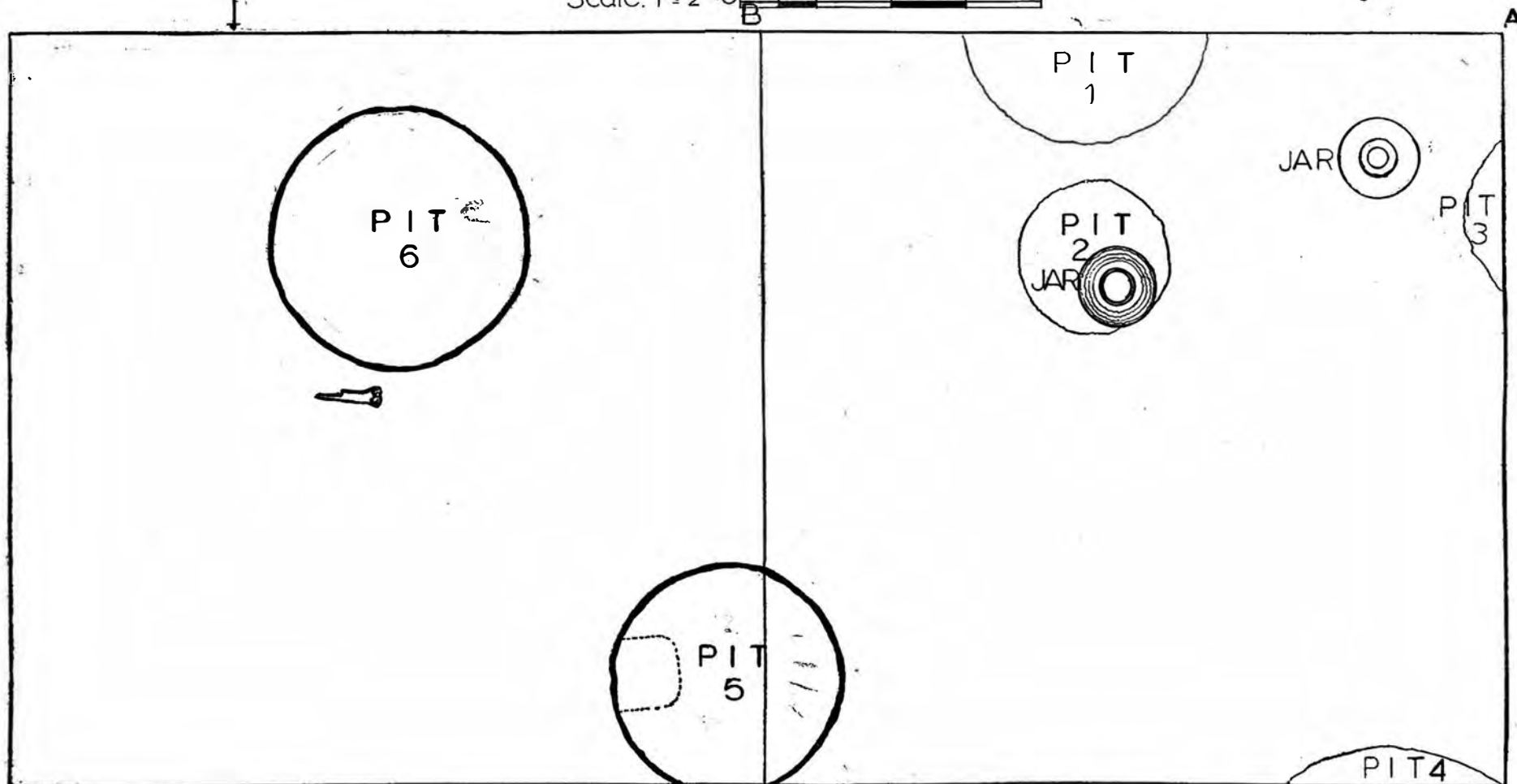
GUMLA EXCAVATION EAST-WEST CROSS SECTION ACROSS THE TRENCHES

Fig.5



PITS IN TRENCHES AO & BO
NOS. 5-6 PERIOD I
NOS. 1-4 PERIOD II
Scale. 1" = 2'-0"

Fig. 6



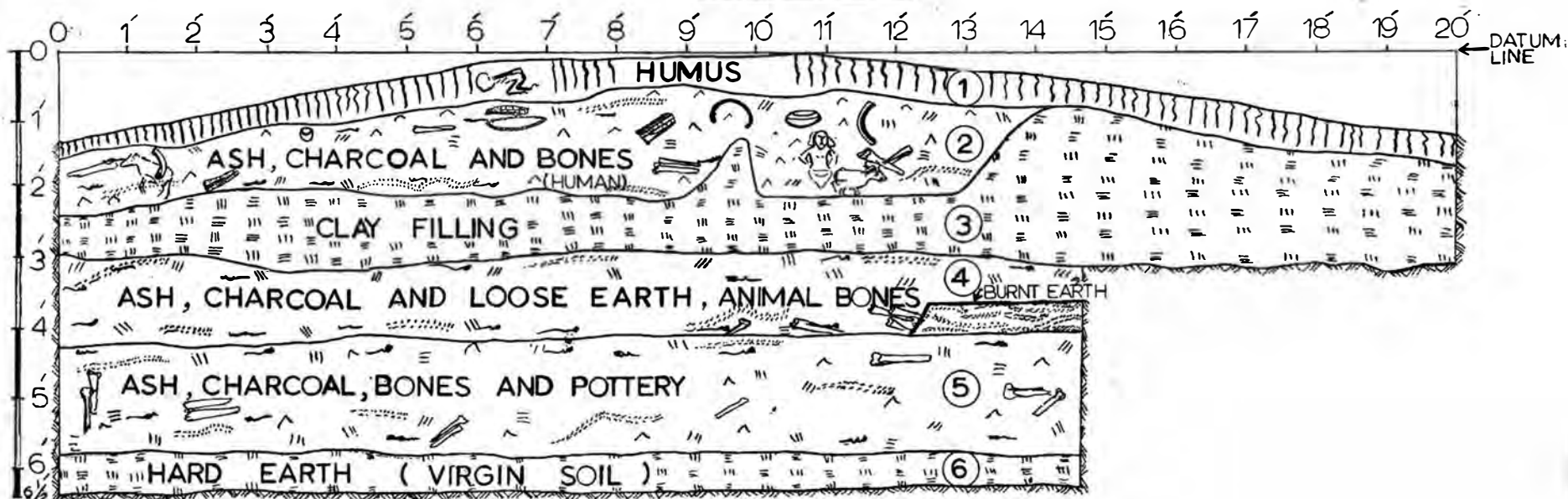
SECTION ACROSS THE MIDDLE OF CIRCLE

Fig. 7

GRAVE NO. 1

WEST EAST

Scale: 1" = 1'-0" 1' 1/2" 2'



have further extensions to -9 inches from the top. On the other hand the east-west line gradually slopes to -9 inches on either side. The extensive variations are seen in the corners as they were cut up by rain gullies. The understanding of this configuration of the mound was of great help in determining the method of laying the trenches and getting at the true nature of the site.

Laying of trenches and method of excavation

We believe that prior study of the mound in some depth is absolutely essential before one can decide about the particular method of excavation that would yield the best result at that site. This study and the clear objectives in view must determine the type of trenches that one should lay at a site. Once we had determined our objectives and made a study of the site, we had no choice left but to lay trenches in such a fashion that would help build a complete sequence of the cultural materials that characterised the life of this village site. We took the site as typical of the rural complex of the Gomal plain, and except for its relation with the neighbouring urban centre of Rahman Dheri that could be done only after the excavation of the latter site, we thought it absolutely essential to grasp the entire cultural milieu of the rural system. This picture alone could provide us with a true anthropo-cultural sequence of the life pattern in this zone. It is only on such a reconstruction that the cultural build-up in this plain can stand as a definite base for further comparison with the neighbouring areas. This result was impossible to achieve by laying trial pits or trenches or holes in the different parts of the mound. Unfortunately in the Quetta, Zhob and Loralai valleys the excavation results have been far from what was desirable because of hurried activity and desperate probing into the mounds that could yield more substantive evidence. While Ross made a deliberate attempt to

build a stratigraphic sequence at Rana Ghundai,¹ Fairservis, it is painful to point out, made a rash shaving of the older trenches and foisted his own sequence on that of Ross, though he could hardly achieve anything more than what Ross had built up earlier. Even at the small mound of Sur Jangal Fairservis dug pits into the older trenches of Sir Aurel Stein with the result that he built sequence in the different pits but for the reconstruction of the cultural sequence in the area as a whole he had to rely on the older method of comparative study of the materials from the different sites. Actually speaking, over and above the work of Ross we have hardly got a correct picture of a site as a whole from the Zhob Valley.

In the absence of this study we decided to lay a substantive trench (Pl. 8a) across the main cultural deposit of the mound at Gumla so as to catch a complete picture of the life pattern in this site. Our study of the mound had provided us with the main nucleus of the settlement with extensions on the north and south. Those extensions were overlooked for the time and right in the centre of the level plain on the top of the mound the zero point was fixed, and avoiding the diagonal intrusions by the rain gullies, the trenches were laid in the east-west direction right to the end of the mound on the eastern side as far as we could determine from the surface study. This was a continuous trench 100 feet long by 20 feet wide. We made in all five square trenches, each measuring 20 feet aside, and named the trenches as AO, BO, CO, DO and EO. The trench AO was at the eastern extremity of the mound and point F right in the middle of the level plain. Our later excavation showed that our peg AO was right on the top of a mud-brick wall that was the last of the cons-

1. E.J. Ross — *Rana Ghundai — a Chalcolithic site in northern Baluchistan*, in *Journal of the Near Eastern Studies*, Vol. 5, No. 4, Pp. 291-315.

truction on this side. Our peg FO was in the middle of a central structure. As this was just a village site, it was unnecessary to have horizontal digging for reconstructing a complete cultural milieu including architectural remains of a particular given epoch. Such cultural horizons could be built up in an urban centre where different system of trench laying has to be followed. Here at the village site of Gumla this could not be the aim. However, it was absolutely necessary to get at the complete cross section of the living pattern here and that was possible only by a substantive trench. Hence the present method was followed. Later it was realised that we should discover the meaning of the extensions on the north and the south. After the excavation (Pl. 8 b) had proceeded to some extent, it was easy to determine that the southern extension incorporated the entrance complex. In order to probe the nature of this complex — the trenches G6 and H6 were laid in this area. On the northern side the extension tended to break up into smaller circles (Pl. 14 a), as is represented by different poles in the photograph. These circles proved to be of later graves. Two of the circles were dug up in this northern extension, and they were numbered as circle grave No. 1 and 3

Recording of the antiquities

In all such excavations where we have no knowledge at all about the different possibilities of cultural epochs recording of the antiquities presents a great problem. Fairervis, in his excavations in Quetta,¹ Zhob and Loralai Valleys,² adopted a system of artificial vertical division of uni-

1. W.A. Fairervis — *Excavations in the Quetta Valley, West Pakistan*, New York, 1956 (henceforward abbreviated as Fairervis — *Quetta*).
2. W.A. Fairervis — *Archaeological surveys in the Zhob and Loralai districts West Pakistan*, New York, 1959 (henceforward abbreviated as Fairervis — *Zhob and Loralai*).

form length and then to study the materials on an evolutionary process. This system works very well in a small compact trial trench but it is impossible to apply it in the case of a substantive trench. The old method of recording from a given datum line also fails miserably in such a village site where pit digging is the usual habit. Three-dimensional measurements in a given trench did help us to a certain extent but it was impossible to maintain it in the top levels, particularly in trenches DO and EO where we later discovered that a series of grave pits had been dug by a later people and created confusion in the buried materials. In order to create some system out of this chaos we decided on some definite steps. The first thing that we did was to record all the objects found in a single day's dig the same night trench-wise and recording also the measurements from a given peg. This method helped us in retracing the place of the actual find on subsequent days in order to fix its place in a given cultural sequence. The second was to look for the total evidence available on a single day to decide about a cultural complex. If necessary the particular cultural complex could be revised on subsequent days in the light of the new evidences. The result was that we built up several possible theories about the nature of the settlement every night after discussion and arrived at tentative conclusions about the cultural affiliations of the antiquities found. This was particularly so in the case of the top levels where much disturbance had been noted. But lower down the difficulties were reduced. In the top levels, as the stratification was miserably failing because of pit digging and later filling, we were vigilant to catch any structural element, or a pit circle, for the understanding of a complex and relegating the antiquities to one or the other. For example in trench EO and FO a mud-brick wall was discovered hardly two inches below the surface. The same was the case in trenches CO and AO but certainly all these walls did not belong to the same cultural complex. Right on the sur-

face of EO and FO we had collected pottery types, like the broad flat rims of storage jars, or the lids with conical handles in the middle — types which are known to be of iron age. In the beginning it was difficult to decide their exact cultural affiliation although later after a few days their cultural relationship became quite clear. Thus stratification plus cultural definition together enabled us to allocate the antiquities to different periods. Once these periods were properly understood, all confusions were removed, and all antiquities could be recorded in due order with reference to the different layers to which they belonged.

Chronology and Periods

In the section (Fig. 5) we have built up six main periods in the life span of the Gumla site. The last two periods V and VI are very superficial. There is hardly any structure associated with these periods. The mud-brick wall, seen in trenches EO and FO, is only of one course and is very insignificant. It does not seem to belong to even period VI. Most probably it is of a recent origin. From Period I to IV we have a definite occupation of the site.

Period I

This is the first occupation stratum from the bottom directly lying on virgin soil. The occupation was on a sandy clay deposit, most probably made by a stream that must have flowed in the neighbourhood. No structure, nor any other trace of regular habitation, has been found in this period. But community ovens, animal bones and microlithic tools have been found in the deposit. Exact dating will be done after getting the results from the radio-carbon tests of the bone found in this period.

Period II

There seems to be a gap between the first and the second periods but the time gap cannot be ascertained at present. Pe-

riod II at once introduced an advanced cultural complex with very fine painted wheel-turned pottery along with other plain pottery. Hand-made pottery was almost negligible. These were bronze-using communities who practised agriculture and stored grains in storage jars and must have built the first huts in this site, although we did not get any structure in the area, 40 feet by 20 feet, that we excavated in this period. Three distinct sub-periods have been distinguished on the basis of the three ovens in the different levels. Although the concentration was greatest in the lowest sub-period, there was not much change in the cultural material throughout this period.

Period III

It seems that there was a temporary desertion at the end of period II because the lowest layer of Period III, i.e. layer (8) yielded practically nothing of importance. Very few pot-sherds were found in this occupation. But in this period were found the earliest structural remains consisting of mud-brick wall in trench AO. The older painted pottery survived to some extent but new traditions were introduced in this period. New type of terracotta figurines, the horned deity painted on pot-sherds, and even other painted designs on the pots were simplified. The parallel sided blades predominated among the microliths. The pot-forms, the broad painted bands below the simple rims of the pots, the general character of the objects found together with the horned deity having face identical with the one seen on a Kot Diji pot all clearly suggest that here we have the cultural complex coeval with the Kot Diji culture.

Period IV

The end of this period appears to be violent. There is a thick layer of ash, charcoal, bones, pot-sherds etc. which all belong to period III. This thick ashy layer separates the structure of period III from

that of period IV. But there does not seem to be any gap between periods III and IV. The reoccupation of the site must have started soon after destruction. There is a continuity in the cultural tradition and at the same time new cultural elements were introduced from outside. Here we get two distinct structural sub-periods. In period IVa we get several mud-brick walls associated with floors and hearths but in period IVb we get a unique construction of a huge podium of mud-brick and on the top of this new floor level was built. The older walls were raised higher. The intruding elements of the culture got prominence and the influence of the older elements was felt less and less. There were two more successive sub-periods in this period but at this time no new features were evolved. In these two sub-periods the older elements survived. It is in this period IV that we obtained pot-traditions almost identical with the Harappan culture. Other antiquities like the toy-carts, wheels, terracotta missiles, triangular cakes, etched carnelian bead, cubical weight all recall the materials from Mohenjodaro. This was the main Harappan cultural period at the site of Gumla.

Period V

The end of the last period also appears to be violent because at several places the walls have been destroyed and no attempt has been made to reconstruct the walls and have new settlements. Instead we get grave pits scattered in the different trenches. All these pits are full of ashes, charcoal and burnt bones. One or two broken skulls were also obtained. But the bones were too fragile. Subsequent excavation in the northern extension enabled us to study these graves carefully. They belong to an entirely different people who brought ruin on this village site. Their own pottery tradition was very simple, mostly unpainted but they also reused the older available materials. Except for these cremated graves we have not been able to find any permanent structure of these people. For the first time we get

bones of horse and terracotta horse models from these graves. They probably still used bronze. The exact dating of these graves shall be determined by radio-carbon tests.

Period VI

It is while digging one cremated grave, circle grave No. 1, that we found two skeletons lying in an inflexed position with their mouth wide open as has been reported earlier from Saraikhola near Taxila. These skeletons lay a few inches below the top soil buried in hard clay. When we had discovered these skeletons, we could then understand the meaning of the scatter of the bones in several places on the top of the mound. As these flexed burials were very near the surface, it seems that the rain water had washed away the earth and exposed the bones, which in due course decayed and were scattered on the surface. At Hathala (see next chapter) similar burials were found by us. It seems that the latest pottery types found on the surface and referred to earlier, probably belonged to these people. It is this material which we have relegated to period VI.

The determination of the exact chronology cannot be given at this stage of our knowledge. We are still awaiting the results of the radio carbon tests. But a general relative comparison has already been given above. On this comparative study our period VI correlates with the Iron Age burials of Saraikhola near Taxila. Our period V has a few pottery types bearing resemblance to the pot forms of the cremation graves belonging to the Gandhara Grave Culture, although it must be emphasized that the cultural features of the cremated graves here are fundamentally different from those of the Gandhara region. We have already compared period IV with the main Harappan culture and period III with the Kot Diji culture. Our period II appears to correlate with Sur Jangal II and Rana Ghundai II and partly III. Our period I is

1. See *Ancient Pakistan*, Vol. III.

a pre-pottery culture of impermanent settlers but it seems they were in touch with the people who produced food. The presence of grinding stones and saddle querns in this period suggests that some type of cultivated food was obtained by these people and ground on the querns.

EXCAVATED REMAINS

The details of the excavated remains are given below period-wise.

Period I

This lowest period was traced only in two trenches AO and BO (see Pls. 9 and 10) an area measuring 40 feet by 20 feet. Its bottom was found 26 feet below the datum line fixed on the top of the mound and 15 feet below the present ground level on the eastern side. The actual occupation period was limited to layer (12), which was nearly two feet thick. This layer rested on the virgin soil, layer (13), consisting of silty deposit obviously by a nearby stream. No material of human make was obtained in this virgin soil. But through it were dug some pit circles (see Fig. 6). Two of them were sealed by layer (12) while others came down from layer (11). The two pits of layer (12) were the earliest signs of human occupation in this site. In addition to these pits we found that this occupation layer (12) consisted of yellowish sandy clay mixed with white lime particles. Mixed up with this deposit, we found several artificially made stone tools and bone pieces. One bone piece (Pl. 11 b) was a leg bone of a domesticated cattle placed close to the pit. It was burnt and broken into two, suggesting that it was originally roasted in the pit and then after consuming the flesh, the man must have thrown it away. The most important question regarding the nature of these two pits needs to be settled. The pit in trench AO (Pl. 11 a) made an irregular circle, measuring 5 feet in diameter, and was full of ash and charcoal bits.

The second pit in trench BO (Pl. 11 b) was slightly bigger and more carefully made. It made a perfect circle and its margin was strengthened by hard whitish clay pitching. Inside there were only ash and charcoal. Both these pits were too shallow and small to be used for living purposes. But they were too big for a simple oven. Their large size and the ash and charcoal contents suggest that the pits were most probably made for cooking or roasting. The latter purpose is more possible because cooking could be done in smaller ovens. However, such a large size implies that these circular pits were not meant for one person, or even one limited family. It was probably used for a larger number of people belonging to one community. And hence we have preferred to call them community ovens. Unfortunately no evidence of hut or settlement was found in the trenches that we dug here. Even if these people did not live here permanently, the Gumla site must have been a regular place of visit. The equipment of these people was very poor. Not a single bit of pottery or metal was found in this occupational deposit. On the other hand the stone tools found here are very significant and they indicate the pattern of living of these people. In all thirteen stone objects and fifteen microliths were obtained in this occupation deposit. Out of the thirteen objects nine have been illustrated in Pl. 47 b, Nos. 1-8 and Pl. 49 No. 3. All the microliths have been illustrated in Fig. 9. They have been fully described in chapter IX dealing with Stone objects. The stone objects include saddle quern and rubbing stone for crushing and grinding, and stone balls and pestles for hunting and pounding. The find of saddle-quern, which is exactly of the same type as is known from Mundigak and the Quetta valley, is very significant. It suggests that the people of the Gumla site were in touch with the people who were actually producing food, even if they themselves did not produce food. Their economy was partly dependent on a food-producing community. The microliths

include parallel-sided blades, awls, scrapers of different shapes, one burin and one tranchet. They show that those people were equipped with hunting equipment and they had no tools needed in the process of food production.

Period II

The second period was also traced in trenches AO and BO. It comprised layers (9), (10) and (11). No structure was found in this period but three distinct sub-periods were marked. The floor level of II a was indicated by the burial of two big storage jars and four pits (Fig. 6) dug down from this level through part of the layer (11), layer (12) and right into layer (13). The sub-period II b was noted by a thick deposit of charcoal pieces and ashes, obviously thrown away from a mud hearth, which could not be preserved. The sub-period II c was located by an oval oven dug down the floor level. The beginning of period II was abrupt. There was hardly any link with the previous occupational deposit. Instead of getting a gradual evolution from period I to period II, we find here an entirely different cultural complex. From the stone age hunting community in period I we at once come to a well developed society using bronze tools along with new types of microliths, bone tools, terracotta human figurines, bulls, wheels, bangles, gamesmen, and a rich pottery plain as well as painted with high sophistication. We were expecting to get hand-made pottery, as is known to have been found at Jallipur in Multan district and also in some of the sites of North Baluchistan. But that stage is completely missing here suggesting that there was a definite gap in between the two periods. In period II we meet with a fresh people with a highly developed culture of tool manufacture, pottery tradition rich with the art of skillful painting, a ritual of using female human figurines, a social structure in which the use of wheeled carts, playing of gamesmen and harnessing of bulls are clearly evidenced. The economy was definitely agricultural as is suggested

by the find of the storage jars and the discovery of sickle blades used for harvesting. How do we get such a preponderating evidence of the new people? How did they come and wherefrom did they come? It is obviously not a case of the local people learning the process of the new culture from outside. Such an outright change in so sudden a period suggests a definite arrival of a new people. It must be connected with the general migration of these highly cultured people from outside. Their affiliation will be discussed in greater depth in the last chapter on conclusion but here it may suffice to say that the materials, which are discussed below, suggest close affinity with Mundigak period III, Rana Ghundai periods II and III a and Sur Jangal period II.

In this period layer (11) was the thickest, measuring 3'3" and consisting of ash, charcoal, pottery, bones and loose earth. Four oven pits (see Pl. 10, where each standing pole represents one pit) were dug down from this layer. One of them was half concealed under the northern balk (see Pl. 13 a). One of them partly lay under the eastern balk and the second under the western balk. Only one stood in the middle of trench AO, on the top of which rested a scored plain storage jar. Both these jars rested on the top of layer (12), implying that the new-comers sat on the top of the occupational layer of period I. As their oven pits were smaller and were of entirely different alignment, it seems that they had no contact with the people of period I.

Only one bronze object was found in layer (11) (see Pl. 39, No. 7). It appears to be an antimony rod. The find of this metal in the beginning of period II, clearly suggests the arrival of a new people. The bone tools (see Pl. 46 b) were all except one concentrated in this period. They include awls, points, and spatula. They bore close resemblance to the bone tools found at Mundigak and in Quetta valley (see chapter VII). Only one round bead of

white stone (see Fig. 8 No. 23) was found in this period and this was also from the upper layer (9). One of the distinguishing feature of this period is noted in the type of terracotta bangles (see Pl. 41). These are all plain and no decoration is seen on them. In all forty specimens of bangles were obtained in this period. The material is either black terracotta or red terracotta. Except for one all the bangles are triangular in section. This type of triangular sectioned bangles lost its popularity in later periods.

There are several kinds of stone objects found in this period. Different varieties of round stones were obtained here (see Pl. 50, Nos. 3, 6; Pl. 51, Nos. 1 and 2). A stone pestle (Pl. 52, No. 1) and a broken saddle quern (Reg. No. stone 60, not illustrated) of the usual type were found. One flat stone (Pl. 52, No. 4) was probably used as an anvil base. A stone pounder (Pl. 52, No. 5) was also picked up. A flesh rubber (Pl. 46 a, No. 4) was also recovered.

In all twenty microliths were found in this period. All of them have been illustrated in Fig. 10. Of these thirteen are of black chert, three of pale chert and four of flint. The preponderance of black chert in this group is very significant. A new type of long thin blade, which we have called category II (see chapter IX), is seen here for the first time. This type is the distinguishing feature in this period. Later its number is much reduced.

A well developed character of the social structure in this period is at once revealed from the number of human figurines. All the figurines are female. One of them (Pl. 22 a, No. 4) is very important as it has some ritual significance. The main figure is broken away but its feet are preserved on a rectangular base. Two more are found in this period. One of them has a beautiful formation of the buttocks (see Pl. 21 a, No. 1, Pl. 21 a, No. 3) and sensuous bend of the legs. This type with its remark-

able artistic skill is not found in the later periods at all. One crude example from Hathala is a poor copy. The second type has straightened paired legs (Pl. 21 a, No. 2; Pl. 21 b, Nos. 1 and 3). This type continues in the later periods along with other new types (see chapter, VI, Section A).

Ten examples of terracotta bulls were found in this period (see Pl. 27). They are of two varieties — (a) Short-horned bulls and (b) humped bulls. Besides, several examples of broken horns (Pl. 30 Nos. 3, 6 and 9) were also recovered. A broken example of a dog (Pl. 31, No. 5) was found in this period. Terracotta bird (Pl. 32, No. 4) and bird whistles (Pl. 32, No. 2) have also been found. One terracotta wheel (Pl. 34, No. 9) was found in trench BO layer (9) the topmost layer of this period. This is a hubless variety of the wheel restricted only to this period. The later period wheels have hub on one side. No terracotta missiles, cart frames and triangular cakes have been found in this period. One example of a pottery dice-thrower (Pl. 37, No. 3) from trench AO layer (11) is very significant. Tiny pottery saucers are not found in this period at all. But one variety of tiny pots, round ball shape (Pl. 38, Nos. 2 and 3) is specially found in period II.

As has been remarked earlier, period II heralds the introduction of a very sophisticated pottery turned on wheel, plain as well as painted. The plain pottery includes large storage jars, cooking pots, drinking vessels and water vases. Some of them are decorated with scoring or wet dressed designs at the exterior. The painted pots of this period are the most distinguishing feature which enables us to relate this culture with the neighbouring areas. Among the painted motifs are animals like lion and ass; and other designs are mostly geometrical usually painted in deep chocolate colour on white or buff background. The vessels include generally thin bowls having simple rims. The detail of this pottery is discussed in chapter X.

Period III

The end of period II was gradual. In the upper layers the potsherds and other finds were much reduced. The beginning of period III is marked by layer (8), which was almost sterile. Apparently it gave the impression that we had reached here the virgin soil but lower down new type of painted pottery again appeared. Period III consists of layers (8), (7), (6), (5) and (4) in trenches AO and BO. In trench CO it has been partly traced in layer (6). Thus layer (6) of CO is coeval with layer (4) of AO and BO. Of these layers (8) is the compact filling over the occupation of the earlier period. Layer (7) is the make-up of the floor with whitish clay brought from the river. This floor belongs to the mud brick wall seen in the section (Fig. 5). Layer (6) is the main occupation deposit consisting of ash, charcoal, pottery and loose earth. Over it there is a second sub-period of compact earth filling which marked a cross wall of mud-brick going east to west against the existing wall in the middle of the trench AO. Both these walls were broken and layer (4) was the destruction layer formed on their top. It consists of ash, charcoal, pottery, bones and loose earth and shows burning in several places and scatter of broken potsherds here and there. Quite naturally this layer includes much of the older material and some of the new intruding trends. However, there does not seem to have been any gap. The next period IV started immediately and we find a continuation of the older cultural elements along with the newly introduced elements. Who were the destroyers, will be discussed below. Wherefrom did they come, will be taken up in the last chapter on conclusion. Meanwhile we give the detail of the finds.

In this period III we have distinguished four sub-periods. (a) is actually the preparation of the ground for the construction of mud walls. (d) is the destruction layer. Actually there are two main oc-

cupational sub-periods — (b) and (c), in both of which mud wall houses were built. In a long substantive trench it is not possible to get any planning of the house. The size of the mud brick was 11" x 5" x 2¾". This size is maintained in both periods III and IV. The north-south wall continued below the balk of AO throughout the trench. Its width was traced in the extension of this trench towards the east. It was 3'4" wide. This was the last construction on this side and apparently it seems to be the outer wall of the village.

Three bronze objects were found in this period. One is possibly an antimony rod (Pl. 39, No. 3) found in trench BO layer (7). A second antimony rod but broken (Pl. 39, No. 8) was found in trench BO layer (4). The third object is a nail parer (Pl. 39, No. 10), which is also broken. Only one bead (Pl. 40, No. 2) was found in this period from the main occupation stratum (6) in trench AO. It is of green jasper and is of barrel-shaped. The types of bangles make a definite step forward from the earlier period. The older simple type, i.e. red or black terracotta bangles triangular in section (Pl. 42, Nos. 1-4, 12-14) are few and far between. Besides, we have bangles rectangular in section (Pl. 42, No. 5), round in section (Pl. 42, No. 6), flat in section (Pl. 42, No. 7). For the first time we get conch shell bangle (Pl. 43, No. 11) in this period. But the most distinguishing feature is that some of these bangles are bifoliate (Pl. 43, No. 1), trifoliate (Pl. 43, No. 5) quatre-foliate (Pl. 43, No. 16) and the one having six foliate (Pl. 43, No. 11). The other common decorative motive takes the form of zigzag linear pattern (Pl. 43, Nos. 7-10) incised at the exterior face.

Among the stone objects the saddle quern and grinder of the older type continued in this period. Stone balls of different sizes (Pl. 50, No. 1) have also been found. A clay ball (Pl. 49, No. 9) is illustrated here. A unique find is a stone flat shar-

pener (Pl. 46 a, No. 7). The microliths further make a difference. In all thirteen specimens were found, of which twelve have been illustrated (Pl. 53, Nos. 1-12). Only one specimen, No. 10, is of black chert but no example of long thin blades, so popular in period II, has been found here. In this period parallel-sided blades and scrapers of flint predominated. One side scraper of red jasper (No. 1) has also been found.

The terracotta human figurines made a fundamental change in this period. We no longer find the beautiful human figurines with skillfully modelled buttocks and sensuously bent tender legs. Instead we get a mechanically produced lower part of the body flat and bent at right angle. It may suggest a seated figurine or a standing cobra (for discussion see chapter VI). Above it two types of the upper part of the body is attached — one has a rolled stem-like body (Pl. 22, No. 1) and the other is like the complete specimen as illustrated on the title cover. The popularity of this type of the female figurine increased from this period onward. The type may be derived from those having extended paired legs in period II. But both these types continued side by side. In proportion the older type became less and the new type became extremely popular almost completely replacing the older types in the later periods. Really speaking this new type is the hall mark of this cultural period. It has been found at Saraikhola near Taxila, at Jalilpur in Multan district and in other sites in the Sind Sagar Doab.

The appearance of this new type of female figurine coincides with a horned deity (Pl. 1 a, No. 4, Pl. 1 b, Nos. 2 and 4) painted on sherds. The face of this deity exactly resembles that of a snake dragon painted on a pot from Kot Diji (see Dr. Khan, *Kot Diji*). This similarly suggests that here also we have the painting of a snake god although in our examples the long coil-like body of the serpent is not de-

picted. If this conclusion is acceptable, we have here for the first time met an evidence of the presence of snake god and snake goddess so well attested in the Indian literature. As a result we can well talk of the popularity of snake worship in this period. As this feature is common from the Gomal plain to Saraikhola near Taxila and across the Sind Sagar Doab to Jalilpur in Multan district and further down at Kot Diji in Sind, this culture of the snake worship must have been a popular cult throughout this entire region. How and why this cult became popular is difficult to say but the survival of this cult is documented in the Vedic literature as well as in the practice of the later society in this region and other parts of India. The culture of period III may therefore be called the *Snake Worshipper's culture*.

Terracotta bulls of both the types, short-horned and humped, have been found in this period. Separate broken horns (Pl. 30, No. 2) have also been obtained. Terracotta birds, most probably peacocks (Pl. 32, Nos. 5 and 6), are usually found in this period. Other terracotta finds are scarce in this stratum. No example of wheel, cart frame, missile or cake has been obtained. But tiny ritual saucers or trays and pots are very common. The tray is similar to the one held by the female figurine in the hands. The earliest was found in trench AO layer (6).

The pottery (for detail see chapter X) makes a new departure. The thin bowls and cups having beautiful painting of the earlier period are drastically reduced in this occupation deposit. Instead we get simple rimmed bowls and other vases having broad reddish or chocolate painted or deep slip bands at the neck — the types so popular at Kot Diji. A new type of vessel, having flanged rim, became extremely popular. The painting on the body of these pots below the rim became dull and lifeless. Though the older tradition of chocolate on white or buff (see Pl. 1 a, No. 4) con-

tinued in this period but the deterioration in the art is writ large on the designs. The older brush technique also continued as we can note in the depiction of a deer (Pl. 1 b, No. 3). However, the new tendency of black on red (Pl. 1 b, No. 2) became more popular along with several other new motifs as discussed in chapter X.

Period IV

This is the most flourishing period in the life of the Gumla village. As its remains have been traced in all the trenches, the cultural material is also much varied. But as it was the last settled occupation on the site, its top levels have been much disturbed and the digging of pits for the graves of the later period have mixed up many of the materials in the different layers on the top. The reuse of the older materials by the grave people has posed the problem whether these survived during the period of the grave building and made by the grave people or they were just picked up from the older occupation while digging and reused. The question will be fully discussed below in the case of period V. Here we acquaint ourselves with the character of period IV culture.

As has been said before there was an abrupt end of period III by a layer which represents destruction all along the 100 foot excavation in the substantive trench. This evidence of the entire cross section is a great document to prove that the beginning of period IV was not peaceful. However, there does not seem to have been any break in the continuity of the cultural life of the village. The older culture continued side by side with the new elements that were introduced by the intruding people. Wherefrom did they come, will be discussed in the last chapter on conclusion.

There were two building sub-periods in this main cultural period IV. Still later sub-periods, c and d, have been observed in trench EO and part of DO. In trench AO layers, (2) and (3), in trench BO layer (3 a), in trench CO layers (4 a and 5) and in trench DO layer (7) mark the sub-period

IV a. And the period IV b is represented by layer (1) in trench AO, by layers (2) and (3) in trench BO, by layers (2) and (3) in trench CO, by layers (4), (5) and (6) in trench DO and by layers (5) and (6) in trench EO. The last two sub-periods c and d are found only in trenches DO and EO.

The mud-brick walls, the bricks having the same size as in the previous period, have been traced in trenches AO, BO and CO. The other two trenches were not excavated deep enough to this level.

These mud-brick walls are parallel to one another and only in trench CO a cross wall was traced. In trench AO the wall rests, with a gap of the destruction layer (4), on the top of the earlier period wall although its width was slightly reduced. In this trench we observe a footing at the base of the wall while in trenches BO and CO foundation trenches were dug. They were filled with rammed earth of whitish clayey texture. The same soil was used for preparing an even ground level and its top had a smearing of extremely fine white clay (layer (2) in trench AO), which made up the floor level. In trench CO an oven was traced at this level. A drastic change was made in the second building phase. What necessitated this change is difficult to say. But the whole area was filled with hard rammed earth in order to raise the ground level for building purposes. Against this rammed earth a mud brick pitching was laid in trenches DO and EO, which ran all round forming like a platform. The top of this platform was the occupation level of the second sub-period. In trench DO another oven (Pl. 12 a) was found at this level. The last mud brick wall in trench DO belongs to this period. The walls in CO were also raised higher on the same alignment but they have been broken down. This was the richest sub-period in the occupation of the site. The erection of this mud-brick platform bears some similarity with the platforms built in the flood-affected cities of Mohenjodaro and Harappa when

the main defences were perfected there and a new orientation was given to the city life. It is on this resemblance that this sub-period (b) of Gumla site may be correlated with the Intermediate phase of Mohenjodaro and the earliest city life at Harappa.

In order to trace the line of the walls beyond the substantive trench we followed the configuration of the mound and traced the remnants of mud-brick walls in trenches H6 and G6 - a small area that was extending beyond the main alignment of the mound. Unfortunately the structures were later destroyed and too much debris (Pl. 13 b) lay over the broken walls and along with them were mixed up ashes and bones of the later grave people. One jaw of a cattle was found in one of these trenches. It seems that in this last stage of period IV the whole site was raised higher by a series of parallel walls, as shown in Fig. 4, and the inter-space was filled with rammed earth. It is unfortunate that only a small portion of this structure is surviving in the centre of the mound, as has been traced in trenches DO and EO. On the top of this levelled up area houses must have been built. A few burnt bricks, size 11" x 5" x 2½" were picked up on the surface. One of them was of the trapezoidal shape obviously belonging to a well. Whether these bricks were actually burnt here and the houses were made with them are questions that cannot be answered definitely at present. In our excavation we did not discover a single wall of burnt bricks. However, the walls seen in the extension on the south appears to have something to do with the entrance approach of the main occupation on the top. These walls also belong to period IV.

Material Equipment of Period IV

As there was hardly any significant change in the cultural materials of the different sub-periods, they have all been summarised here in one group, although in the detailed description in the later chapters

the layers to which they belong, have been noted.

At Gumla seven bronze objects were found which could be definitely assigned to this period. They are all antimony rods. One bone awl (Pl. 46 b, No. 1) of the same type as has been discovered in period II, was obtained in trench DO layer (6). As many as twenty beads (Pl. 40 and Fig. 8) were found in this period. They are made of precious stones like carnelian, jasper, lapis lazuli and agate, of paste and terracotta. The most important is the find of an etched carnelian bead, which recalls similar beads from Mohenjodaro. The disc beads of paste are also common in this period. The long barrel-shaped beads in terracotta are also popular. One remarkable button (Pl. 40, No. 20 and Fig. 8, No. 20) of paste was discovered in trench DO layer (2). At the back there is a perforated swelling for attachment and in front there is a magical cross incised on the face. Numerous bangles of terracotta, both in black and red colours, were picked up from the surface and in the different layers of this period. The bangles having triangular section (Pl. 44, Nos. 6 and 7) were exceptional in this period. Conch shell bangles (Pl. 44, No. 8) were also a few in number. The terracotta bangles were either round or rectangular in section, or were decorated with zigzag lines at the exterior, or had more than one foliate in section (see Pls. 44 and 45).

The stone objects were found in almost all the trenches in this period. One important discovery was a stone cubical weight (Pl. 46 a, No. 2) from trench EO layer (1). This is of the same type as has been found earlier at Mohenjodaro. One broken macehead (Pl. 46 a, No. 3) was found on the surface. Stone balls of different sizes were recovered in this period (see Pls. 49, 50 and 51). Saddle-quern of the usual type, pestle and pounder (Pl. 52) were found in some quantity. The microliths (Pls. 54 and 55) are usually of flint. Parallel sided ribbon flakes are common. But there are a few in red jasper (Pl. 55,

No. 1) and some in black chert (Pl. 54, Nos. 6, 8; Pl. 55, Nos. 3, 4).

One complete example of snake goddess in terracotta (see title cover) was found in this period. Several other broken examples of similar type were recovered. The second type having extended paired legs also continued in this period. Technically these terracotta figurines are related with those of the Harappan culture but typologically they are different.

Both the types of short-horned and humped terracotta bulls are found in this period. Several broken horns were also picked up. A typical example of a bird standing on a saucer-shaped base has a spreading tail. It has been identified as a peacock. Bird whistles are also common. In this case the bird appears to be a duck (Pl. 33, No. 3). Terracotta wheels and cart frames (see Pl. 34) are found in abundance in this period. Both of them are identical with the Harappan specimens. The wheels have hubs on one side and the cart frames have holes for fixing upright poles and for harnessing the animals. Both these types are restricted to period IV at Gumla. On the surface of the mound they are widely scattered. Similarly terracotta missiles and triangular cakes (Pl. 35) are limited to period IV. The missile types and cakes are special to the Harappan culture. Their broken examples are strewn all over the surface of the mound. Sling balls of terracotta (Pl. 37, Nos. 9 and 10) have been found. It seems that sea-shells were not common at this site. One actual example (Pl. 37, No. 2) was found in trench DO layer (1). We have several terracotta copies of sea-shells (Pl. 37, No. 1). They may have been used for the same purpose. Perforated ware sherds were conspicuous by their absence in the earlier periods but now they are found in great number. The shapes of the vessels in this ware are of the same types as are known from the Harappan culture. The tiny saucers and tiny pots, known from the earlier period, continued in these

levels. The tiny pots became so popular that we get a large number of them assuming the form of tiny bits with shallow depth.

The pottery is most interesting. All the types found in period III continued in this period. But the thin ware bowls changed their typical painting. However, the style of chocolate on white or buff continued in period IV, with the only change that the colours now are fugitive and faint. On the other hand we do note a definite improvement in the art of painting from period III. The detailed study in chapter X will show the similarity of designs with the Harappan Culture. From the same cultural tradition is probably derived the style of black-on-red. Two motifs are highly suggestive: a conventionalised *pipal* leaf motif and a design of intersecting circles. The latter design was already known in period III but it was never drawn in full. There one or two rows of intersecting circles had produced what looks like dum-bles. This older dumble formation continued in this period, generally, in flanged rim vessels. But the usual intersecting circles, as is known from the Harappan culture, are also seen here. The red ware of this period having the ringing sound also recalls the Harappan pottery. But there are a few Harappan types which are completely absent. The most conspicuous absentees are the pointed bottom drinking goblets and the straight sided tumblers.

The above materials clearly point out that period IV at Gumla is more or less contemporary with the main phase of the Harappan culture but there are regional variations. Here we have a continuation of the material culture from period III onward and at the same time we have several new materials that were introduced for the first time in this period. These new materials did not evolve from those of the previous culture. They appear to be intrusions from outside and as they

have a direct resemblance with the materials from the Harappan culture that developed in the plains of the Indus, it appears that the Harappan cultural objects were introduced here by the Harappan people. The introduction was no doubt violent, and not peaceful. We have already seen how layer (4) in trenches AO and BO marks a stage of destruction of period III. It is on the top of this destruction layer that the newly arrived people, having relations with the Harappans, built their own houses. The intruding elements must have come from the main valley of the Indus. It is therefore not necessary that all the elements of that culture should be found here. Here, for example, we did not get any seal nor have we been able to trace the Indus writing so far. However, the cultures of period III and period IV have many things in common. The only question that remains unexplained is the cause of destruction of one by the other. It may be purely territorial expansion or it may be due to the cultural differences. The latter seems to be probable. The differences are clearly marked in the ritual and religious objects and practises seen in the two cultures of the Gomai plain and the Indus plain. Here in Gomai the worship of the snake goddess and snake god has been found to be very common. We have not yet found any evidence of the worship of trees or of tree deities. No male god has so far been found at Gumla, although at Hathala two examples (see next chapter) have been obtained. On the other hand the religious practises in the Harappan culture were entirely different. No evidence of snake worship has been found there. Instead, the snake deities appear to pay their homage to the male deity that was the dominant element in the religious beliefs of the Indus people. The horned deity seen at Gumla and Kot Diji is related to the worship of the snake. On the other hand the male god of Mohenjodaro with his horned crown has been surmised to be a proto-type of Siva. On the other hand the worship of the trees and the tree deities is very popular

in the Harappan culture. A detailed study will bring out more differences. As a result, it seems there was a cultural antagonism between the Gomai culture of period III and the main Harappan culture. This antagonism is a sufficient cause of the rivalry between the two. Our excavation clearly shows that period III culture was destroyed and superimposed by the main cultural trends from the Indus valley civilisation. These trends are seen here in four sub-periods. The earliest (a) was the first phase when building constructions are seen here. But the most flourishing sub-phase was (b) when the mud-brick platform along with new structural additions were made here. Architecturally this should be correlated with that Harappan phase when the mud-brick podium was built at Mohenjodaro and Harappa for the re-construction of the main city amenities. Therefore sub-periods (b), (c) and (d) at Gumla appear to be contemporaneous with the main cultural efflorescence and decline of the Harappan culture.

Period V

The end of the Harappan culture in the plains of the Indus has been much debated. But at the site of Gumla the excavation has produced definite evidence. Here the site had no danger of river inundation. In no period of the history of the Gumla site we have had any evidence of flood causing havoc to the site. On the other hand invasions and temporary destructions have been noted earlier.

In period IV the evidence of similar destruction is met with all over the mound. Below the humus of the present time the top layers all over represent burning, the scatter of ash and charcoal and the destruction of walls together with the smashing of huge amount of the material objects including pottery of all types of period IV, terracotta missiles, triangular cakes, sling balls and other various sizes of stone balls. The destruction is writ large on the surface

of the mound. The debris are widely scattered over the demolished walls. Who destroyed these walls and houses? We have no evidence of any structural construction soon after this destruction. The inference is that the destroyers did not build any house of their own at this site. If they lived here at all they probably erected temporary huts or tents, of which no evidence is left behind today. On the other hand we have innumerable grave pits all over the mound and also in the extended area on the northern side, where we have found cremated human and animal bones, including those of horses. Were these grave builders the actual destroyers of the site? If one examines the surface of the mound, it will be clear that the graves are distributed all over the space and they follow the present configuration of the mound. On the top and in the extended area the graves are preserved almost complete but in the margins, where the earth of the mound has been washed away, the graves are also partly destroyed. As the section (Fig. 5) will show, there is no accumulation of debris in between these graves and the occupational deposit of period IV, except the destruction layer of burning, ash and charcoal that has been cut through by the grave diggers. Stratigraphically these cremated graves were dug soon after the destruction of the site probably for those dead who might have been killed in the fight or not long after the fight. The evidence is therefore definite that these grave people destroyed period IV culture of Gumla site. The reuse of the earlier cultural materials by these grave people also shows the continuity of the cultural life at this site and it is not necessary to assume any gap between periods V and IV.

In the course of excavation five grave pits were traced in EO, five in DO, two in CO, three in BO and five in AO. It was very difficult to distinguish the grave pits, which also contained ash and charcoal from the usual top destruction layer consisting again of ash, charcoal and loose earth. There was just one distinction. In the grave pits the filling was done layer by layer, which stood

in contrast to the general pattern of the layer in the neighbourhood. In trench EO the section (Fig. 5) shows a small shallow pit which had a part of the burnt skull. Unfortunately it was too much decayed for preservation. In trench DO the section shows one large pit called Vb that was dug down to the top of the mud-brick wall. Very few burnt bones were found in this pit. In CO again the grave pit, which had a broken skull in it, was dug down to the top of the mud-brick wall. In trench AO a Muslim grave pit was located and in the extension of this trench on the eastern side one grave pit had demolished part of the mud-brick wall. Actually the mud-bricks from other walls had also fallen off. But they were so much mixed up and turned into hard clay that it was difficult to separate the bricks in the debris.

As these graves were too much disturbed in these trenches we decided to open a grave in the secluded slope of the mound. This grave was numbered No. 2 (see Fig. 4). Only the north-east quadrant was opened by us. Right from the top pot-sherds, charcoal, ash and scattered bones were encountered. On the top of a pottery strewn layer a part of the lower jaw of a cattle (Pl. 16 b) was discovered. The jaw was burnt. Later some more parts of the animal bones were recovered. The upper jaw, which was located at a distance, was too much damaged. The bones were scattered all over the place. Some of the bones rested on broken pot-sherds and cubical lime-stones (see Pl. 47 a). Here the human bones were seen on the top and the animal bones were placed at a lower level. While excavating this grave, we could clearly see the formation of the grave outline, which was almost a circle. This understanding of the grave led to the discovery of a large number of circular swellings in the northern extension of the mound (see Fig. 4 and Pl. 14 a). The centre of one of them was dug by our driver Musalli and he took out one complete pot (see Fig. 37, No. 351) full of ashes and a few bones.

In order to get a complete picture of these circle graves we selected two graves in this northern extension for the purpose of excavation (see Pl. 14 b). The first was numbered grave No. 1 and the second grave No. 3, which lay to its south. This grave No. 3 measured 22 feet in diameter. The excavation was done quadrant by quadrant. In the north-east quadrant a burnt leg bone was found to lie in the direction south-west to north-east. The other parts of the bones were not traced. Unfortunately there was a great disturbance in this circle. A Muslim grave had been dug from the top in which the skeleton of a child was found at a depth of four feet. As a result the whole area was disturbed.

The only hope now lay in circle grave No. 1 which we decided to excavate scientifically. This circle grave had a little swelling above the general ground level (Pl. 15 a). A circular outline was marked by chalk on the margin. It made a complete circle with a diameter of 20 feet. The whole circle was divided into four quadrants and the excavation was done one by one. In the south-west quadrant two complete skulls having wide open mouth lay side by side. Other parts of the bones were partly preserved. They lay in the north-east to south-west direction. They lay just below the top soil and were buried in hard clayey soil. The discovery of this burial right on the top was very startling but at the same time very risky from the point of view of excavation. At Hathala (see next chapter) similar burials had been found and owing to objection by the local people we had to stop our excavation there. The same fear of stoppage haunted our mind and we decided to remove the bones immediately and bury them elsewhere before the news of their discovery spread out among the labourers. It is unfortunate that we could not even take the photograph. In Pl. 15 b we have kept two poles to represent these burials. We did not regret their removal as the nature of such burials had been fully studied by us at Hathala. More about them will be spoken under period VI. Both these

quadrants, south-west and south-east, were completely excavated and a section drawn across the circle grave No. 1 (see Fig. 7).

The swelling of the grave hump was 1½ feet higher in the middle than the ground level. For about three inches it was covered over with thick mud, marked as layer (1). Below it there was a layer of ash, charcoal and bones. The ashy layer extended to a distance of 6 feet 10 inches from the centre. In this ashy layer human bones, terracotta figurines, bulls and other objects were found. Part of the skull was found in the south-east quadrant. Other parts of bones were found scattered here and there when the other two quadrants were taken up. The human bones were burnt. It seems that originally the body lay in the south to north direction. The concentration of bones and antiquities were near the centre. Below these bones there was a layer of clay filling, which also showed burning. Underneath this layer (3) there was again a new layer of ash, charcoal and loose earth, layer (4). In this layer no antiquities were found but animal bones were found scattered (see Pl. 15 b). On the eastern side a fire chute was discovered. It must have been used for lighting the fire. Another layer of ash, charcoal, bones and pottery lay below. The pot-sherds were all derived from the earlier period. They were kept below the bones, which belonged to a cattle and a horse. The bones of these animals were also burnt. Below this layer there was the virgin soil consisting of hard earth. There was no occupation at all below this grave, thus confirming that the main mound did not extend to this direction.

The nature of the burial now appeared very clear. Originally a circular grave pit was dug to a depth of about 5½ feet from the original ground level. Down at the bottom on the top of the virgin soil and over a scatter of most probably a pile of wood the animals supposedly killed or sacrificed, were placed in the middle of the pit. They were again covered by a pile of wood and loose earth, leaving a fire chute at one end.

The whole was then closed by clay filling. On the top of this clay filling and again over a pile of wood human body was kept along with a scatter of other antiquities. It is very difficult to say whether the antiquities were a part and parcel of the ritual or not. The whole was sealed by clay. It seems that fire was lighted later after the sealing of the grave and it was never opened. As such, we may take the grave as a burial as well as a funeral pyre. This is the first time that the practice of sacrificing the animals and burning them along with the cremation of the human body has been noted by us. Who are these persons will be discussed in the last chapter. Meanwhile we give below a complete catalogue of the antiquities found in grave No. 1.

Along with the human and animal bones lots of pot-sherds belonging to period IV were found in the grave. Not a single complete pot was found except the tiny saucers and the tiny pots. The terracotta bangles of red and black colour were found in large number. The red terracotta bangles were of the following varieties:—

A. Red Terracotta Bangles:—

- i) Bangles having round section
- ii) Bangles having flat section
- iii) Bangles having square section
- iv) Bangles having rectangular section
- v) Red slipped bangles with flat sides being concave.

B. Black Terracotta bangles have the following varieties:—

- i) Bangles having round section (greatest in number)
- ii) Bangles having square section (next largest)
- iii) Bangles having bifoliate section
- iv) Bangles having trifoliate section
- v) Bangles having quatre-foliate section.

C. Two terracotta female human figurines were found — Reg. No. T.C. 255 and 301 (Pl. 23, No. 4).

D. Three terracotta animals were found in this grave.

i) T.C. No. 239 (Pl. 31, No. 1) is a saddled toy horse. Two more terracotta horses were found in other grave pits.

ii) Two terracotta bulls T.C. Nos. 256 and 257 were also found.

E. One tiny saucer or offering tray of pottery Reg. No. 258 was obtained. Ten insignificant tiny shallow pots, Reg. Nos. 259-268, were recovered.

F. Two separate broken horns bear Reg. Nos. 269-270.

G. Four microlithic flakes bear registered Nos. 143, 144, 148 (Pl. 55, No. 10), and No. 154.

(Pl. 37, No. 11), one hubbed wheel, H. One unbaked clay ball, Reg. No. 274 No. T.C. 275 (Pl. 34, No. 6), and one bird whistle T.C. No. 276 (Pl. 32, No. 1) were recovered.

I. A long flesh rubber of stone, Reg. No. stone 32 (Pl. 46 a, No. 6) one stone ball, broken in half, Reg. No. stone 44 (Pl. 49, No. 12) and one stone pestle, Reg. No. stone 38 were found.

J. At the end we should mention the find of a saucer bearing Reg. No. paint 318 having black-on-red paint. The design shows full moon with a star.

This inventory of the small finds recovered from one grave has been given in full just to give an idea of its contents. The objects found do not differ from those known in period IV. There is not a single object, except the horse model, which is not known from the earlier period. The addition of the terracotta saddled horse and the actual find of a leg bone of a horse

from inside the grave are the only indications of a new cultural trend.

Period VI

As has been said before, we have not found any structural remains of this period. A single course of mud-brick wall seen in trench EO is of recent period and has nothing to do with period VI. The existence of this period was surmised by the find of iron age pottery on the surface of the mound. But it was very difficult to associate this pottery with any cultural period. The discovery of two skeletons on the top of circle grave No. 1, as described before, at once explained the stratigraphic position of the cremated burials and these flexed burials which were subsequent to them.

Whether they immediately succeeded them is difficult to say. But there does not appear to have been much time lag between the two periods of burials. As these flexed burials are right on the surface, it was easy to understand why there is such a scatter of bones on the top of the mound. These flexed burials must be associated with similar flexed burials found at Hathala, Mahra Sharif and Saraikhola near Taxila. The pottery types relate them with the materials from Kot Allah Dad (see chapter III) where iron has actually been found. It is therefore likely that these flexed burials belong to early iron age, as has also been ascertained by the find of iron rings in the fingers of the skeletons at Saraikhola. Their identification will be discussed in the last chapter.

CHAPTER V

EXCAVATION AT HATHALA

Introduction

The story of the discovery of this mound has already been narrated in Chapter III. As this site lay not very far from Karam Shah, it was decided to tackle these two sites together before going on to Gumla. The surface collections of these two sites were also similar but they partially differed from those of Gumla. This difference further instigated us to find out the nature of the ruins here. Another factor that led to the choice of this site for excavation was the fact that it was much nearer to the sites of Sir Aurel Stein and very close to our newly discovered Iron Age site at Kot Allah Dad. This nearness gave a hope that we might be able to establish stratigraphic relationship with the materials found by Sir Aurel Stein. There was another important consideration. Stein had earlier discovered a series of sites along the old bed of the Takwara stream. They were all examined by us and their surface collection indicated them to be of the Iron Age. The two sites of Karam Shah and Hathala lay within the reach of the old channel of the Gommal. Its upper course near the Luni post had borne Iron Age sites as we have discussed in Chapter II. Though the Gommal river at present did not reach this point, its bed lay a few miles away from the site. We thought it worth while to examine whether the lower course of the Gommal produced in the past the same pattern as the Takwara stream or not. The surface collection had indicated the difference but it must be followed by actual excavation for a proper assessment. But the greatest deciding factor in selecting this site first for excavation was the fact that here alone the surface collection of pottery had produced fine painted potsherds of unusual character, not found on the surface at Gumla. There the materials akin to the Harappan culture were collected on the surface but they were absent here at Hathala. On the other hand the thin bowls

and cups with unusual colour combination were plentiful here. How and why they should be found here, must be understood fully before the Gumla site was taken up. All these considerations led us to excavate the Hathala site first.

Fortunately the administrative arrangement was also very favourable. Mr. Abdullah, C.S.P., the Assistant Commissioner at Tank, was good enough to accommodate us at his rest house for the period of excavation. The Tehsildar of Kulachi was good enough to lend the services of a Patwari, who was to help us in procuring labourers and making all local arrangements. Mr. Sardar Mohammad Khan, the Field Superintendent, looked after the administrative matters. The excavation was conducted under my personal direction and lasted for nearly ten days. Mr. Mohammad Sabir the photographer, and Mr. Mohammad Daud, the draughtsman helped in the work of supervision. Mr. Amin Jan, a student of the Department, also participated in the excavation. It is most unfortunate that the excavation had to be stopped suddenly owing to unforeseen circumstances. The result was an incomplete study of the site. It was not possible for us to make a contour map of the site nor draw a section across the excavation. A few photographs that were taken earlier and are being published here, are the only records left with us. We were not permitted to remove the skeletal materials found by us and we had to rebury them at the site.

The Mound

Hathala is a village on Tank-Dera Ismail Khan road about fifteen miles from Tank and 25 miles from D.I. Khan. From Hathala a metalled road leads westward to Kulachi — a tehsil headquarter and the home-town of the Gandapur Pathans —

eleven miles away. On this road one mile west of Hathala we come to a small bridge. From this bridge we proceed to north-west on a trackless open plain, treeless and almost looking like a desert but only small shrubs seen here and there. About a mile away the mound stands out with its red top, the redness being due to the scatter of pot-sherds all over the surface. This site has been named Hathala after that of the neighbouring village.

On the west the Sulaiman Range 30 miles away runs all along the horizon and in the middle of the month of February the Takht-i-Sulaiman is white with snow. The intervening plain shows only a few low trees and shrubs. On the east the hill of Sheikh Buddin, 20 miles away, stands out prominently and beyond flows the river Indus, 30 miles away. Rainfall is scarce in this area and there is no arrangement for irrigation. The soil of the plain, which has been formed by the river inundation in the past, has been much cut up by occasional flood streams. At several places the soil is torn asunder by the drying up of the rain deposited water. This paucity of water has thinned the population and the village settlements are few and far between. Some of the old villages are deserted because of the non-availability of water. The local people make all sorts of arrangements to hold the rain water as far as possible. Embankments are seen here and there along the slope of the plain and in between square tanks are excavated for bringing in the water. There men and cattle both go to drink water. This still water has nourished guinea worms that have affected the local population to a large extent.

As we proceed from the road the Hathala mound (Pl. 17 a) stands out prominently and its red surface contrasts greatly with the whitish plain that surrounds it. On way we come across several high embankments made to channelise the rain water and lead it into the fields. Near the

mound, to its south-east, elaborate arrangement has been made to catch the water and hold it in a pool, almost square in shape. All round the mound embankments have been raised in order to receive the water from the top of the mound, and this is led into the pool. At the time of our visit there was a dried up bed around the lowest contour of the mound, giving a false impression of a moat and defensive wall. The mound is much cut up by the rain water on all its sides and its top surface is strewn over with pot-sherds. These sherds are collected in heaps and deposited over a series of raised humps, which are actually modern graves (Pl. 17 b). They are aligned north to south. We can distinguish two types among them: (a) those graves which have stone pebbles on their top, and (b) those graves which have pot-sherds on their top. At several places on the slopes, these graves are cut up by the rain gullies and the bones are scattered here and there. Later we discovered that these scattered bones did not all appertain to the modern graves which belonged to the Muslims. But strangely enough the local labourers had no knowledge of the people buried in these Muslim graves. The Hathala villagers do not use this site as graveyard. They have their own separate burial place. It seems that the Muslims buried here lived long ago. However, the pebble covered graves belonged to the Powindas who often visit this place along with their camels. In the vicinity of this site they have tented camps. In this dry place around the mound their camels often graze and feed on the thorny bushes.

The mound rises to a height of 15 feet from the ground level. Its highest point lies in the south-west. The mound appears to have a nucleus, the height of which varies from 10 to 15 feet from the ground level. And then there are extensions on the north, south and east. The eastern extension measures about 200 feet long. Similarly the northern and southern extensions go 100 feet each way. If we leave aside these

extensions, the main mound measures 550 feet north to south and 450 feet east to west. It drops down abruptly on the western side (Pl. 17 a). Our later excavation showed that the extensions concealed the burial remains of the ancient period. A study of the surface of the mound brought out the contrast. The high mound in the centre of the western part had continuous occupation layers as indicated by the rain cut gullies. This must be the oldest area. Here as well as in the northern extension we get painted pot-sherds of all varieties. The two areas must have similar occupation periods. In the southern and eastern extensions fine painted sherds are not found at all. Actually the ordinary painted sherds are very few there and even these are of poor quality. Particularly in the southern area the plain ware pottery predominates.

Laying of Trenches

The study of the mound has raised three problems. The first was to discover the pattern of the cultures through the different periods. This objective was sought to be achieved by laying trenches in the area available in the highest spot of the mound. The second was to understand the need of the extension in the north. For this purpose a small hump available in this area was selected. The third objective was to know the nature of the great extension on the east. Therefore the third place of excavation was located in this eastern extension. The first area was called X, the second Y and the third Z. In order to relate the three zones a north-south axis was drawn across the highest point of the mound. The line ran nearly 60 feet east of the western edge of the mound. This was cut at right angle by an east-west line, drawn 200 feet north of the southern edge of the mound. Zero point was fixed where these two lines of axis met. The Zone X was a 60 feet square north and west of this zero point. This space was divided into nine trenches, each 20 feet square, three

along the east-west axis and three along the north-south axis. This gave us the trenches AO, BO, CO, A1, B1, C1, A2, B2 and C2. The trench AO was at the western edge of the mound and the trench CO towards the zero point. The Zone Y, which was 20 feet square, was marked along the north-south axis, to the west of the mound and 80 feet short of the northern edge of the mound. The Zone Z, which was also 20 feet square, was along the east-west axis to the north of the line and 50 feet short of the eastern edge of the mound. Thus these cross axis lines related the three zones of excavation X, Y and Z, and it was hoped that the zones when fully excavated, would reveal the nature of the mound completely. But unfortunately Zone Z could not be excavated at all. And in the other two areas we had to leave the work unfinished. This was all the more regrettable because our later discoveries of the graves on the highest part of the mound left us undecided about their inter-relationship. It was only at Gumla (see chapter IV) that the problem was finally solved.

Chronology and Periods

In the absence of a complete excavation it has not been possible to obtain the necessary evidence to build up the whole sequence of the site. As we cannot begin from the bottom because the lower levels were never reached, we could start from the top downward in the alphabetical order. Two different cultural patterns of graves were obtained by us.

Pattern (Period) A

In this pattern we include those graves which had flexed burials with the mouth wide open. On the evidence of the stratigraphy obtained at Gumla, this belonged to the last period of the occupation.

Pattern (Period) B

In this pattern we include cremated

burials of two types: (1) those which are buried in grave pits circular or semi-circular in fashion, and (2) those which are buried in pots. Both these types are known from Gumla and on the evidence from that site this is placed in the second period from the top.

Period C

In Zone X attempt was made to go deeper than the level of the graves and in two trenches we reached the lower levels, where materials somewhat differed from the top. Only pottery was found. The types derived both from period III and period IV of Gumla.

Period D

In our actual excavation we did not reach lower than the levels of period C except probably in trench Y but on the surface we collected a good amount of painted sherds of fine quality that are identical with those of period II at Gumla. These pot-sherds were thrown on the surface by the modern grave diggers. The Muslim graves are usually dug 4 to 5 feet down the ground level. In the northern extension where the mound was low, these pot-sherds were thrown in great number.

Chronologically period A is equivalent to period VI of Gumla, period B to period V of Gumla, period C to periods III to IV of Gumla and period D to period II of Gumla. When opportunity comes to excavate fully at Hathala site, it may be possible to subdivide period C further and even earlier periods may be discovered at the bottom.

Excavated Remains Pattern (Period) A

Three distinct types of burials were found by us in the excavation at Hathala. Only one type belongs to this pattern. Only three graves of this type were excavated

by us. Two of them lay outside the excavated areas — the one west of the north-south axis about twenty feet north of Zone X and the other east of this axis about 70 feet north-east of this zone. The first one we will call grave number (1) and the second grave number (2). The third grave was found in trench CO. Grave number (3) gave us the clearest stratigraphic evidence. Immediately on removing the top soil we came to a hard clayey soil that spread throughout this trench. But as this grave lay on the western slope of the trench, much of the original soil had been eroded. Along with it greater portion of the skeleton had been damaged and washed down. However, ribs of one body, the skull of another at a little distance, and the bone bits of a third were discovered. Actually in this trench there were three graves all buried close to one another. These bones were not burnt at all. They all lay on a hard clay, with which was partly mixed ashy layer of the bottom. What was the relation of this ashy layer with these burials could not be exactly determined because of too much destruction by nature. However, it seems reasonable to assume that the ashy layer had nothing to do with these burials as the bones were not burnt. The bones rested on broken pot-sherds. Some of them have been illustrated in plate 68. No. 1 of this plate is a good example.

Grave No. 1 was fully preserved (see Pl. 19 b). Only top soil earth covered the grave. Immediately on removal of this top soil hard clay was reached. It was in this hard clay that the skeleton was buried. As a part of this clay deposit on the head side had been washed away leaving a hole in the skull, the head was partially visible and that was how it was discovered. Below the skeleton the floor had also been prepared of the same clay, with which little charcoal bits were mixed up from the lower level. The bones were not burnt at all. The body was aligned north to south, the head lying to the north. The body from the shoulder

to the hip lay flat on the ground but the head was slightly tilted to the left. The legs were flexed and lay on the right side, the left leg being over the right. The right hand was straight by the side of the body while the left hand went across the body towards the right palm. The mouth was wide open. The flexed skeleton was 4½ feet long in the contracted fashion. When the bones were measured separately, the total length from head to foot was 5 feet 2 inches. No complete pot was found in association with this skeleton but potsherds lay buried in the clay. A small terracotta bull (Pl. 29, 5) was standing just behind the hip (see Pl. 19 b). It seems that the hand and leg bones were deliberately twisted to the right and probably it resulted in the dislocation of the joints. This deliberate twist may have some ritual significance but whether the bull played any part in it is difficult to say. That this burial was of the last cultural period is clear from the fact that underneath it lay the earlier cultural deposits. The ash and charcoal that lay underneath the hard clay deposit of the grave should properly be assigned to the same ashy layer period seen below grave No. 3 in trench CO. This identification brings the two graves to the same last period of the Hathala site.

Grave No. 2: This was also complete burial immediately below the top soil buried in hard prepared clay mixed with lime particles. The bones were resting on broken potsherds. A few lime-stone cubes also served as supports mainly at the joints of the bones. Below a hard clayey ground was prepared, on which the body must have been kept. As the grave lay right on the top of an earlier layer full of ash and charcoal, it gives the impression as if the charcoal pieces exposed were connected with the burial. But actually they had fallen from the sides. It is strange that no large pit was dug for the burial. The mud clay deposit was just sufficient to conceal the bones and then the surrounding soil closed in. The bones were not burnt. Un-

fortunately the skeleton (Pl. 20 a and b) was much disturbed. The skull was broken and only the sticking clay could give the impression that the mouth was wide open. Four teeth were preserved in the upper jaw and seven in the lower. The body lay north to south, the head being on the north. It was placed on the right side and even the head was tilted to the right. The right hand lay along the body while the left was crossed over it. As the leg bones were too much disturbed their position could not be ascertained. One terracotta bull was found near the skull (Pl. 29, No. 3). It was not possible to determine its exact position in relation to the skeleton as it had fallen away from its original place.

Pattern (Period) B

(i) Only one example of this type was found in trench CO, area X. After the removal of the top soil in this trench, we came across a hard clayey layer, which roughly assumed the form of a long barrow ranging north to south. The southern section of this barrow-like formation was first taken up and after keeping a section it was excavated. There was no change in the layer at all. All along the same hard clay persisted. This hard clay gave way to soft loose earth in the middle and this turned out to be a pit of almost a horse-shoe form (Pl. 19 a). Within this pit ash, charcoal and a few human bones were placed on broken potsherds. When the northern portion was cleared, it was discovered that the pit extended lengthwise in that direction. The diameter of the pit was 2½ feet and the extension on the north measured 2 by 1½ feet. This was a unique burial found at Hathala. Stratigraphically this was the last occupation in the excavated area. Its exact relationship with the complete burials in this trench CO could only be surmised. The present burial was deep down in a grave pit which was found undisturbed. The group of complete burials in this trench lay to the west of

the long barrow like formation right on the side of its hard clay. Though we could not establish stratigraphic relation because of the disturbance caused by later Muslim graves, it seems almost certain that the complete burials, as they lay right on the side top, were later than this pit burial. It was a cremated burial but the cremation was not done on this spot. It seems that the body was burnt somewhere outside and then the ashes, charcoal and surviving burnt bones were collected and placed in this pit on pot-sherds, which included plain grey ware pottery.

(ii) Two examples of pot burials were found in the excavation. One was discovered in the area 'Y' and the other in trench A2, area X. In the south-western corner of the trench in area Y a pit was discovered immediately after removing the top soil, layer (1) and a hard crust of clay, layer (2). This hard clay had actually sealed the pit (see Pl. 18 b). It was dug through layers (3) and (4) and was filled with loose white clay. At the bottom of the pit, four feet below the ground level, stood the burial jar full of ash, charcoal and a few bones. It was covered over by a stone saddle quern so well known from this region. The jar has round bottom wide belly, narrow neck and flaring rim. It is made of red ware, fine texture, medium fabric and is reddish washed outside. At the shoulder there are two black lines painted on red. No other pot was found in the pit. The type of the burial jar is not unusual. It is not special to the graves nor even particular to this period. This type of pot has been found at Gumla in period IV. It is therefore clear that the grave people in this pit used the earlier form.

A second pot burial was discovered in trench A2. The pit went down from layer (2) right to the bottom of layer (6) (see Pl. 18 a), four feet below the present ground level. The burial jar, which was full of ashes and bone bits, was unfortunately broken. By its side lay a broken dish-on-

stand, the stand being of the broad wide type. This type is also known from the earlier period. We did not get here any special type of pot that could be distinguished from those found in the earlier layers. But definitely the burial was of later date. As it was sealed by layer (2), it is obvious that it belongs to this period.

The charcoal from the first pot-burial has been sent for radio-carbon dating. The use of the older type of pottery clearly suggests that there was no time gap between the earlier occupation and these jar burials. They immediately succeeded the last occupation and preceded the complete burial of pattern (period) A.

Period 'C'

In order to understand the full implication of this period it will be necessary to go into the detail of the excavation carried out in the areas 'X', and 'Y'.

Area X

We have seen earlier how two periods of graves were found in trench CO. They were right on the top. There was no time to dig below these graves in that trench but it was clear that they were dug through a thick ashy layer. The same evidence was obtained from grave Nos. 1 and 2 outside the excavated area X. In trench AO a disturbed grave was found in layer (2). It appears to have been like the pit burial seen in trench CO but a Muslim grave of a later period had disturbed the layers in this trench and mixed up the ashes of this pit with the occupation layer of the earlier period. This ashy layer went far deep into the trench and it abruptly dipped down the western slope of the mound to the present ground level which extended to about 1/3rd of the trench. In this portion only two layers (1) and (2) were excavated. The first was the top soil and the second contained the washed down material from the top. In order to ascertain

what was below the ground level we took up another trench A2, which was flush with the ground level. It is in this trench that the grave pit of burial jar described earlier was found. The pit started below layer (1) which was only 6 inches deep and consisted of loose earth. Layer (2) was a white clayey soil and a foot deep. Layer (3) was rich in cultural deposit. It was full of pot-sherds and broken pieces of bangles. It seems to have been a debris layer probably of destruction. Below it the same type of pottery continued in layer (4). The layer (5) was an occupational deposit and marked a floor level, made up of

ashy and charcoal composition. The small finds included flint flakes, terracotta bulls and bangle pieces. In layer (6) there was a stone saddle quern. The material objects from (6) to (3) were of the same type. There was no change in the pot-forms and other small finds. The whole material belonged to one main period and can be equated with period IV of the Gumla site. A catalogue of the antiquities from this area X is given below. A few of them have been described in full in the succeeding chapters and have further been illustrated. From this catalogue surface finds have been excluded.

Terracottas

Tiny pots

Reg. No. 36.	A tiny ritual pot.	Trench AO, layer (4)
Reg. No. 37.	Same as above.	Trench A2, layer (5)
Reg. No. 40.	Same as above.	Trench A2, layer (4)
Reg. No. 42.	Same as above.	Trench A2, layer (4)
Reg. No. 50.	Same as above.	Trench CO, layer (2)
Reg. No. 53.	Similar but has wide base and tapering sides.	Trench CO, layer (2)
Reg. No. 55.	Same as No. 50.	Trench A2, layer (2)
Reg. No. 70.	Same as above.	Trench A2, layer (6)
Reg. No. 71.	Same as above.	Trench B1, layer (1)
Reg. No. 75.	Same as above.	Trench AO, layer (5)
Reg. No. 77.	Same as above.	Trench AO, layer (5)

Wheel

Reg. No. 38.	A broken wheel with a hub on one side.	Trench A2, layer (4)
Reg. No. 39.	A broken wheel with a cross scratch.	Trench A2, layer (4)

Saucer

Reg. No. 41.	A tiny ritual saucer or tray.	Trench CO, layer (2)
Reg. No. 72.	Same as above.	Trench B1, layer (1)
Reg. No. 74.	Same as above.	Trench CO, layer (2)

Bulls

Reg. No. 43.	This is a unique discovery of a bull head on a pedestal.	Trench A2, layer (4) (Pl. 33, No. 4)
Reg. No. 44.	This is a bull's head with one horn broken.	Trench A2, layer (4)
Reg. No. 56.	A broken bull.	Trench A2, layer (6)
Reg. No. 64.	A broken bull.	Trench AO, layer (2)
Reg. No. 76.	A broken bull.	Trench AO, layer (5)

Broken Horns.

Reg. No. 49.	A broken horn.	Trench A2, layer (4)
Reg. No. 51.	Same as above.	Trench A2, layer (5)
Reg. No. 52.	Same as above.	Trench A2, layer (5)

Female Figurines

Reg. No. 35.	A broken female figurine, only its lower part.	Trench AO, layer (4)
Reg. No. 45.	A broken female figurine.	Trench A2, layer (4)
Reg. No. 48.	Lower part of a female figurine.	Trench A2, layer (4)
Reg. No. 58.	Lower part of a female figurine.	Trench A2, layer (6)

Microliths

There were several examples of saw tooth blades but all found on the surface.

Reg. No. 43.	Parallel sided flake much used.	Trench CO, layer (3)
Reg. No. 45.	Parallel sided flake.	Trench A2, layer (5) (see Pl. 57, No. 17)
Reg. No. 47.	Tapering flake.	Trench A2, layer (4)
Reg. No. 48.	Side scraper.	Trench AO, layer (4)
Reg. No. 49.	Borer.	Trench AO, layer (4)
Reg. No. 50.	Side scraper.	Trench AO, layer (4)

Reg. No. 51.	Same.	Same
Reg. No. 52.	Same.	Same (see Pl. 56, No. 8)
Reg. No. 53.	Blade.	Trench CO, layer (2)
Reg. No. 56.	Side scraper.	Trench AO, layer (5) (see Pl. 57, No. 3)
Reg. No. 57.	Same.	Trench CO, layer (2)
Reg. No. 58.	Same.	Trench A2, layer (4)
Reg. No. 59.	Same.	Same.
Reg. No. 60.	Same.	Same.
Reg. No. 61.	Same.	Same.
Reg. No. 62.	End scraper.	Trench A2, layer (3)
Reg. No. 63.	Side scraper.	Same.
Reg. No. 64.	Borer.	Same.
Reg. No. 65.	Same.	Same.
Reg. No. 66.	Side scraper	Same.

Other Stone Objects

Out of eight found at Hathala six have been illustrated in plate 48 and described in chapter IX. They include saddle-querns, stone grinders and balls.

Bangles

Large number of bangles have been found in the excavation. None of them is triangular in section. Those found are similar to the types found in periods III and IV at Gumla.

Trench Y

Trench Y lay in the northern end of the mound. It was hardly three feet above the ground level on this side. We therefore did not expect any great cultural deposit in this part. Only one trench 20 feet by 20 feet was excavated here. One grave pit of burial jar found in this trench has been

described before. In the remaining portion too much disturbance was noticed by the later Muslim grave diggers. However, it was possible to cut through a small section. Layer (1) was the top soil mixed with ash. Layer (2) was a hard clay soil. Probably this layer concealed burials of complete skeletons but because of disturbance no bones could be traced. Layer (1) was only 9 inches deep, while layer (2) went down two feet below the ground level. Layer (3) was a white clay deposit full of fine painted pottery. Below layer (4) was an ashy layer. The same type of fine painted potsherds continued in this layer also. A total number of forty sherds were collected in the two layers. Out of these thirteen have been illustrated in plate 65. They bear close affinity with the pottery found in period II at Gumla. Though we did not discover any structure there appears to have been an occupation layer below, part of which was

exposed in layer (4). As it appears, the early period levels were not far deep in this trench.

Conclusion

From the above description it is now reasonable to assume that the lower levels at Hathala go back at least to period II of Gumla. Unfortunately the main excavation conducted in area 'X' could not be completed to virgin soil. This area would have given us a complete cross section of the site. However, the mound above the present ground level all belongs to period IV and later periods of Gumla. The excavation conducted below the ground level in trench A2 also showed that the same cultural materials continued down to 4 feet below the surface in this trench. But the find of large number of female figurines

of the standing cobra-like lower body as well as of the horned deity painted on a sherd suggests that this period IV remains to be further sub-divided into IV and III of Gumla. The limited excavation did not allow us to do this. However, the last two periods of graves were very well represented. One important point that remains to be mentioned is the fact that the whole of the top surface of the mound was full of ash, charcoal and debris layer. Among the debris were the pot-sherds and other small finds of period IV. The same materials are found in the graves built later over the debris. There is no time lag between the two. It therefore seems that the Hathala site was also destroyed by the grave builders who practised cremation. It must again be mentioned that some of the important cultural materials of the Harappan type found at Gumla are not met with here.

CHAPTER VI

TERRACOTTA OBJECTS

Introduction

This chapter is confined to a description of the terracotta objects found at Gumla and Hathala, with the exception of beads and bangles described in chapter IX, and pottery in chapter X. These objects are found widely scattered on the surface and in almost all the layers at the Gumla excavation, except in the first period where no pottery has been found. They include (A) human figurines, (B) animals and their horns, (C) birds and bird whistles, (D) wheels and carts, (E) missiles and triangular cakes, (F) balls, dice-throwers and miscellaneous objects, and (G) ritual tiny saucers and pots. All these objects will be discussed in this order. Only selected specimens have been illustrated.

A. Human Figurines

They have been found in good proportion in the excavations as well as on the surface in both the sites of Gumla and Hathala. The type is so characteristic of this culture complex that they are usually picked up on the surface of all the sites in the Gomai plain and also on the sites east of the river Indus at the site of Laiya and Musa Khel. A few specimens have also been recovered at the excavation of the Saraikhola site near Taxila and at Jalilpur excavated by Dr. Rafique Mughal. But all the types of human figurines found at Gumla are not known elsewhere. There is only one main type (type C), with a simplified lower portion of the body that became extremely popular and generally recovered everywhere. A few heads are similar to the examples from Mundigak illustrated by J.M. Casal in *Fouilles de Mundigak*, Vol. II. Pp. XLII, figs. 15 and 16.

One specimen from Gumla (Pl. 22 a, No. 4) is extremely important. It was found in trench AO, layer (11), and hence belong to period II. The specimen appears to have a ritual significance as the human figurine stood on a large flat rectangular base. It is

unfortunate that the figurine was broken. Only feet are preserved on the base. What was the top portion, is anyone's guess. But it is very likely that it was a human figurine. We are not sure whether male or female.

The figurines are all female with the exception of two from Hathala. The Hathala male figurines (Pl. 26, Nos. 1 and 3) are extremely crude. Their lower portion from the waist downward is broken. The upper portion stands like a round pillar with extension for hands, which hang down (but now broken) side-ways. Above the neck the head has been deliberately omitted. In its place the clay was pressed with a thumb when wet with the result that there is a slight incline on the top. Both of them are slipped on the back side. No. 1 has a slip of dark chocolate colour and No. 3 has of a purplish red colour. No. (3) also shows ten parallel lines drawn horizontally just below the neck downward. The top six lines are longer than the lower four. These lines are drawn in black. It is possible that there were more lines in the broken portion. The other figurine (No. 1) has preserved only three parallel lines drawn in black. As they are found on the surface, it is difficult to be sure of the period to which they belong. On the surface of Hathala site we have seen earlier that there were graves of two periods and also materials akin to the Indus Valley Civilisation. Such male figurines have not been found elsewhere so far. As far as the head is concerned, a distant comparison may be given with the terracotta male figurines found at Timargarha and Balambhat (see *Ancient Pakistan* Vol. III Pl. LI and pl. LIII. C). These latter specimens have been found in the Iron Age graves and contemporary settlement site. They are more advanced than our Hathala specimens as far as the technique of making the body is concerned. Even the front part of the head shows crudely the nose and the eyes. But the back is pressed with

thumb. Here at Hathala the whole of the head is formed by thumb pressing.

The female figurines fall into three main types: (a) those which have modelled buttocks and bent legs. These are confined to period II at Gumla; (b) those which are sitting on extended paired legs. They start from period II and their crude forms continue till the last period. If one specimen (Pl. 21 a, No. 2) can be taken as a type, these figurines have their hands thrown up. (c) The third type produces the lower part mechanically in the form of a standing Cobra with the upper part of the body attached on the top of the hood. These fall into several varieties. They are found from Period III onward.

It may be noted that such female figurines predominate in all the Bronze Age sites in the Indus region. Mr. Mackay writes: "In almost every case they are female figures, nude except for a narrow girdle around the loins." (Sir John Marshall — *Mohenjodaro and the Indus Civilization*, London, 1931, P. 338). Here also all the figurines are nude, except for the hair-do. The same is the case in the Quetta Valley and also in the Zhob and Loralai districts (see W.A. Fairervis — *Excavations in the Quetta Valley*, New York, 1956, P. 22) and W.A. Fairervis — *Archaeological surveys in the Zhob and Loralai districts*, New York, 1959).

The Gomal plain figurines introduce an entirely new series. We have not found a single specimen of the Zhob type of the ferocious looking mother-goddess in any of the sites here, nor have we got any example standing on pedestals. It is possible to see some relationship (see below) between our type (a) and the Quetta Valley group A of Fairervis. But the most dominant type in Gomal is of (c) with a very stylised form of a cobra as far as the lower portion is concerned. Looked at from the side they give the semblance of a headless bird. The discovery of a complete specimen (see

title cover) solved the whole question and proved indubitably that all such pieces are parts of a female figurine. The cobra-like appearance of the lower part (see Pl. 22 b) is very significant. Some may regard it as a mechanistic growth of our type (b) and feel that the paired extended legs of the latter type have now been joined together for mechanical reproduction. But such a conclusion is unwarranted because both these types persist till the end. And still more important is the difference in the attitude and purpose of the figurines. In type (b) the hands are extended upwards while in type (c) both the hands of a large number of them are holding a tiny offering tray at the belly. It is therefore clear that the one is not a mechanical copy of the other. Sir John Marshall illustrates an example (Marshall, *Op. Cit.*, Pl. XCV, No. 12) from Mohenjodaro, in which a lady is holding a tray full of fruits in the same fashion as the figurines of our type (c). But except for this holding of tray there is no other comparative features. If the cobra-like character of the lower portion gives any clue, it is possible to consider them as female serpent goddess. In the later Indian art such serpent deities have a hood behind their heads (see H. Ingholt — *Gandharan Art in Pakistan*, Pl. 56). At Mohenjodaro (see Marshall, *Op. Cit.*, Pl. CXVI, No. 29) the Naga worshippers, on either side of a seated male deity, have a standing cobra behind their body. At Kot Diji (*Pakistan Archaeology*, Vol. II, Pl. XVII b) the serpent-dragon has a human face at the top end. Exactly identical faces (see Pl. 1) have been found by us in our excavations, though in our examples the coil of the serpent is missing. But the identity with the Kot Diji specimen leaves little doubt that they all represent the serpent deity (most probably male). If our terracotta specimens could be taken for the female serpent goddess, we can well visualise the importance of the Naga (Serpent) cult starting from our period III and leaving behind a great legacy in the succeeding cul-

tures of the Indus region. It is only on such an identification of the archaeological materials that we can understand some of the hymns of the Rigveda,¹ in which some non-Aryan tribes are said to be master of serpent wiles.

Type (a)

Only two specimens have been found at Gumla both from trench AO layer (11) and hence belong to period II, the earliest period in which pottery has been obtained at Gumla. A third crude example comes from Hathala. They form two distinct varieties.

Variety (i):— Pl. 21 a, No. 1 (Reg. No. T.C. 295) is a broken specimen having lost the upper part above the breasts. Hence it is difficult to guess the type of the face that this figurine must have had. One head (Pl. 22 a, No. 2) has been found in this very trench, layer (11) but it does not belong to the same figurine. If this head is any indication of the type (see description below), it is possible to say that it is different from others. The figurine is made of a well-levigated clay and is red slipped. It is seated on her bent legs having a narrow waist, well modelled buttocks, smoothed legs and two pointed breasts applied separately on to the body. The legs are joined together at the feet end but the feet are not shown at all nor even the knees are adequately formed. However, a line, both in front and in back, running down from the body, separates the two legs. The manner of bending the legs right from the thigh adds a sensuous touch to the figurine.

Pl. 33, No. 1 (Reg. No. T.C. 25) — This was found on the surface at Hathala. It is also a broken example, with its head, left hand, right side and right leg missing. It was made of well-levigated clay and has light reddish slip. It is a very crude specimen having long slim body, thick buttocks with the leg bent right from the thigh, but the bending is not very appealing as in the 1. *Rigveda*, VI.20.7. Griffith's translation Vol. 1, P. 580.

above example. The right hand, which is preserved, is extended upward as we will see below in type (b) figurines. The pointed breasts are applied separately. As it was found on the surface at Hathala, it is very difficult to place it stratigraphically. Here the Muslim graves have upturned many materials from below. If the hand of this figurine is at all indicative, the first figurine may have had a similar pose.

Variety (ii):— Pl. 21 a, No. 3 (Reg. No. T.C. 333) is again a broken specimen with the upper part of the body above the waist completely missing, left leg has lost the foot part and the right one has only the thigh preserved. It is also made of well-levigated clay and is red slipped. But the pose of the figurine is different. In this case the thighs are straight perpendicular to the body and only at the knee the legs are bent down in such a fashion that the figurine could sit on a high seat. In this example also the knee is very negligibly shown. Unfortunately we do not know how the upper part of the body looked like. But the bending of the knee is known in Group A figurines from Quetta Valley (see Fairervis, *Quetta Valley*, Fig. 16, a-c; Fig. 17 and page 226). They are also known from Zhob and Loralai districts (Fairervis) — *Zhob and Loralai*, Fig. 13, b and c from Sur Jangal; Fig. 58, e from Periano Ghundai). The comparison in the bent legs has been given here with no ulterior motive because it must be noted that here we have not got a single example having pendant breasts and a series of necklace as we have in Zhob. When we realise that Zhob is an adjacent region to Gomal plain, this contrast is really surprising. It is possible that the two areas had different religious cults.

Pl. 22 a, No. 2 (Reg. No. T.C. 288) — This has been doubtfully placed in this category. It was also found at Gumla in trench AO layer (11), and hence belongs to period II. It is also a broken example with only the upper part of the body above the waist being preserved. Its right side inclu-

ding the right breast is broken off. The left breast is half preserved. It is made of well-levigated clay and is not slipped at all. The head above the neck was modelled by hand, to which the hair (now partly broken) was separately applied as if falling in double plaits from its right side on to the left shoulder. The photograph, which has been taken sideways, shows the back plaits. The nose and mouth are pressed sharply with fingers. The mouth is not separately shown. A small portion of the preserved left hand suggests that they went down. The breast is pointed and applied separately on the body, which is slim.

Type (b)

This type of female figurines is distinguished by the straightened paired legs perpendicular to the body. Feet are not shown at all and the legs end in a stem. An incised line both in front and in back is drawn from the waist downward to demarcate the legs. The body is slim and the buttocks are large but as the figurine is seated on her hips, the lower portion is obviously kept flat. However, the sides of the hips are well modelled. Wherever breasts are preserved, they are pointed and applied separately on the body. The hands, which are preserved, have been extended upwards. We do not know the type of the head as none has been found in tact. However, it is likely that the one seen on Pl. 24, No. 3, belongs to this type. They fall here into two varieties. Variety (a) has preserved both the legs and sides in tact, but variety (b) has only one leg preserved. In these cases the second leg is broken off but in most cases there is no sign of break. It seems that the two halves were made separately and then joined together. This was also the practice in the historical period as we find at Charsada. There the figurines of a different type have a similar incised line to demarcate the two legs but in some cases only one half was found (see *Ancient Pakistan*, Vol. II. Pl. XXVI, Nos. 9, 11, 12; Wheeler, *Charsada*, Oxford, 1962, Pl. XXII;

No. 9, Pl. XXV, Nos. 6, 7, 8, 9 and 10).

Variety (a)

Pl. 21 a, No. 2 — Reg. No. T.C. 329 from Gumla, trench BO layer (11). It is made of well-levigated clay. The body has been smoothed by the application of clayey slip. It is very beautifully formed, and has preserved both the legs, hands and breasts. Just a little of the pinched mouth can also be seen but the head is gone.

Pl. 21 b, No. 1 — Reg. No. T.C. 334 from Gumla, trench AO layer (11). It is a very crude specimen but is made of well-levigated clay and is red slipped. The two parts were separated when found in the excavation. It is preserved only upto the waist. The feet end is also broken. Both the lower side of the legs and the back have been made flat. The central incised line is seen on both the sides.

Pl. 21 b, No. 3 — Reg. No. T.C. 287 from Gumla trench AO layer (11). This is also a crude specimen, and is made of well-levigated clay but is unslipped. The incised line is seen in front as well as at the back.

Pl. 22 a, No. 3 — Reg. No. T.C. 106 from Gumla found on the surface. It is preserved from the waist downward, is roughly made with hand but with well-levigated clay, and is red slipped. The upper portion does not show the incised line at all but the lower portion has it only towards the end.

Pl. 22 a, No. 5 — Reg. No. T.C. 304 from Gumla, trench H6 layer (1). This is also preserved from the waist downward. It is made of well-levigated clay and is unslipped. The two legs end at a point. The incised line is seen both in front and at the lower part.

Pl. 26, No. 12 — Reg. No. T.C. 15 from Hathala found on the surface. This is preserved from the waist downward. The clay is not well-levigated. Traces of red slip are

seen. It is made in a unique fashion. It seems that the two legs were modelled separately with hand from the hip downward and then joined together leaving a hole in between the thighs. The portion of the body was fitted on later. The process of manufacture was to roll the two legs together and the body part separately. When the two legs were joined, the body was placed perpendicular to the legs.

Variety (b)

Pl. 22 a, No. 1 — Reg. No. 315 from Gumla, trench H6 layer (1). This is only left half of the lower portion. The right half has been broken off. The clay is not well-levigated. The toe end is also broken away. It is not slipped.

Pl. 22 a, No. 2 — Reg. No. T.C. 208 from Gumla, trench AO layer (1). Only left half is preserved but the upper part above the breast is broken off. This is made of well-levigated clay and is red slipped. The buttock is large and is properly rounded. The breast is also full and rounded, as is seen in the case of the female sculptures in the later Indian art. It is applied separately on to the body.

Pl. 26, No. 11 — Reg. No. T.C. 63 from Hathala found on the surface. This is preserved from the waist downward. The feet end is also broken away. Only the left half is remaining. Traces of slip are seen on the body. Its buttocks are extremely large.

It may be pointed out that in these examples where the buttocks are extremely large and the breasts are rounded and full, the idea may have been to depict the motherliness of the figurine, as is generally supposed in the case of the female figurines of the later Indian art.

Type (c)

This variety is very common in all the sites of the Gomal plain and has also been

found elsewhere (see above). Its number is the greatest. It is not found in period II at all. We get these figurines only from period III onward right into the cremated graves. As has been discussed earlier (see Pp. 39—40), the period III at Gumla corresponds with the pre-Harappan Kot Diji level. It seems that this type of the figurine became popular in this period. Unfortunately at Kot Diji no such figurine has been so far found. The significance of this figurine has been discussed earlier. Its technique of manufacture is very simple. Some of them are extremely flat. They are made only in two dimensions. The thickness is hardly shown, except at the head. Usually it is made in different parts. The lower part below the waist is beaten flat separately and then bent at the thighs to show the broad hip and the tapering legs. The upper part is made separately and hence it is usually broken. The hands, the breasts and the hair-do are then applied. The face is pressed with fingers. They fall into two varieties. Variety (a) has its hands down at the belly holding a tray. Variety (b) has the hands extended upwards.

Variety (a)

Pl. Title cover — Reg. No. T.C. 211 from Gumla trench DO layer (6), period IV. It is a complete specimen with only the breasts and the fall of the hair on the right side broken away. It is made of well-levigated clay and is unslipped. It is very thin but the body is well proportioned, and has rounded hands, thin waist, broad hip, long neck and pressed face. The mouth and nose are shown together. The hair which is preserved only on the left side, is falling beautifully from the head on the shoulder. In the middle of the head there was a pleat. At the belly level a small tray is held with the hands. Such ritual trays (see Pl. 38, Nos. 10-15) have been found in large number in the excavation.

Pl. 22 b, No. 2 — Reg. No. T.C. 176 from Gumla, trench AO layer (3), period IV. Only lower portion is preserved. The leg

portion is smaller than the lower part of the body. It is not slipped.

Pl. 22 b, No. 3 — Reg. No. T.C. 213 from Gumla, trench AO layer (6), period III. Only lower portion is preserved. Traces of slip are seen on the body. Its leg portion, which is ending in a stem, is almost equal to the lower portion of the body.

Pl. 22 b, No. 4 — Reg. No. T.C. 220 from Gumla, trench DO layer (5), period IV. It is very roughly made and is not slipped. The upper part of the body is missing but traces of a tray at the belly are preserved. The leg portion is longer than the lower half of the main body.

Variety (b)

Pl. 22 b, No. 1 — Reg. No. T.C. 192 from Gumla, trench BO layer (6), period III. This is a typical specimen of this variety. It is preserved from the breast downward. It is red slipped and differs from variety (a) in so far as its body above the waist is rolled round and the hands (partly preserved) are extended upwards. The breasts, which are applied separately, have been pressed with fingers and in this example they are joined together. However, the lower portion of the body from the waist downward is made flat in the same old fashion. Here again one difference may be noticed. The leg portion is longer than the lower portion of the main body. If this is the distinguishing criterion of this variety, then the figurine Pl. 22 b, No. 4 described above, may fall in this variety.

Pl. 26, No. 13, from Hathala trench AO layer (3). It is similar to the above but the legs are partly broken. The stem-like body above the waist is rather flattish. It is preserved below the breasts and is not slipped.

The Upper Part of the Body

Two male figurines (see above P. 64) have already been described. Another head has also been discussed above (P. 66). The remainder fall in three main categories.

(i) those having their hands extended upwards, as we saw in the case of variety (b), type (c) above; (ii) those having a tray held at the belly level with both hands; and (iii) those having their hands folded in the act of holding something at the breast level.

Category (i)

All of them appear to be parts of the figurines placed in type (c) variety (b).

Pl. 23, No. 1 — Reg. No. T.C. 253 from Gumla, trench CO layer (5), period IV. It is preserved only from the waist to the breasts. The head and the lower portion are broken off. It is red slipped. The body above the waist is rolled round in the same fashion as variety (b) above. The breasts are pressed with hands and joined together. The hands are raised up.

Pl. 23, No. 2 — Reg. No. T.C. 174 from Gumla, trench CO layer (4), period IV. The same portion is preserved as above but its one raised hand is also gone. The breasts are joined and pressed in the same fashion.

Pl. 23, No. 3 — Reg. No. T.C. 249 from Gumla, trench AO layer (7), period III. This is the only specimen of which the head is preserved. The body is rolled in the usual fashion. The breasts are missing. One raised hand is also broken. The head portion is extremely prolonged. The nose and the mouth are pinched and a depression is further made to indicate the eye. The skull is also lengthened at the top. Bands of chocolate paint are seen on the body, face and head.

Pl. 23, No. 4 — Reg. No. T.C. 301 from Gumla, Circle grave No. 1 inside the funeral pyre found mixed up with the bones. The head and the lower portion are missing. The breasts are slightly pointed and are joined together. Both the hands are extended upwards. It is not slipped.

Pl. 23, No. 5 — Reg. No. T.C. 351 from

Gumla, trench H6 layer (1). In this example also the head and the lower portion are missing. Traces of slip are seen on the body. The breasts are circular in shape and are joined together. The hands are extended wide.

Pl. 26, No. 7 — Reg. No. T.C. 22 from Hathala found on the surface. The head is broken but the lower portion seems not to have been made at all. This is rather strange. Does it imply that only the upper portion of the body was made? Or is it a freak? The breasts have gone off. It is not slipped.

Category (ii)

All these figurines appear to fall in type c variety (a) as discussed above but these figurines are not flat like them.

Pl. 24, No. 1 — Reg. No. T.C. 292 from Gumla found on the surface. The lower portion and the breasts are broken off. The hands, which are preserved at the shoulder, suggest that they were brought down. The mouth and the nose are pressed together. The distinguishing feature is the turban on the head. There is only one band of clay, rolled to represent a turban. It starts from the front left and goes to right and then twisted backward and brought back to the left side, where it ends in a circular curve. In Mohenjodaro (see Marshall, *Op. Cit.*, Pl. XCIV, No. 2; Pl. XLV, Nos. 21, 22, 25, 30, Mackay — *Further Excavations at Mohenjodaro*, Pl. LXXV, Nos. 4, 8, 19; Pl. LXXVI, No. 16) several kinds of turbans are known but they are all different.

Pl. 24, No. 2 — Reg. No. T.C. 338 from Gumla, trench AO layer (1). This is also a tiny figurine with the hands and breasts broken off. The left side is also broken away. But the figurine is very instructive. Underneath the traces of the broken hands we see the stem-like extension of the shoulders just as we will note in Pl. 24, Nos. 3 and 5. This extension was deliberately made

in order to give support to the delicate hands. The neck is slightly elongated. On either side of the pinched mouth and nose a hole is pricked for the eyes. This is the only example in which this technique of making the eye is known here. The type of stem-like projection for the shoulders is also found in some of the figurines at Mundigak (see Casal, *Op. Cit.*, Pl. XLII, Nos. 10, 11, 13, 15, 16). In these examples from Mundigak they probably represent hands.

Pl. 24, No. 3 — Reg. No. T.C. 324 from Gumla found in circle grave No. 2 along with the burnt bones. This specimen is slightly thicker and its body is rolled round. The shoulders are broad. Preserved parts of the hands, which were applied separately, show that they went down. The breasts are round and the neck is elongated. The nose and the mouth are pressed sharp and the head is clearly marked. On the head there is probably a scarf.

Pl. 24, No. 4 — Reg. No. T.C. 323 from Gumla found in circle grave No. 2 along with the burnt bones. This is a tiny figurine but well preserved. Its body has also some thickness. The rounded hands, which curve down, hold a tiny tray at the belly level. The neck is slightly elongated. The nose and mouth are pinched sharp to a point. At the back of the head there is a scarf which falls behind in two. The present figurine clearly brings out the difference from the complete figurine described earlier (see P. 68).

Pl. 24, No. 5 — Reg. No. T.C. 302 from Gumla, trench H6 layer (1). In this specimen the thickness of the body is well marked. Traces of the hands above the stem-like extension for the shoulders are there. The neck is elongated. The nose and the mouth are pressed to a sharp point. But it is remarkable to note that there is an attempt to make an elongated eye with an eye ball inside. One side is clear in the photograph.

Pl. 25, No. 1 — Reg. No. T.C. 137 from Gumla, trench BO layer (4), period III. Its body below the shoulder is broken away but whatever remains shows that it was hollow. The neck is elongated and the nose is acquiline. Could it be the part of a lid?

Pl. 25, No. 2 — Reg. No. T.C. 271 from Gumla, trench EO layer (6), period IV. It has a bulging body in the upper part and rounded breasts. Traces of hands are seen on the shoulder. The neck is elongated. The nose and mouth are pressed to a point. At the back of the head a scarf falls down on its left shoulder and then again it is folded back. Similar fall was on the right shoulder but now it is broken off. It has a reddish-slip.

Pl. 25, No. 3 — Reg. No. T.C. 149 from Gumla trench EO layer (4) Period IV. As this figurine is quite heavy and thick, the hands (now partly broken) were applied directly to the shoulder without any stem-like projection. It has rounded breasts, elongated neck, pinched nose, and a scarf (now broken) behind the head,

Pl. 25, No. 4 — Reg. No. T.C. 190 from Gumla, trench DO layer (4). Period IV. It has also thick body, only one rounded breast preserved, traces of the hands, elongated neck and pinched nose. It is remarkable to note that a black paint is used to make an almond shaped eye with an eye-ball in the middle. One side is seen in the photograph.

Pl. 26, No. 5 — Reg. No. T.C. 29 from Hathala found on the surface. It has also broad stem-like shoulder with traces of hands above. The two breasts are pointed. The nose and mouth are pressed together. Behind the head a scarf ties round the hair and ends in a rounded pellet on its right.

Pl. 26, No. 6 — Reg. No. T.C. 12 from Hathala found on the surface. It has also broad stem-like shoulder, the hands are

gone, only one pointed breast is preserved. The rest is similar to the above, particularly the scarf behind the head.

Pl. 26, No. 8 — Reg. No. T.C. 13 from Hathala found on the surface. This is rather flattish. Its head and left hand are broken away. The breasts are also gone. The rounded right hand holds a tiny tray at the belly level.

Pl. 26, No. 9 — Reg. No. T.C. 11 from Hathala found on the surface. It has broad shoulders with stem-like projection and traces of hands above, pointed breasts separately applied, part of a tray at the belly level, pressed nose and mouth and behind the head the hair elaborately folded double. It touches the left shoulder but on its right it is broken.

Pl. 26, No. 10 — Reg. No. T.C. 59 from Hathala found on the surface. It has broad shoulders, only one pointed breast preserved, a tray held at the belly level with both hands, elongated neck, and pressed nose and mouth. Behind the head a scarf is tied in almost a circle.

Category (III)

Pl. 26, No. 2 — Reg. No. T.C. 60 from Hathala found on the surface. It has reddish slip. In this specimen the lower part including the hands are broken, but the suckling baby is represented by a band of clay applied on to the breast. The neck is broad and the nose and mouth are pressed. Behind the head traces of scarf are seen. It is similar to the one as given in the next example.

Pl. 26, No. 4 — Reg. No. T.C. 10 from Hathala found on the surface. It is also slipped red. In this specimen both the hands are preserved. They are holding the baby suckling at one breast. The other breast is pointed. The neck is again small. The nose and mouth are pressed. Behind the head is a scarf ending in two rounded

pellets. It can be compared with a figurine from Mohenjodaro (see Mackay, *Op. Cit.*, pl. LXXII: 2).

B. Animals and Their Horns

The animals, so far discovered, include bulls, horses, dog and camel. While the bulls outnumber others and are found in all the levels from period II onward at Gumla, two horses and possibly a third and the camel have been found from within the circle graves having cremated burials. Only one dog was found in period II. Side by side we also obtained single horns of different types broken away from the bulls. These animals appear to be meant for toys as the presence of a hole in the painted horse for the attachment of a string suggests. No ritual significance may be attached to the animals. However, it must be pointed out that a few bulls were actually found inside the cremated graves. And one from Hathala (pl. 29. No. 5) was found to lie near the hip bone of an inflexed burial. Whether this was accidental or not, is difficult to say. In general these bulls from the burials have no particular distinguishing features. In the burials other materials, including human figurines have also been found. There is only one example (pl. 33, No. 4) of horned bull's head placed on a flat base. If at all, this alone could be taken for ritual significance. The animals are described one by one and only selected specimens have been illustrated.

Bulls

The bulls may be divided into two broad types — (a) Short-horned bulls, and (b) humped bulls — the so-called "Brahmani" bulls. Both the types are found from period II onward at Gumla. We have not got any example of the so-called "garlanded bull" (see Marshall, *Op. Cit.* P. 354, Pl. XCVII, Nos. 23-24), though we have obtained painted bulls as well as painted horns as was found by Fairservis at Damb

Saddat (see Fairservis, *Quetta*, Fig. 19, d, e). The bulls have invariably tails if they are preserved at all. The workmanship is rather poor. Except for the hump, which in some cases is extremely exaggerated (see Pl. 29, No. 9), and the long curving horns, to which special attention has been paid, the body is just rolled up and the legs are stumpy. In some cases eyes have been shown either in paint or by some other process.

Type (a) Short-horned bulls

Pl. 27, No. 1 — Reg. No. T.C. 240 from Gumla, trench AO layer (11) Period II. It is a short-horned bull with faint traces of red slip on it. The horns, the mouth, the legs and the tail are broken but the body is preserved in full.

Pl. 27, No. 5 — Reg. No. T.C. 293 from Gumla, trench BO layer (11). Period II. This is only the hind part of a bull with its short tail in tact. One leg is completely gone, while the other is partly broken. The back is smoothly curving. Traces of faint red slip on the body. It is difficult to say whether it had hump or not. It is doubtfully placed in this category.

Pl. 27, No. 6 — Reg. No. T.C. 331 from Gumla, trench BO layer (11), Period II. This is also hind part of a bull with its back smoothly curving and throwing down a tail (now broken) behind. The legs are partly broken. There is no trace of slip.

Pl. 28, No. 1 — Reg. No. T.C. 127 from Gumla, trench DO layer (3), Period IV. It is a well formed humpless bull with only head missing and the rear legs partly broken. The front legs look like stems. There is a gradual dip in the middle of the upper portion and towards the tail end it gradually rises. The tail is comparatively short. White slip is applied on the body and legs.

Pl. 28, No. 3 — Reg. No. T.C. 65 from Gumla, trench EO layer (1), found in

disturbed soil. It is a small stubby bull with short-horns with all its four legs, tail and horns broken. It was originally slipped red but now the ash and greenish earth are encrusted upon it.

Pl. 28, No. 5 — Reg. No. T.C. 296 from Gumla, trench CO layer (5), Period IV. This is only the head of a bull, the other parts being broken. Part of the horns are preserved. In the photograph the horns are shown at the lower side. It is slipped red and the harnessing round the horns and the muzzle is shown by white paint. The eyes are also shown by painting. The round of the eyes is given in black. Within a black ball is painted on white background.

Pl. 28, No. 7 — Reg. No. T.C. 162 from Gumla, trench DO layer (1), Period IV. It is a small bull with only one leg preserved. The tail and one horn are completely gone. It has red slip. Its middle part is narrow and the back side is slightly rising high.

Pl. 28, No. 8 — Reg. No. T.C. 221 from Gumla trench DO, layer (6), Period IV. The bull has preserved only its front part but its one horn is completely gone. It has a reddish slip. The stumpy legs and short horn are well worth noting.

Pl. 29, No. 4 — Reg. No. T.C. nil from Hathala found on the surface. It is a small bull with three legs and one horn partly broken. The preserved horn is projected forward. The mouth has been pinched and applied separately to the head. The tail is sticking to one side. It is not slipped.

Pl. 29, No. 5 — Reg. No. T.C. 28 from Hathala found near the hip of a complete human skeleton buried in an inflexed position. One leg, horns and the tail are partly broken. The mouth is again applied separately. The legs are very thin, and the tail, which is also applied separately is hanging away from the body.

Pl. 29, No. 6 — Reg. No. T.C. 2 from Hathala, found on the surface. This is a very crudely made bull with its three legs and horns broken. The mouth is pinched and the tail is sticking to the body. It has a whitish slip and on it chocolate colour bands are applied horizontally and vertically.

Pl. 29, No. 8 — Reg. No. T.C. 7 from Hathala found on the surface. It has preserved only the hind part with one leg broken. The other leg is exceptionally long suggesting that it could be a horse. It has reddish slip and in the middle black paint gives the idea of a saddle. This is another indication that it might be a horse.

Pl. 36, No. 5 from Hathala trench AO layer (3). It is a headless bull with its legs and tail broken. It has a reddish slip and on it a series of short lines in black are given from the neck to the end of the legs and also on the body.

Type (b) Humped bulls

Pl. 27, No. 2 — Reg. No. T.C. 330 from Gumla, trench BO layer (11), Period II. Only the front part is preserved but one leg and the horns are broken. It bears a reddish slip. The eyes are shown in black. It has an exceptionally small hump.

Pl. 27, No. 3 — Reg. No. T.C. 273 from Gumla, trench AO layer (11), Period II. Only the front part is preserved but the mouth and the legs are broken. It has red wash and its hump is exceptionally large.

Pl. 27, No. 4 — Reg. No. T.C. 251 from Gumla, trench AO layer (11), Period II. Only the front part is preserved, with the head and the legs broken. It has red slip. The large hump is clear.

Pl. 28, No. 2 — Reg. No. T.C. 343 from Gumla, trench H6 layer (1), Period IV. The bull is quite long and has lost the head and the four legs. The tail is also partly

broken. The tail end side is slightly raised up. The hump is very prominent. It has red wash.

Pl. 28, No. 4 — Reg. No. T.C. 197 from Gumla, trench AO layer (3), Period IV. Like the previous bull it has a long body, and has lost the legs, horns, tail and the muzzle. It has whitish slip. Its hump is small.

Pl. 28, No. 6 — Reg. No. T.C. 159 from Gumla, trench CO layer (1). Only the front part is preserved. It is red washed. It has a beautiful hump and very well-preserved curving horns. The eyes have been depicted by working with a broom-stick.

Pl. 29, No. 1 — Reg. No. T.C. 57 from Hathala, found on the surface. Only the front part is preserved but the horns are broken. It has a red wash. The hump is very prominent.

Pl. 29, No. 2 — Reg. No. T.C. 54 from Hathala, trench Y layer (3). It is a well-preserved bull with horns gone and part of the hump broken. It has a reddish wash. The legs are stumpy and the tail is extremely small sticking to the body. The tall hump is right in the middle of the body. The mouth has been pinched, and below the muzzle can be seen the extra skin shown by pinched clay. The eyes are also shown by pricking at the applied clay.

Pl. 29, No. 3 — Reg. No. T.C. 9 from Hathala, found near a skull of a complete burial but partly preserved. It is a beautiful little humped bull with two hind legs, mouth and horns broken. It has a whitish slip on the body. Over it are seen black bands across the body vertically and horizontally exactly in the same fashion as in the case of Pl. 29, No. 6. But in this case red blobs are further added here and there. It is difficult to say whether any significance is attached to these decorated bulls. The fact that this one is found in an iron — age grave may have some definite meaning.

Pl. 29, No. 7 — from Hathala found on the surface. It has a chocolate slip on the body. Its one leg, one horn and the tail are broken. The preserved horn is slightly twisted. The hump is prominent.

Pl. 29, No. 9 — from Hathala found on the surface. It is a completely preserved bull with all its limbs in tact. Traces of whitish slip are seen. The legs are stumpy. The tail is sticking to the body. The horns are comparatively small but the hump is exceptionally big and squarish.

Miscellaneous

Pl. 33, No. 4 — Reg. No. T.C. 43 from Hathala trench A3 layer (4). This is the only example of the head of a bull placed on a pedestal, which is tapering upward. The bull has lost the horns and part of the mouth is also broken. The long pommel on the head is very prominent. It is not well fired.

Horns

Several examples of single horns broken away from the bulls' head were found in the excavation. These horns are only parts and they were not made independently and therefore it is clear that they are not meant for independent worship. Most of these horns are plain but a few are painted. They are found in all the levels from period II onward. They generally fall into two varieties — (a) straight and (b) curved.

Variety (a) Straight horns

Pl. 30, No. 2 — Reg. No. T.C. 150 from Gumla, trench AO, layer (4), Period III d. This is a small horn conical in shape with its lower side slightly damaged. It is red washed. There is a slight bend at the point where it begins to get narrow.

Pl. 30, No. 3 — Reg. No. T.C. 299 from Gumla, trench AO layer (10); Period II.

It is a straight conical horn with its tip broken. Traces of red slip are seen on it.

Pl. 30, No. 5 — Reg. No. T.C. 158 from Gumla, found on the surface. It is a pointed horn with a thumb impression on the lower side, traces of red wash on it.

Pl. 30, No. 6 — Reg. No. T.C. 241 from Gumla, trench AO layer (11), Period II. It is a long horn with its tip broken. It is red washed.

Pl. 30, No. 8 — Reg. No. T.C. 142 from Gumla, trench AO layer (4). Period III d. It is a thick horn with a slight bulge on one side. It is red washed.

Pl. 30, No. 9 — Reg. No. T.C. 300 from Gumla, trench AO, layer (10), Period II. It is a small horn with a slight curve on one side.

Variety (b) Curved horns

Pl. 30, No. 1 — Reg. No. T.C. 252 from Gumla, trench AO layer (9), Period II. This is a small curved horn with its tip broken. It is red washed.

Pl. 30, No. 4 — Reg. No. T.C. 284 from Gumla, trench AO, layer (2), Period IV. It is a medium-sized horn with its curved tip broken.

Pl. 30, No. 7 — Reg. No. T.C. 177 from Gumla, trench AO layer (3), Period IV. It is a well curved thin small horn with its tip slightly twisted. It has whitish slip.

Pl. 29, No. 10 — Reg. No. T.C. 49 from Hathala, trench A3 layer (4). It has whitish slip. The lower end is very thick and the tip end, which is broken, is thin.

Pl. 29, No. 11 — Reg. No. T.C. 18 from Hathala found on the surface. It is a nicely decorated horn with only a little curve. It has white slip with horizontal bands on

it. On the top face on one side of a red band is a series of crosses and on the other a wavy line in black.

Pl. 29, No. 12 — Reg. No. T.C. 51 from Hathala, trench A3 layer (5). This is an extremely curved horn with a red wash.

Horses

A doubtful example of a horse (Pl. 29, No. 8) has been described above in the section of bulls. There are three more specimens found at Gumla, all from either the layers disturbed by the grave people or inside the creamed grave. Not a single example is found in the lower levels. One of them is painted, and although its back side is unusually raised, the presence of a saddle painted on the body leaves little doubt that it is a horse. One example has clearly preserved the mane while the third has a thick bulging neck. Its leg is also long and pointed.

Pl. 31, No. 1 — Reg. No. T.C. 239 from Gumla, found inside circle grave No. 1 along with the burnt bones. It seems to be a toy horse as a hole is preserved just above the front legs right through the body obviously meant for a string to pull from the front. The head is completely missing and the legs are partly broken and hence the holes for the wheels have been lost. The tail is also partly broken. It is washed red but in the middle of the body the saddle is shown by a red paint while the front and back portions have a series of crosses in chocolate on a white background. The back side of the animal is unusually raised high which may create doubt for its being a horse. The use of this animal by the grave people is also attested by the find of a leg bone from inside grave No. 1.

Pl. 31, No. 2 — Reg. No. T.C. 248 from Gumla, found in a pit (probably of a grave) in trench AO. This is a nice example of a horse with its legs, ears and tail bro-

ken. Its back side curves beautifully and the mane bulges above the neck. It is not slipped at all.

Pl. 31, No. 3 — Reg. No. T.C. 354 from Gumla, trench H6 layer (1) disturbed by the grave people. Its three legs, head and tail are broken. It has red slip. The preserved leg is long and thin. The neck is thick and rising high. The back side is gradually sloping.

Camel

Pl. 31, No. 4 — Reg. No. T.C. 339 from Gumla found in circle grave No. 3. This is the only example of a broken camel found in the excavation. It was inside a grave which was disturbed by a later Muslim burial. Only the hind part is preserved. Traces of chocolate slip are preserved. The tail, as can be seen in the photograph (which is upside down) is cut and an incised line is drawn across it. The legs are bony and twisted in the naturalistic fashion and above the thighs an extra fleshy protrusion is visible. Unfortunately these two legs are also broken.

Dog

Pl. 31, No. 5 — Reg. No. T.C. 283 from Gumla, trench BO, layer (9), Period II. This is the only piece of a dog found in the excavation. Only the hind part has been obtained. All the legs are broken. The back side of the dog shows a smooth curve and the long tail is bent up but its tip is broken. It has a reddish wash.

C. Birds and bird whistles

Several examples of terracotta birds have been found in the excavations. At Gumla we obtained them from period II onward. Except for the pedestalled bird whistles, which look like ducks, other specimens are all broken and it is not easy to identify them with certainty. But it is probable that here we have two ways of

representing a peacock. In Mohenjodaro (see Marshall *Op. Cit.*, P. 349 Pl. XCVI, No. 4) a peacock has been doubtfully recognised by its long tail by Mr. Mackay. If this long tail is really indicative, we have also such birds represented with us. Our examples are all standing on a pedestal. We have a second variety in which the birds have a widespread tail like that of a dancing peacock. If the analogy is correct, we may take them for peacocks.

Variety a.

Pl. 32, No. 5 — Reg. No. T.C. 247 from Gumla, trench AO layer (5), Period III. It is a bird standing on a wide pedestalled base but its tail and head are broken. It is red slipped. It may be a peacock.

Pl. 33, No. 2 — Reg. No. T.C. 24 from Hathala found on the surface. It is also a bird standing on a pedestal with its tail preserved but head completely gone. The long tail suggests that it was a peacock. It has a red wash.

Variety b.

Pl. 32, No. 3 — Reg. No. T.C. 244 from Gumla, trench CO layer (5), Period IV. The bird is standing on a saucer-shaped base with preserved widespread tail but the head is broken. It may represent a dancing peacock. The tail is painted white and has red streaks on it.

Pl. 32, No. 4 — Reg. No. T.C. 294 from Gumla, trench BO layer (11), Period II. It is standing on a flat base. Only the tail is preserved. It is painted white and on it are red bands.

Pl. 33, No. 5 — Reg. No. T.C. 62 from Hathala found on the surface. The bird is standing on a saucer-shaped base (upside down). Both the tail and head are broken.

Miscellaneous

Pl. 32, No. 6 — Reg. No. T.C. 193 from

Gumla, trench AO layer (4), Period III d. This was a hollow bird but has only its head preserved. The beak is pinched. The eyes are bulging. The tuft of hair on the head is broken. If the tuft was a crest, it could also be a peacock.

Bird whistles

Pl. 32, No. 1 — Reg. No. T.C. 276 from Gumla found inside circle grave No. 1. It is broken in two parts. The head is missing. The hole, which was at the bottom, is also broken. It is standing on a saucer-shaped base. The short wide tail suggests that it was a duck.

Pl. 32, No. 2 — Reg. No. T.C. 306 from Gumla, trench BO layer (11), Period II. This is a broken bird whistle with a wide short tail. It has a white coating.

Pl. 33, No. 3 — Reg. No. T.C. 1 found at Hathala on the surface. It is a complete example of a bird whistle with a hole at the right underside, and is standing on a saucer-shaped base. The tail is short and wide and the head is stubby like that of a duck but the beaks are not represented. There is a slight depression for the eye on either side of the face.

D. Wheels and Carts

Several examples of wheels were recovered in the excavations at Gumla and Hathala. At Gumla they were found from period II onward. At Mohenjodaro and Kot Diji (*Pakistan Archaeology*, Vol. II, Pl. XX a) they have also been found. From the report it is not clear whether at Kot Diji they were found in the lower levels or not. Mackay remarks: "Some pottery chariot wheels found at Kish are very like those found at Mohenjodaro, the only difference being that the Sumerian wheels have a raised hub on both sides of the wheel instead of a hub on one side only, as was the rule in ancient Sind". (Marshall *Op. Cit.* P. 554 Pl. CLIII, 34-7). At Amri (see J.M.

Casal — Fouilles d' Amri, Vol. II, Fig. 125, Nos. 10 and 10 a) the wheels were found in period III A and III C. (*Ibid*, Vol. I, P. 160), i.e. the period of the Indus Valley civilisation. But Casal illustrates two different varieties. His number 10 is a wheel having no hub at all. His No. 10 a has a hub on one side only, as has been found in other Indus Valley sites. The former variety is found in period III A and the latter variety in period III C. At Gumla we have also found two varieties. Variety (a) wheel with no hub at all is restricted to period II. Only one example, found so far, belongs to the topmost layer of this period. Variety (b) wheel with hub on one side only is found from the earliest phase of period IV to the end. On the surface and even inside the cremation graves of the later period such hubbed wheels have been recovered. What variety was popular in period III is difficult to say. From Hathala we have recovered a specimen on which spokes are painted on one side.

Variety (a) Hubless Wheel

Pl. 34, No. 9 — Reg. No. T.C. 286 from Gumla, trench BO layer (9), Period II. It is 1.8 inches in diameter and .4" in thickness. The hole is pierced from one side only resulting in a little raising up of the other side, as is seen in the photograph. It is obviously a toy wheel.

Variety (b) Wheel with one hub

Pl. 34, No. 1 — Reg. No. T.C. 279 from Gumla, trench DO layer (6), Period IV a. This is the largest size of the toy wheel found in the excavation. It measures 4.8 inches in diameter and the thickness including the hub is 1.5 inches. It has red slip on it but its one face is badly corroded.

Pl. 34, No. 2 — Reg. No. T.C. 218 from Gumla, trench BO layer (3), Period IV a. This is a medium sized hubbed wheel with two breaks on the margin. It is 2.3 inches in diameter. It has a whitish wash. The hole is made from the hub side.

Pl. 34, No. 3 — Reg. No. T.C. 173 from Gumla, trench CO layer (3), Period IV. It is preserved only half, and is 2.7 inches in diameter. It has reddish wash.

Pl. 34, No. 4 — Reg. No. T.C. 337 from Gumla, trench AO layer (1), Period IV but disturbed by the graves. It is a small complete wheel with a diameter of 2 inches. It has also a reddish wash.

Pl. 34, No. 6 — Reg. No. T.C. 275 from Gumla found inside the circle grave No. 1 along with the burnt bones. It is very badly preserved as it is not properly baked. It is 1.5 inches in diameter.

Pl. 36, No. 1 — Reg. No. T.C. 38 from Hathala, trench A3 layer (4). It is a broken wheel with a further break at the margin and is 2.6 inches in diameter. It has a white slip on it.

Pl. 36, No. 2 — Reg. No. 80 from Hathala found on the surface. Just about half the portion is preserved. It is 4.6 inches in diameter. It has a red slip. On the side opposite the hub four spokes, painted in black are preserved. In all there should have been ten spokes.

Pl. 36, No. 3 — Reg. No. T.C. 39 from Hathala, trench A3 layer (4). This is a broken wheel with a diameter of 1.8 inches. On the hub side there is a graffiti of cross.

Cart frames

Unlike wheels the cart frames are restricted only to the top levels. They are found in period IV and also in the graves. They are of the same type as has been found at Mohenjodaro. None was found at Hathala.

Pl. 34, No. 5 — Reg. No. T.C. 319 from Gumla, trench H6 layer (1). This shows only two sides of a broken frame with a hole at the joint. There was another hole in the middle for the string.

Pl. 34, No. 7 — Reg. No. T.C. 226 from Gumla from trench CO layer (1). This also shows one long side of the frame and a little of the middle side with one hole for the pole.

Pl. 34, No. 8 — Reg. No. T.C. 118 from Gumla found on the surface. Two sides of the frame, the longer side having three holes for the upright pole and the middle side having one hole for the string.

Pl. 34, No. 10 — Reg. No. T.C. 186 from Gumla found on the surface. It has preserved the two long sides joined by a middle bar probably of the rear. There are two holes preserved. The middle bar has no hole.

E. Missiles and Triangular Cakes

Not a single terracotta missile or a triangular cake was found at Hathala. But at Gumla the surface was strewn all over with broken specimens (see Pl. 7 b). At Rahman Dheri, Hisam Dheri, Mahra Sharif and at Musa Khel they are found in large number on the surface. At Gumla complete specimens have been found only in the topmost layer but not a single piece was found in the bottom layers. This sounds rather very strange. In some of the sites like Hathala and Karam Shah they are totally absent. In a big site like Rahman Dheri they are very scarce but in the neighbouring small site of Hisam Dheri they are plentiful. The significance has been already discussed (see P. 50). Terracotta missiles are of two varieties — (a) those which are lenticular in section, (b) those which are circular in shape. Both these varieties have dimples on either face for fixing a handle. No hole is pierced through and through as we get in the examples of mace-heads from Mohenjodaro. The triangular cakes are of the usual type. These are also limited to the top level. Only selected examples are illustrated and described.

Variety (b) of terracotta missiles

Pl. 35, No. 1 — Reg. No. T.C. 229 from Gumla found on the surface. It is a complete specimen of a roughly shaped missile of lenticular section and has deep dimples on the flat sides.

Pl. 35, No. 2 — Reg. No. T.C. 228 from Gumla found on the surface. It is also a complete specimen. It is rather flattish and has shallow dimple.

Variety (b) of terracotta missile

Pl. 35, No. 3 — Reg. No. T.C. 119 from Gumla found on the surface. This is also a complete specimen circular in shape with shallow dimple on either face.

Pl. 35, No. 4 — Reg. No. T.C. 230 from Gumla found on the surface. It has a deep dimple on either face but is not well baked.

Triangular Cakes

Pl. 35, No. 5 — Reg. No. T.C. 290 from Gumla found in trench AO layer (1). It is a complete example of the cake flat in section, but is not well baked.

Pl. 35, No. 6 — Reg. No. T.C. 166 from Gumla found in trench EO layer (1). This is a rather rough example of cake, the clay being mixed with hay pieces. Not baked at all.

F. Balls, dice-throwers and others

In this group we describe the remaining miscellaneous terracotta objects found in the excavation. They include round sling balls of various sizes, a sea-shell and its terracotta copy, a dice thrower, a terracotta leg, a tiny incense burner, a tiny stand and two pieces of perforated vase. Several stone balls were also recovered. They have been described in the section of stones.

Balls

The sling balls have been found both at Hathala and Gumla. At Gumla broken

examples were strewn on the surface. The lowest depth recorded was in trench AO layer (10) i.e. period II. Here we got a broken ball registered No. T.C. 281 (not photographed). From period III we obtained a complete ball, Reg. No. T.C. 146 from trench AO layer (6). They have also been found inside the cremated graves. Most of them are baked but a few unbaked ones have also been found. The smallest ball is .5 inches in diameter. The largest is Reg. No. 199 (not photographed) measuring 2 inches in diameter. Selected examples are described below:

Pl. 36, No. 10 — Reg. No. T.C. 82 from Hathala found on the surface. This is the smallest ball, measuring .5 inches in diameter, and is very well baked. The manufacturing process is to roll it between the two palms.

Pl. 37, No. 9 — Reg. No. T.C. 342 from Gumla, trench H6 layer (1). It is a medium-sized ball, measuring .9 inches in diameter. It is not well baked and its surface is rough.

Pl. 37, No. 10 — Reg. No. T.C. 203 from Gumla, trench CO layer (1). This is also a medium-sized ball measuring 1 inch in diameter. It is very well baked but partly broken.

Pl. 37, No. 11 — Reg. No. T.C. 274 from Gumla, found inside the circle grave No. 1. It is an unbaked clay ball measuring 1.8 inches in diameter.

Pl. 37, No. 12 — Reg. No. T.C. 216 from Gumla, trench CO layer (1). This is a well-shaped complete ball measuring 1.2 inches in diameter.

Sea-Shell and its copies

Several pieces of sea-shells were found at Gumla in the top layers. Only one complete example was found. Three examples of terracotta imitation of sea-shell were also recovered. One of them bearing Reg.

No. T.C. 346 was found in trench H6 layer (1). Another T.C. 183 was found in DO layer (2). The other is a complete specimen. Both these terracotta copies have two holes on one side, obviously implying that a string was pushed through them. Such terracotta imitation suggests that they were meant for ritual purposes.

Pl. 37, No. 1 — Reg. No. T.C. 182 from Gumla, trench AO layer (2). It is almost a complete terracotta specimen imitating a sea-shell, having two holes on one side. It has white slip.

Pl. 37, No. 2 — Reg. No. Paste 5 from Gumla, trench DO layer (1). This is an actual sea-shell almost completely preserved.

Dice — Thrower

One example of pottery dice-thrower (Pl. 37, No. 3), Reg. No. T.C. 242 from Gumla, trench AO layer (11) i.e. period II of Gumla, has been found. It is 1.5 inches high. The inner cavity is 1.4 inches deep. The diameter of the rim is .9 inches. It is very well baked and has reddish slip. Its waist is slightly narrow. We did not get any example of dice or gamesmen.

A tiny leg

Pl. 37, No. 4 represents a tiny terracotta leg from Gumla, trench CO layer (1), Reg. No. T.C. 227. It is 1.8 inches long. The diameter of the base is .8 inches and that of the top is .6 inches. It has a slight curvature in the length and its bottom and top are spread out. Fairervis (see his *Quetta Valley*, Fig. 19 f and g) has illustrated two examples of broken legs. But our specimen is complete by itself. A second broken example from Gumla bears Reg. No. T.C. 317, found in trench H6 layer (1). They appear like the leg of an elephant. But why should they be imitated independently in terracotta?

A tiny incense burner

Pl. 37, No. 5 appears to be a tiny in-

cense burner from Gumla, trench AO layer (1) bearing Reg. No. T.C. 236. It is just 1.3 inches in height and its cup is .9 inches in diameter. It may have some ritual use.

A terracotta stand

Pl. 37, No. 6 is a tiny pottery stand of dumbbell shape from Gumla found on the surface. Its base is flat while the top has a slight hollow in the middle. It is very roughly made.

Perforated Wares

Pl. 37, Nos. 7 and 8 represent two pieces of perforated wares found in Gumla, trench H6 layer (1). Other examples will be discussed in the section on pottery.

G. Ritual tiny saucers and Pots,

The tiny saucers appear to be the same as the one held by a female human figurine (see title cover). There it is obviously meant to represent an offering tray. But the small size of the pots is such that they could be hardly used for the purposes of an actual offering. It is possible to use them for holding some kind of paint meant for decoration but not a single one shows any trace of such a paint. They have been found both at Gumla and Hathala. In the Gumla excavation reg. No. T.C. 189 (not photographed) was the earliest to be found in trench AO layer (6), period III. They have not been found in period II at all. They are obtained in large number in period IV and also in the cremated graves. The smallest is 1.6 inches in diameter and the largest 3.2 inches in diameter. They are of three main varieties — (a) round based saucers (b) flat saucers, and (c) flat-based saucers. Only selected examples are illustrated.

Variety (a) Round based Saucers

Pl. 36, No. 6 — Reg. No. T.C. 72 from

Hathala, area X layer (1). This is a roughly shaped saucer with a diameter of 1.7 inches. It has red slip on the upper face.

Pl. 36, No. 7 — Reg. No. T.C. 74 from Hathala, area X layer (2). This is rather a thicker type of saucer, slightly broken at the margin, measuring 2.4 inches in diameter. It has red slip on the upper face.

Pl. 36, No. 8 — Reg. No. T.C. 41 from Hathala, area X layer (2). This is a small saucer with a diameter of 1.7 inches. Traces of chocolate slip are preserved on the upper face.

Pl. 38, No. 10 — Reg. No. T.C. 222 from Gumla, trench DO layer (6), Period IV. It is a comparatively deep saucer measuring 1.6 inches in diameter.

Pl. 38, No. 11 — Reg. No. T.C. 307 from Gumla, found in circle grave No. 3. It measures 1.7 inches in diameter and has streaks of red slip on the upper face.

Pl. 38, No. 12 — Reg. No. T.C. 235 from Gumla, trench AO layer (1). This is an unslipped saucer measuring 2.2 inches in diameter.

Variety (b) Flat Saucers

This variety has been found only at Gumla.

Pl. 38, No. 13 — Reg. No. 204 from Gumla, trench AO layer (1). It is absolutely flat with only a marginal rise. It has a reddish wash and measures 2.5 inches in diameter.

Pl. 38, No. 14 — Reg. No. 175 from Gumla, trench CO layer (4). This is only half of the saucer and has a diameter of 2 inches.

Pl. 38, No. 15 — Reg. No. T.C. 201 from Gumla, trench CO layer (1). It has a red-

dish wash, and measures 1.9 inches in diameter.

Variety (c) (Not illustrated)

Reg. No. T.C. 134 from Gumla, trench DO layer (3). This is the only example found in the excavation. It is a flat based saucer with a lip. The base is only 1.1 inches in diameter while the complete saucer is 3.2 inches in diameter.

Tiny Pots

Like the saucers it is difficult to understand the use of these tiny pots. A few of them like Pl. 38 Nos. 1-3 and Pl. 36 No. 11 could be used for holding small quantity of paints or liquids but others, like Pl. 38, Nos. 7-9, are so shallow that they could hardly contain anything. They are more likely to be used for ritual purposes. These are found in almost all the sites in the Gomai Valley. At the earliest they are found in period II at Gumla but these are of a special variety. Others are found in period IV and also in the cremated graves. They fall in several varieties. Only the most common varieties are illustrated and described.

Variety (a) Round Ball type

Pl. 38, No. 2 — Reg. No. T.C. 336 from Gumla, trench AO layer (11), Period II. This is a hollow round ball type with an opening on one side. The ball is 1.3 inches in diameter and its mouth is .7 inches wide. It has reddish slip.

Pl. 38, No. 3 — Reg. No. T.C. 252 from Gumla, trench AO layer (9) period II. This is also a round ball but its base is slightly flattish. It is 1.1 inches in diameter and the mouth is .11 inches wide.

Variety (b) Straight-sided type

Pl. 36, No. 11 — Reg. No. T.C. 53 from Hathala from area X layer (2). It has a

wide flat base measuring 1.1 inches in diameter but its sides taper upward and hence the mouth is reduced to only .7 inches wide.

Pl. 36, No. 12 — Reg. No. T.C. 75 from Hathala, trench A2 layer (5). It is not very deep and is sagger-based. Its mouth is .11 inches.

Pl. 38, No. 1 — Reg. No. T.C. 312 from Gumla trench H6 layer (1). It is a flat based tapering pot. Its height is 1.2 inches and the mouth is .9 inches wide.

Pl. 38, No. 4 — Reg. No. T.C. 136 from Gumla trench DO layer (3). It is a straight sided tiny pot measuring .6 inches high and .7 inches wide at the base.

Pl. 38, No. 5 — Reg. No. T.C. 130 from Gumla, trench DO layer (3). This has a wider mouth, measuring .9 inches, than the flat base, which measures .6 inches.

Pl. 38, No. 6 — Reg. No. T.C. 195 from Gumla, trench CO layer (3). This is a faceted tiny little pot with its mouth .8 inches wide and height .5 inches.

Variety (c) Shallow little pots

These are found in large number.

Pl. 36, No. 9 — Reg. No. T.C. 40 from Hathala, trench A2 layer (4). It is a shallow pot with a diameter of .8 inches.

Pl. 38, No. 7 — Reg. No. T.C. 308 from Gumla found in circle grave No. 3. It is extremely shallow with a diameter of .9 inches.

Pl. 38, No. 8 — Reg. No. T.C. 309 from Gumla found in circle grave No. 3. This is very small, measuring only .6 inches.

Pl. 38, No. 9 — Reg. T.C. 225, from Gumla, trench CO layer (1). It measures .8 inches in width.

CHAPTER VII

METAL AND BONE OBJECTS

(a) *Metal*

Metal objects were very scarce in the excavations both at Gumla and at Hathala. At the latter site only two pieces of bronze were found on the surface. Iron was found only at one site, Kot Allahdad, on the surface. The top of this site is of a later period. At Gumla eleven objects of bronze were found. All of them are utilitarian tools. Not a single type of weapon was obtained. Two of them are chisels; one is a nail parer; six are antimony rods; and two are copper rods with a thick handle. The objects have been found in different layers in the course of excavation. A handled copper rod was found as low as trench AO layer (11), i.e. the lowest level of period II, thus proving that with the beginning of the painted pottery the people of Gumla were already using bronze. A bronze antimony rod was found in period III, trench BO layer (7), and another rod was found in trench BO layer (4). The remainder have been found in period IV.

The iron object found at Kot Allahdad is of great interest. It is broken into three pieces. Even then it is incomplete. The handle is perpendicular to the long blade. This type of bent iron knives are used today in Bannu for cutting and at the same time it is freely used for ribbing open the enemy's belly. Locally it is known as "*Lor*". Selected objects have been illustrated and described.

Hathala

1. Reg. No. Metal 1. (Not illustrated). Found on the surface. It is a broken bronze rod, measuring 2.2 inches long. This is in two pieces. The tip end side has been found. This is similar to the antimony rods found at Gumla.

2. Reg. No. Metal 1a. (Not illustrated). Found on the surface near area X. It is only a tip end bit of bronze piece of

a knife, measuring .5 inches long. The tip end is ending in a point.

Gumla

3. Pl. 39, No. 1 — Reg. No. Metal 9, found in trench DO layer (6) Period IV. This is a beautiful example of bronze chisel bent in the middle. It is 6 inches long, square in cross section, each side measuring 3 inches, and has a bevelled cutting edge. This is one of the three types of chisels found at Mohenjodaro (see Marshall. *OP. Cit.*, Pp. 501-2: Pl. CXXXV, No. 11).

4. This is another bronze chisel (Not illustrated) of exactly the same type as above found in trench H6 layer (1). This is exactly of the same size and preserved in tact.

5. Pl. 39, No. 2 — Reg. No. 4, found in trench CO layer (3). Period IV, This is a broken piece of antimony rod, only 3.4 inches of its length (the handle side) being preserved. Such antimony rods are very common in this site. We have also recovered antimony bottle of pottery. (see Pl. 87, No. 3).

6. Pl. 39, No. 8, found in trench BO layer 7. Period III. This also appears to be an antimony rod but by pressure it has been turned round. It is almost a complete piece, measuring 8 inches long. The length is exceptional.

7. Pl. 39, No. 4 — Reg. No. 2, found in trench DO layer (1). This is the tip end of the antimony rod with only 2.4 inches of its length preserved.

8. Pl. 39, No. 5 — Reg. No. 5, trench BO layer (4). Period III. This is another broken piece of antimony rod, measuring

3.2 inches long.

9. Pl. 39, No. 6 — Reg. No. 10 from trench DO layer (6), Period IV. This appears to be a handled bronze rod bent in the middle. The preserved length measures 4.1 inches. This is of the same type as No. 10 below. It seems that this was also an antimony rod but the rust from the middle part has fallen off and hence the lower portion looks like a handle.

10. Pl. 39, No. 7 — Reg. No. 7, from trench AO layer (11), Period II. This is a handled rod, measuring 5.7 inches long, and is of the same type as above.

11. Pl. 39, No. 8 — Reg. No. 13, trench H6 layer (1). Only a small piece, measuring 1.9 inches, of the antimony rod.

12. Pl. 39, No. 9 — Reg. No. 3, trench BO layer (3), Period IV. These are two broken pieces of an antimony rod. They measure together 2.4 inches long.

13. Pl. 39, No. 10 — Reg. No. 6, trench BO layer (4), Period III d. This appears to be a piece of the nail parer, preserving only 2.5 inches of the length. The cutting edge is broad and almost angular. The edge is .5 inches wide. This type of nail parer is the traditional one used in the villages.

Kot Allahdad

14. Pl. 39, No. 11 — Reg. No. 11 found on the surface. These are three pieces of an iron crooked knife called "Lor" in Bannu district. The other pieces are lost. The handle makes a right angle with the blade. The handle is 4.4 inches long and .6 inches wide. The other piece is 3.2 inches long.

(b) Bone

Bone tools were found at Mohenjodaro. They have been described by Mackay

under the heading of "Awls" (see Sir John Marshall, *Op. Cit.*, Pp. 470-71 and Pl. C XXXII, Nos. 7-12). These specimens are more developed than those found in our excavation at Gumla. They show working from top to bottom. At Amri (see Casal, *Fouilles d'Amri*, P. 156 and Fig. 123, Nos. 1-9), eight out of the nine bone objects found were obtained from Period I. Hence, Casal observes, "Peu d'outils ou d'instruments en os ont été trouvés à Amri, et la plupart d'entre eux sont confinés aux niveaux les plus anciens". His tools Nos. 1 and 2 bear close resemblance to the Gumla specimens. At Mundigak again the tools are confined to lower levels (see Casal *Fouilles de Mundigak*, Pp. 230-31. Fig. 132). Two types of tools at Mundigak, — "Poi-con" (Nos. 3 and 4, and "Crochet", No. 5 — are also represented at Gumla. But the closest resemblance comes with the bone awls and points from the Quetta Valley (see Fairervis, *Quetta*, Fig. 28). Fairervis writes: "Bone points, or awls, were most abundant in Kili Gul Mohammad I levels and occur frequently in Kili Gul Mohammad II — IV and in Damb Sadaat I context at other sites. They are frequent also in Damb Sadaat II". (*Ibid.* P. 233).

At Gumla 18 objects of bone were found. All, except No. 1, were found in period II. No. 1 was obtained in trench DO layer (6), Period IV. Eight of them are in tolerably good state of preservation. The remainder are just fragments. They fall into three main varieties — (i) awls, (ii) Points, and (iii) Spatula. Only selected specimens are illustrated and described.

Variety (i): Awls

Pl. 46, b, No. 1 — Reg. No. bone 1 — from Gumla, trench DO layer (6). This is a highly polished bone awl, measuring 2.7 inches long and is made of a round bone, one end of which has been sharpened to a point.

Pl. 46 b, No. 5 — Reg. No. bone 6 from

Gumla, trench AO layer (11), Period II. This is also a polished bone awl, measuring 3.5 inches long, made of a round bone. Flakes have been taken out from its one end and the edge is askant. It is rather rough and has a crack in the middle.

Pl. 46 b, No. 6 — Reg. No. bone 5 from Gumla, trench AO layer (11), Period II. This is a polished fat bone awl, measuring 2.7 inches long, but its working end is comparatively short.

The above three examples all belong to one category but the following two fall into second category.

Pl. 46 b, No. 3 — Reg. No. bone 9 from Gumla, trench BO layer (11), Period II. This is also a polished awl, measuring 2.5 inches long, but is made of a flat bone and has been sharpened on one side only.

Pl. 46 b, No. 7 — Reg. No. 4 from Gumla, trench AO layer (11), Period II. This is made of a rather crude bone piece,

measuring 2 inches long. The working edge has been formed by sharpening on either side.

Variety (b): Points

Pl. 46 b, No. 4 — Reg. No. 7 from Gumla, trench AO layer (11), Period II. This is a highly polished point made of a long bone measuring 3.8 inches. The sides gradually taper to a point.

Reg. No. 15 (not illustrated) from Gumla, trench AO layer (11), Period II. This is a broken tip of a highly polished point.

Variety (c) Spatula

Pl. 46 b, No. 2 — Reg. No. 14 from Gumla, trench AO layer (11), Period II. This is the only example of a broken spatula found in the excavation. It is highly polished and has a rounded end on one side.

CHAPTER VIII

BEADS, BUTTON AND BANGLES

(a) Beads

In all 24 beads were found in the excavations: one from Hathala and the remainder from Gumla. All but two were recovered from the top levels. Only one was obtained in period III and another from period II at Gumla. The graves did not yield any example. Different materials have been used for their manufacture. Twelve of them are of precious stones such as carnelian, jasper, lapislazuli and agate. Eight of them are of paste and all these are flat disc beads. Four of them are of terracotta. One type in paste has already been given. Two of terracotta are long barrel-shaped beads. One is a broken thick type of bead. The last in terracotta is a biconical bead. Only one example of etched carnelian bead — so well known from Mohenjodaro — was found here. Another carnelian bead is of square shape and the third is hexagonal. Two beads of green jasper are small barrel-shaped. One of greenish stone is lenticular in section. One of lapis lazuli is a truncated cone. The remainder are of small globular shape. They are described below.

Pl. 40, No. 1 — Fig. 8, No. 1 — Reg. No. bead 5 from Gumla, trench CO layer 4, Period IV. It is made of green jasper and is barrel-shaped.

Pl. 40, No. 2 — Fig. 8, No. 2 — Reg. No. bead 3 from Gumla, trench AO layer (6), Period III. This is also made of the same material as above and is of the same shape but smaller in size.

Pl. 40, No. 3 — Fig. 8, No. 3 — Reg. No. bead 20 from Gumla, trench H6 layer (2). This is an etched carnelian bead of barrel-shape but its one side is asymmetrical. The etching has been done with white and assumes the form of concentric ovals on two faces. Decorated carnelian beads were found at Mohenjodaro (see Marshall *Op. Cit.*, P. 515, Pl. C XLVI, Nos. 43-45).

Pl. 40, No. 4 — Fig. 8, No. 4 — Reg. No. bead 17 from Gumla, trench H6, layer (1). This is a carnelian bead having the shape of an hexagon. The hole is pierced from the two opposite sides of the hexagon.

Pl. 40, No. 5 — Fig. 8, No. 5 — Reg. No. bead 15 from Gumla, trench CO layer (6), Period IV. This is made of greenish jasper and is lenticular in section.

Pl. 40, No. 6 — Fig. 8, No. 6, — Reg. No. bead 2 from Gumla, trench EO layer (4), Period IV. This is a terracotta bead, biconical in shape. Compare Casal *Mundigak*, Fig. 138, No. 30.

Pl. 40, No. 7 — Fig. 8, No. 7, — Reg. No. bead 4 from Gumla, trench CO layer (4), Period IV. This is made of deep blue stone (perhaps lapis lazuli). In shape it is a truncated cone.

Pl. 40, No. 8 — Fig. 8, No. 8 — Reg. No. bead 8 from Gumla, trench DO layer (4), Period IV. This is a white (agate?) stone but is now broken in half. It is globular but round in section.

Pl. 40, No. 9 — Fig. 8, No. 9 — Reg. No. bead 7 from Gumla, trench CO layer (1). It is a long barrel-shaped bead of pottery.

Pl. 40, No. 10 — Fig. 8, No. 10 — Reg. No. bead 18 from Gumla, trench H6 layer (1). It is a broken pottery bead of long barrel shape.

Pl. 40, No. 11 — Fig. 8, No. 11 — Reg. No. bead 12 from Gumla, trench DO layer (2). It is a broken pottery bead of thick round type. It may have been used as a net sinker.

Pl. 40, No. 12 — Fig. 8, No. 12 — Reg. No. bead 13 from Gumla, trench CO layer (1). It is a thick square bead of carnelian with the hole worked from the opposite ends of a diagonal.

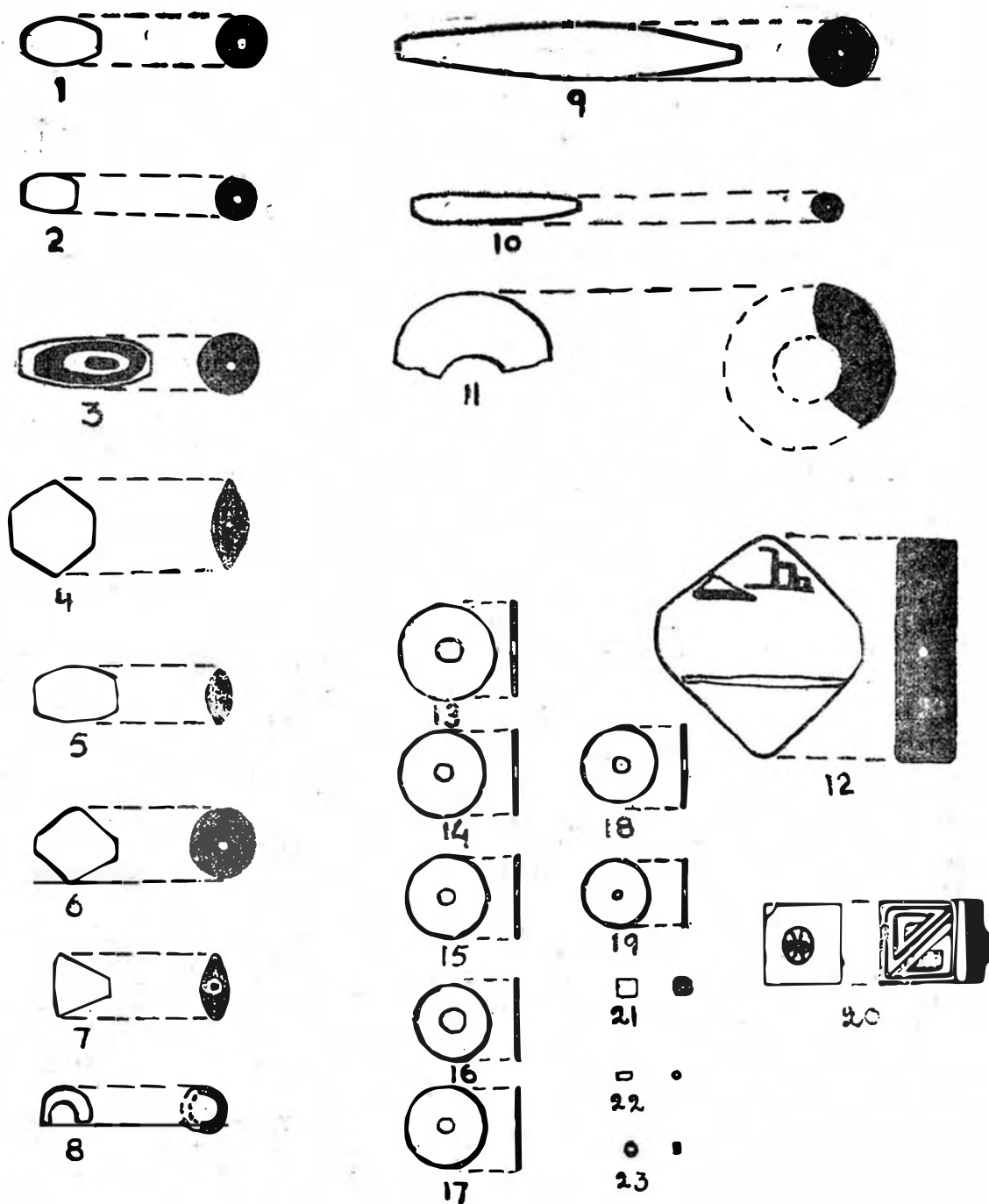


Fig. 8

Pl. 40, Nos 13-19, — Fig. 8, Nos. 13-19, all from Gumla found in the top level. They are all of paste and are disc-shaped. Reg. No. bead 1—(not illustrated). It was found on the surface at Hathala. This is a tiny paste bead of disc-shape.

Fig. 8, No. 21, Reg. No. bead 6 from Gumla trench EO layer (3), Period IV. It is a small tubular bead of blue stone.

Fig. 8, No. 22, Reg. No. bead 16 from Gumla found on the surface. This is also a tiny tubular bead of blue stone.

Fig. 8, No. 23, Reg. No. 11 from Gumla trench AO layer (9), Period II. This is a tiny round bead of white stone. This is the only bead in such a low level.

(b) Button

Only one button was found at Gumla in trench DO layer (2) (Pl. 40, No. 20 and Fig. 8, No. 20). This is made of paste and makes a perfect square except for a little break at one corner. At the back there is a bulb with a perforation for attachment to the dress. On the front side there is a linear decoration, which looks like a cross but it is not a cross. A diagonal in the middle of the square divides the space into two, each having an exactly the same crooked pattern. This may have had some magic concept. It is a variation of magic symbols. For other design on a button from Mundigak see Casal, Fig. 131, No. 16.

(c) Bangles

Bangles and pot-sherds are numerous in all these sites. It seems that there was probably a custom of breaking them and throwing away. Among the Indians it is a practice of the ladies, when widowed, to break their bangles and throw them away. In modern Muslim graves in this region we have noticed a practice of breaking the pots and throwing the pieces on the graves. In the prehistoric graves at Gumla, Ha-

thala and Karam Shah we have observed the broken pot-sherds being used as supports for the buried skeleton. However, it is difficult to be certain about the exact idea of breaking the bangles and throwing them away in such a large number on the sites.

Only two kinds of materials have been used for making bangles. Bangles made of conch shell, only five examples have been found. One of them, Reg. No. B 333 was found in Gumla, trench AO layer (5), Period III. The remainder shell bangles were found in the upper levels. Terracotta bangles are the largest in number. They are either burnt red or blackened in reduced atmosphere. The black ones are lighter than the red terracotta bangles. The bangles may be grouped under two broad categories: (i) Plain bangles, and (ii) decorated bangles. Plain bangles are found all through from period II onward at Gumla. No bangle has been found in Period I. We did not get a single piece of decorated bangle in period II. We get this category of bangles from period III onward and they are all in black terracotta. The plain bangles may further be subdivided into smaller groups of (a) simple single coil. (b) bifoliate, (c) trifoliate (d) quatre-foliate (e) multi-foliate. Again the subgroup (a) may further be classified into (a 1) flat sectioned bangles, (a 2) triangular sectioned bangles, (a 3) rectangular sectioned bangles, and (a 4) round sectioned bangles. From chronological point of view (a 2), i.e. triangular sectioned bangles are most important. In Period II at Gumla this is the main type. Out of the 40 specimens found in this period only one (Reg. No. B 627) was found to be rectangular sectioned i.e. type (a 3). The rest were all triangular sectioned. This type gradually reduces in the upper layers. In the top layers they are extremely rare.

We have selected representative types from the stratigraphic levels at Gumla and illustrated them in five plates as they fall

in different periods. From Gumla alone we picked up 635 bangle pieces. It is impossible to describe them all. From Hathala similar number was collected but as these are not stratified, they have neither been illustrated nor described, except one, Reg. No. T.C. 19 (Pl. 36, No. 4) a complete simple bangle of red terracotta, round in section. Four of the shell bangle pieces are rectangular in section. Only one is illustrated (Pl. 44, No. 8).

Plate 41: Gumla (Period II)

1. Reg. No. B 586, trench AO layer (9). A piece of red terracotta bangle, triangular in section.
2. Reg. No. B 599, trench AO layer (9), same as above.
3. Reg. No. B 616, trench AO layer (11), same as above.
4. Reg. No. B 628, trench BO layer (11), same as above.
5. Reg. No. B 620, trench AO layer (11), same as above.
6. Reg. No. B 614, trench BO layer (9). A complete bangle of blackish colour, very rough, triangular in section.
7. Reg. No. B 627, trench AO layer (11). A rectangular sectioned red terracotta bangle piece. This is the only example of this type found in this period.
8. Reg. No. B 624, trench AO layer (11). A piece of black terracotta bangle, triangular in section.
9. Reg. No. B 590, trench AO layer (9), same as No. 8.
10. Reg. No. B 589, trench AO layer (9), same as above.
11. Reg. No. B 623, trench AO layer (11), same as above.

Plate 42: Gumla (Period III)

1. Reg. No. B 542, trench BO layer (8). A red terracotta bangle piece, triangular in section.
2. Reg. No. B 582, trench AO layer

(6), same as above.

3. Reg. No. B 535, trench BO layer (6), same as above.
4. Reg. No. B 293, trench BO layer (4). A black terracotta bangle piece, triangular in section.
5. Reg. No. B 272, trench BO layer (4). A red terracotta bangle piece, rectangular section.
6. Reg. No. B 579, trench AO layer (4). A complete bangle of red terracotta, round in section.
7. Reg. No. B 368, trench AO layer (6). A red terracotta bangle piece flat in section.
8. Reg. No. B 276, trench BO layer (4). A black terracotta bangle piece, rectangular in section.
9. Reg. No. B 319, trench AO layer (4). A red terracotta bangle piece, round in section.
10. Reg. No. B 334, trench AO layer (5). A terracotta bangle piece, rectangular in section.
11. Reg. No. B 285, trench BO layer (4). A black terracotta bangle, round in section.
12. Reg. No. B 540, trench BO layer (8). A black terracotta bangle, triangular in section.
13. Reg. No. B 541, trench BO layer (8), same as above.
14. Reg. No. B 507, trench BO layer (7), same as above.

Plate 43: Gumla (Period III)

1. Reg. No. B 500, trench BO layer (7). A bifoliate black terracotta bangle piece.
2. Reg. No. B 273, trench BO layer (4), same as above.
3. Reg. No. B 493, trench AO extension layer (4), same as above.
4. Reg. No. B 323, trench AO layer (4), same as above.
5. Reg. No. B 566, trench AO layer (4). A trifoliate black terracotta bangle piece.
6. Reg. No. B 564, trench AO layer

- (4), same as No. 5.
7. Reg. No. B 559, trench AO layer (4). A black terracotta bangle piece incised with zigzag linear lines.
 8. Reg. No. B 552, trench AO layer (4), same as No. 7.
 9. Reg. No. B 561, trench AO layer (4), same as No. 7.
 10. Reg. No. B 558, trench AO layer (4), same as No. 7.
 11. Reg. No. B 333, trench AO layer (5). A conch shell bangle piece having six foliate ridges.
 12. Reg. No. B 554, trench AO layer (4), same as No. 7.
 13. Reg. No. B 525, trench BO layer (4), same as No. 7.
 14. Reg. No. B 539, trench BO layer (8), same as No. 5.
 15. Reg. No. B 567, trench AO layer (4), same as No. 14.
 16. Reg. No. B 557, trench AO layer (4). A black terracotta bangle piece decorated with vertical lines on quatre-foliate bangle piece.
 17. Reg. No. B 524, trench BO layer (4), same as No. 7.
 18. Reg. No. B 560, trench AO layer (4), same as No. 7.
- further decorated with finger impressions on the edges.
7. Reg. No. B 432, trench EO layer (5). A red terracotta bangle piece, triangular in section with the same impressions as in No. 6.
 8. Reg. No. B 102, from surface. Conch shell bangle piece, rectangular in section.
 9. Reg. No. B 455, trench CO layer (2). A black terracotta bangle piece, quatre-foliate in section.
 10. Reg. No. B 107, surface, same as No. 9 but bigger in width.
 11. Reg. No. B 574, trench CO layer (5). It is a unique type of black terracotta bangle piece, extremely thin in section, incised with six lines on the inner and outer side in imitation of the foliate ridges.
 12. Reg. No. B 580, trench EO layer (4), same as No. 9 above.
 13. Reg. No. B 433, trench EO layer (5), same as No. 9 above.
 14. Reg. No. B 575, trench DO layer (4), same as No. 9 above.
 15. Reg. No. B 476, trench DO layer (3). A black terracotta bangle piece, cinque-foliate in section.
 16. Reg. No. B 543, trench CO layer (5). A black terracotta bangle piece with the same decoration as in No. 7 on Pl. 43.
 17. Reg. No. B 366, trench EO layer (3), same as No. 16.
 18. Reg. No. B 498, trench AO layer (3). A black terracotta bangle piece with incised lines across the width.
 19. Reg. No. B 550, trench AO layer (3), same as No. 16 above.
 20. Reg. No. B 585, trench DO layer (5), same as No. 16 above.
 21. Reg. No. B 544, trench CO layer (5), same as No. 16 above.
 22. Reg. No. B 313, trench AO extension (1). A bifoliate black terracotta bangle piece decorated as in No. 16 above. Such a decoration on a bifoliate bangle is rare.

Plate 44: Gumla (Period IV)

1. Reg. No. B 486, trench CO layer (4). A black terracotta bangle piece, trifoliate in section.
2. Reg. No. B 485, trench CO layer (3). A black terracotta bangle piece, bifoliate in section.
3. Reg. No. B 199, trench CO layer (2), same as above.
4. Reg. No. B 208, trench CO layer (2). A black terracotta bangle piece, rectangular in section.
5. Reg. No. B 230, trench DO layer (3). A black terracotta bangle piece, round in section.
6. Reg. No. B 237, trench AO layer (3). A black terracotta bangle piece, triangular in section and

23. Reg. No. B 487, trench CO layer (4). A black terracotta bangle piece decorated with criss-cross design.
24. Reg. No. B 514, trench CO layer (3). A bifoliate black terracotta bangle piece.
25. Reg. No. B 210, trench CO layer (2). A black terracotta bangle piece rectangular in section.

Plate 45: Gumla

1. Reg. No. B 547, trench CO layer (5), period IV. A red terracotta bangle piece of large size, round in section.
2. Reg. No. B 341, trench CO layer (3), period IV, same as No. 1.
3. Reg. No. B 213, trench CO layer (2), period IV. A black terracotta bangle piece, round in section.
4. Reg. No. B 221, trench DO layer (3), period IV. A complete red terracotta bangle, round in section.
5. Reg. No. B 220, trench DO layer (3), period IV. A complete bangle as No. 4.
6. Reg. No. B 186, trench CO layer (2), period IV. A red terracotta bangle piece, flat in section.
7. Reg. No. B 184, trench CO layer (2), period IV. A very thick red terracotta bangle piece, rectangular in section.
8. Reg. No. B 222, trench DO layer (3), period IV. A complete red terracotta bangle, round in section.
9. Reg. No. B 461, trench AO layer (1), period IV. A black terracotta bangle piece, flat in section.
10. Reg. No. B 109 surface. A red terracotta bangle piece (not well fired), having a series of lines incised on one face.

CHAPTER IX

STONE OBJECTS

Stone objects are found in quite a good number all through the periods. Beginning from the earliest occupation period at Gumla they are uniformly found in almost all the layers. Period I at Gumla has only stone microlithic tools and utility objects. We find there a type of saddle-quern (Pl. 47 b, No. 1) that persists right to the end. At Hathala the same type is used to cover the mouth of an urn burial (Pl. 18 b). This type has a very wide distribution from Mundigak (See Casal, *Op. Cit.*, Pl. XXXVIII. D) to Mohenjodaro (see Marshall, *Op. Cit.*, Pl. C XXX, 16 and 17). They are also found in the Quetta Valley (see Fairervis Fig. 40). We have also got a large number of stone balls, probably used as sling balls. Some clay balls were also found in the excavation. Only one specimen, Pl. 49, No. 5 has been illustrated. There is another type of stone objects, appearing like a truncated cone, and apparently seem to be weights but are of very rough stone and are usually found placed under the buried human bones as supports. We have actually found one specimen (Pl. 46 a, No. 2) of weight made of banded stone. It is almost a cube in shape. One broken mace-head (Pl. 46 a, No. 3) was also recovered. Some flesh rubbers (Pl. 46 a, Nos. 4 and 6) and a piece of sharpener (Pl. 46 a, No. 7) and one polished tool (Pl. 46 a, No. 1) were recovered from Gumla. However, the most important discovery is of the microliths, which exhibit variations in type in the different periods at Gumla. Their details are discussed below. It is necessary again to remark that in this Gomal plain, which is south of the Salt Range, ground stone tools are not found below the pottery level, as we get at Saraikhola near Taxila and in other sites north of the Salt Range. This division of cultural patterns by the Salt Range must be borne in mind. The selected specimens are described below plate by plate.

Pl. 46 a: Gumla

1. Reg. No. 45 found inside Circle

grave No. 3. It is four inches long. Signs of pecking are seen on either face of the tool. The edge is ground but the cutting edge has now become blunt. At this time it was probably used as a pestle.

2. Reg. No. 17, trench EO layer (1), period IV. It is a stone weight and makes a rough cube measuring 1.2 inches. Its upper and lower sides are flat but the vertical sides have been roughened probably to make it round.

3. Reg. No. 9 found on the surface. It is a broken mace-head with a diameter of 3.4 inches and the hole has a diameter of one inch.

4. Reg. No. 42, trench BO layer (11), Period II. It is a very rough type of flesh rubber measuring 2.2 inches in length.

5. Reg. No. 31, trench CO layer (4), Period IV. It is long and barrel shaped with one end broken and appears to be used as a spindle whorl. Now it is 2.2 inches long.

6. Reg. No. 32 found inside circle grave No. 1. It is a long flesh rubber measuring 4.2 inches long.

7. Reg. No. 18, trench AO layer (7), period III. It is a small sharpener, now roughened, rectangular in shape, measuring 2.2 inches by 1.3 inches.

Pl. 47 a

1. Reg. No. 15, Gumla, found on the surface. It makes a rough truncated cone measuring 2.5 inches in length. Its use is uncertain but see the remarks in the first paragraph.

2. Reg. No. 23, Gumla, found on the surface. Similar as above. Its length is 2.3 inches.

3. Reg. No. nil, found in Hathala, trench CO layer (3). It is similar to above but its top end is narrow. It is 2.1 inch long. It has a hole for string in the lower side.

4. Reg. No. 1 from Hathala, trench CO layer (2). It is almost rounded but its lower end is flat.

5. Reg. No. 27, Gumla, trench AO layer (1). Same as No. 1. It is 2.3 inches long.

Plate 47 b: Gumla (Period I)

1. Reg. No. 47 a and b — trench BO layer (12). It is a stone saddle-quern broken into two parts. It was made by pecking in such a fashion that the side ends rise up. The middle portion has become smoothed, suggesting the use for grinding. This use is a proof to show that period I was a neolithic stage, although no ground tools were found here.

2. Reg. No. 49, trench BO layer (12). It is a big size stone ball, 2.8 inches in diameter.

3. Reg. No. 48, trench BO layer (12). It is a rubbing stone measuring 3 inches in length.

4. Reg. No. 5, trench BO layer (12). It is a stone ball but flat on two faces. It is 2.5 inches in diameter.

5. Reg. No. 55, trench BO layer (12). It is a rough stone ball, measuring 1.2 inches in diameter.

6. Reg. No. 51, trench BO layer (12). It is a smoothed stone ball, having 1.5 inches in diameter.

7. Reg. No. 53, trench BO layer (12). A small ball measuring .8 inches in diameter.

8. Reg. No. 54, trench BO layer (12).

An elongated ball measuring 1.5 inches in length.

Plate 48: Hathala

1. Reg. No. 4, trench Y layer (2) in a grave pit. This is a stone saddle-quern, measuring 15.4 inches by 6.4 inches wide in the middle. Its lower side is rough and the top face has been pecked except at either end. There is hardly any sign of use on the pecked face. As it covered the mouth of a burial jar, which contained ashes, it is probable that the stone was specially prepared for this purpose. The cremated burial belonged to a later period.

2. Reg. No. 5, trench AO layer (5). This is a broken saddle-quern of sandstone. The existing portion measures 9.5 inches by 7.7 inches. The top face shows the sign of use.

3. Reg. No. 7, trench AO layer (7). It is a small rubbing stone made of a natural pebble. The lower portion has been smoothed by rubbing. It is 3.7 inches long and 2.2 inches wide.

4. Reg. No. 6, found on the surface. This is a long pestle of granite made by pecking. Its one side shows the smoothed surface. It is 8.6 inches long.

5. Reg. No. 3, trench AO layer (7). This is also a broken saddle-quern, found in a thick deposit of ash and charcoal. It is exactly of the same type and material as No. 2 above. The existing portion measures 8.3 inches by 7 inches.

6. Reg. No. 8, trench AO layer (7). It is a stone ball with two flattish faces. It is 3.1 inches in diameter.

Plate 49: Gumla

1. Reg. No. 26, trench EO layer (3). Period IV. A stone ball, 1.4 inches in diameter.

2. Reg. No. 10, found on the surface, made of lime stone, round sling ball, 1.5 inches in diameter.

3. Reg. No. 52, trench BO layer (12), Period I, same as above but rather rough, 1.3 inches in diameter.

4. Reg. No. 16, found on the surface. Stone ball but cracked on one face, 1.9 inches in diameter.

5. Reg. No. 21, trench CO layer (1). Surface rough. 1.4 inches in diameter.

6. Reg. No. 12, found on the surface. Stone ball, broken on one side, 1.4 inches in diameter.

7. Reg. No. 11, found on the surface. Very rough. 1.4 inches in diameter.

8. Reg. No. 14, found on the surface. Surface is rough. 1.3 inches in diameter.

9. Reg. No. 19, trench BO layer (4), Period III. A rough clay ball, 1.6 inches in diameter. The clay balls are rare at this site.

10. Reg. No. 29, trench CO layer (2). Stone ball broken in half, 1.6 inches in diameter. (The registered number on the plate is wrong).

11. Reg. No. 13, found on the surface. A small stone ball measuring .9 inches in diameter.

12. Reg. No. 44, found in the circle grave No. 1. It is broken into half, 2.3 inches in diameter. (The registered number on the plate is wrong).

Plate 50: Gumla

1. Reg. No. 20, trench BO layer (4), Period III. A big size ball of granite, flat on two faces, measuring 2.1 inches in diameter.

2. Reg. No. 40 (36), found in circle grave No. 3. Similar to above but made of quartzite, same size as above.

3. Reg. No. 43 (39), trench AO layer (11), Period II. A rough round stone, flat on two faces, measuring 2.4 inches in diameter.

4. Reg. No. 22, found on the surface, of limestone, flattish on two faces, measuring 1.9 inches in diameter.

5. Reg. No. 28 (24) trench BO layer (1). Stone ball, flattish on two faces, measuring 2.8 inches in diameter.

6. Reg. No. 35 (31), trench AO layer (11), Period II. It is a flattish type of ball, made of granite, measuring 2.8 inches in diameter.

Plate 51: Gumla

1. Reg. No. 34 (30), trench AO layer (11), Period II. Facetted stone ball, having a diameter of about 2.5 inches.

2. Reg. No. 30 (26), trench AO layer (11), Period II. Irregular stone ball, measuring 2.3 inches in diameter.

3. Reg. No. 22, found on the surface. A rough surfaced ball, 2.2 inches in diameter.

4. Reg. No. 67 (61), trench H6, layer (1). A thick flat slab, rectangular in shape 6.2 inches by 4.3 inches, probably used as anvil base.

5. Reg. No. 37 (33), trench H6 layer (1). An irregular stone ball of limestone, measuring 2.3 inches in diameter.

Plate 52: Gumla

1. Reg. No. 46 (42), trench BO layer (11), Period II. A stone pestle, 4.2 inches long and 3 inches in diameter.

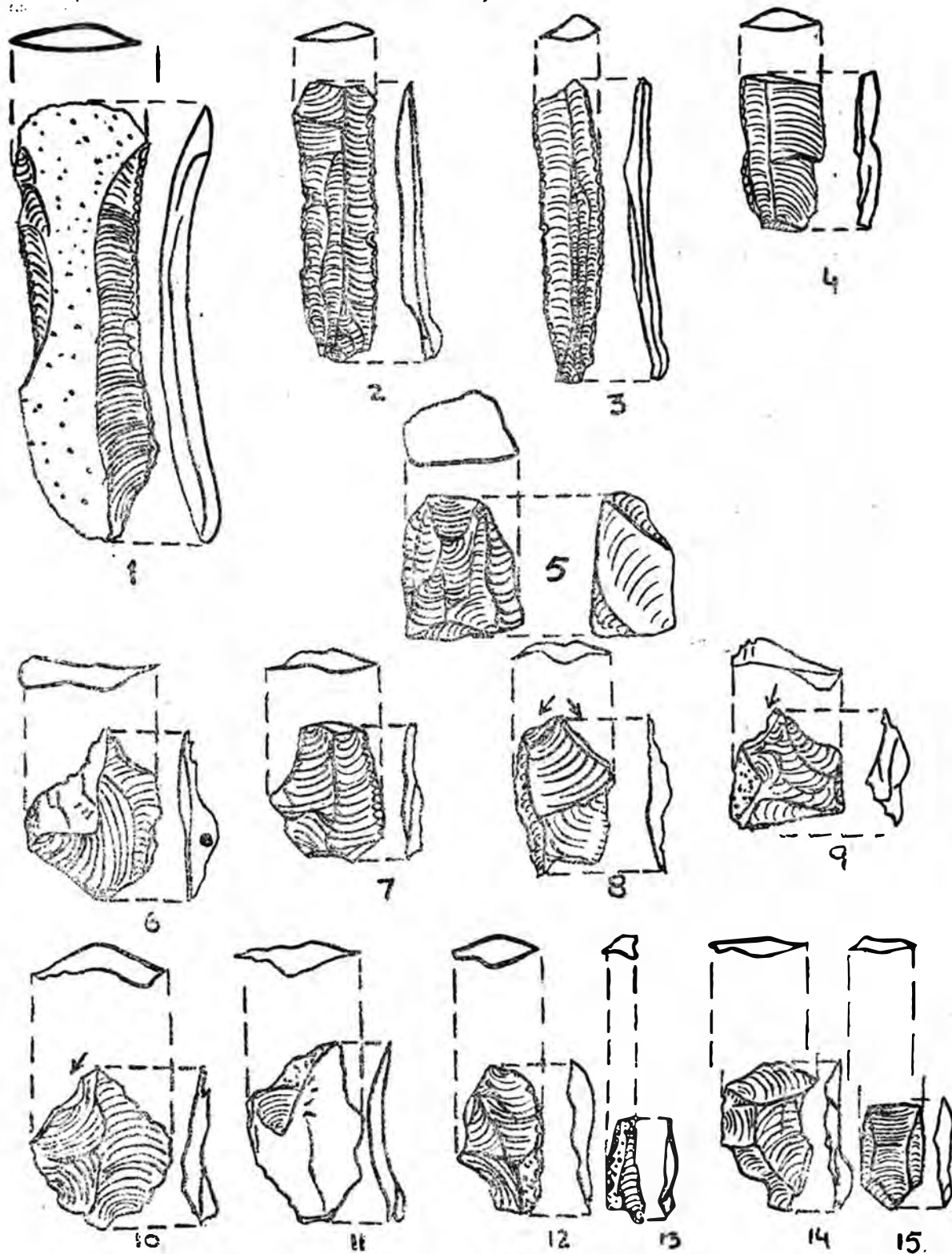


Fig. 9

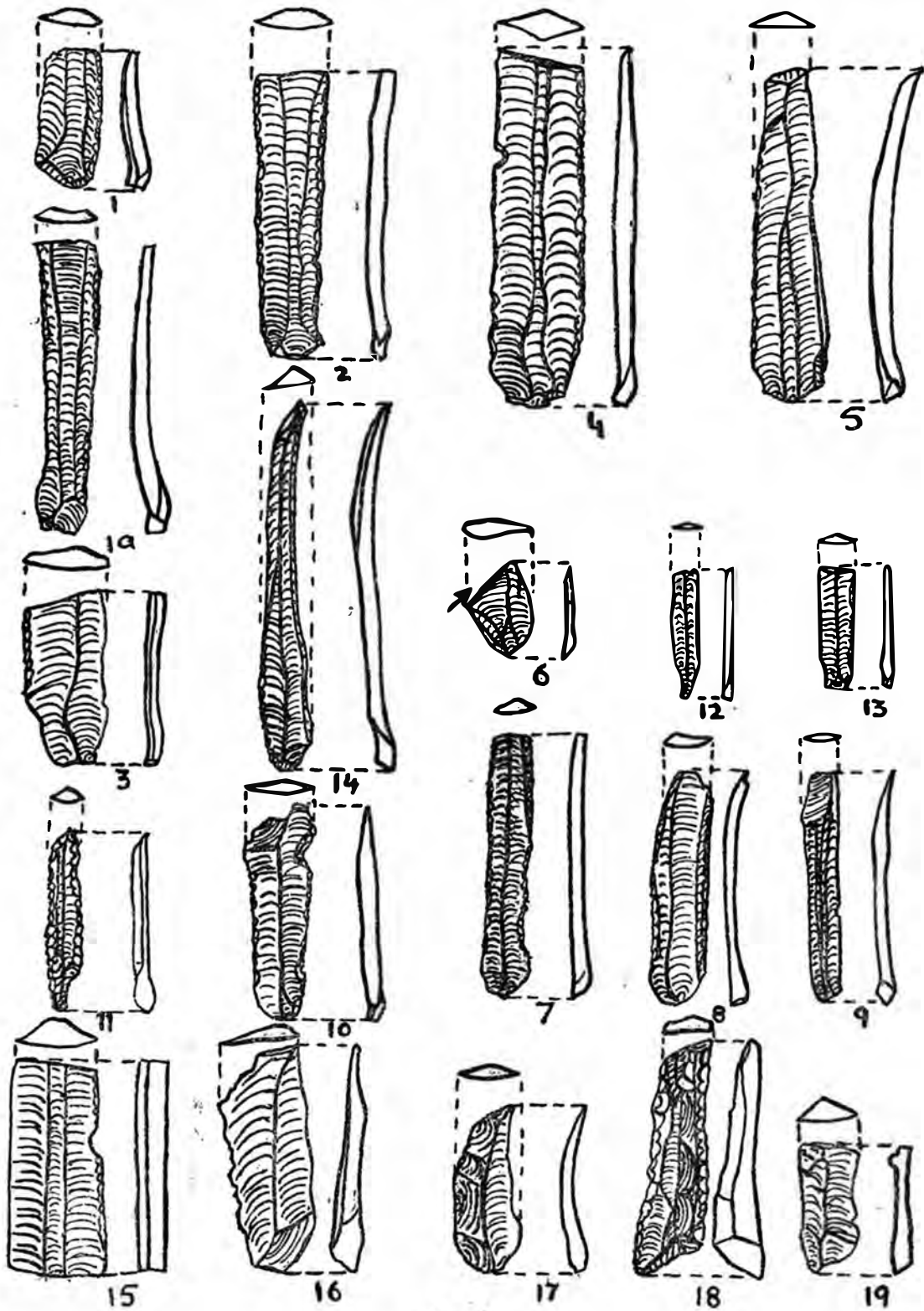


Fig. 10

2. Reg. No. 65 (59), trench H6, layer (1). A stone rubbing stone, comparatively flat and thin, measuring 5.3 inches long and 1.1 inch thick. One end is also used for pounding.

3. Reg. No. 64 (58), trench H6, layer (1). A rubbing stone of quartzite, 3.2 inches long. One face has signs of use.

4. Reg. No. 66 (60), trench AO layer (11), Period II. A flat stone probably used as anvil base rectangular in shape, 4.4 inches by 3 inches.

5. Reg. No. 68 (66), trench AO layer (11), Period II. A stone pounder, round in section, 2.9 inches in diameter and 4.5 inches long. Its two ends have signs of use.

Microliths

Microliths are found widely scattered in all these sites. From Hathala seventy-seven specimens were obtained. At Gumla eighty-nine examples were found in the excavation. As clear stratigraphy was established at Gumla, the tools found there have been described and illustrated period-wise but at Hathala because of the disturbance by later Muslim graves we are not sure of the actual sequence. The study of tools at Gumla show a clear evolutionary trend and for the first time place at our disposal a sequence that was hitherto known from different sites in Quetta Valley and in the Indus plains. The choice of the material is limited. Major share is taken by tools of chert and flint of various shades. About half a dozen examples in red jasper were recovered. Only one example in yellow chalcedony from Hathala (Pl. 58, No. 5) is what the late Dr. B. Subba Rao ("Chalcolithic blade industry of Mahesvara", in *Bulletin of the Deccan College Research Institute*, XVII, 1956), calls the crested ridge flake. Two rejuvenated flakes were found in period II Fig. 10, Nos. 17 and 18). The tools found in period I at Gumla (Fig. 9) are most interesting. They should be studied

in conjunction with the stone objects illustrated in Pl. 47 b. These two together give us an idea of the economy of this period. In this period not a single pot-herd was found. Only two community ovens with a bovine leg bone piece were observed. Unfortunately there is a break in between this period and that which follows in period II, the latter heralding the introduction of bronze, fine painted pottery, terracotta human figurines, animal and other household objects. Obviously we find considerable change in the tool types of period II, as can be seen in Fig. 10. The gap in between should give us the missing link of the hand-made pottery and intervening tool types. However, we must note some significant evolutions, e.g., compare Fig. 9, No. 11 with Fig. 10, No. 17. In period I only two parallel sided blades were found Fig. 9, Nos. 2 and 4). In period II the parallel sided blades are nearly fifty per cent. In period IV this type is the main find. Only one example of tapering blade (Fig. 9, No. 3) was recovered in period I. But in period II thin tapering blades (Fig. 10, Nos. 8-14) are found in good number. Only one core (Fig. 9, No. 5) was found in period I. Even later cores are rare. From Hathala a few fluted cores were recovered (Pl. 58, Nos. 2 and 3). In period I one burin (Fig. 9, No. 8, was obtained. There was also one tranchet (Fig. 9, No. 15). About half the number of tools were flakes in period I. In period II the flakes are considerably reduced in number and later they are very scarce. Only selected tools have been illustrated and described.

Fig. 9 Gumla: Period I

1. Reg. No. F. 166, trench AO, layer (12). This is a long flake-blade measuring 3 inches in length. In this specimen the flint is encrusted on to the chert, which is on the underside. The original surface is preserved on the flint. The lengthway sides have been further flaked to remove the flint and use the chert edge, which shows the signs of use, as shown in the figure

2. Reg. No. F. 167, trench AO, layer (12). This is almost a parallel sided blade of blackish chert, measuring 1.9 inches long, triangular in section. The sides show marks of use.

3. Reg. No. F. 168, trench AO layer (12). This is a tapering blade of flint with the bulb of percussion at the narrow side. It is 2.1 inches long.

4. Reg. No. F. 169, trench AO layer (12). This is a broken parallel sided blade, triangular in section. The existing portion measures 1.1 inches. It is of pale chert.

5. Reg. No. F. 72, trench AO layer (12). This is a small core of reddish jasper measuring one inch long. Several flakes have been taken out from this core as is shown in the figure.

6. Reg. No. F. 170, trench AO layer (12). This is a very thin flake of blackish chert, 1.2 inches long and .9 inch broad, probably used as an awl.

7. Reg. No. F. 171, trench AO layer (12). This is another thin flake of pale chert, measuring .85 inches in length. The side edges show the marks of use.

8. Reg. No. 182, trench BO layer (12). This is also extremely thin, having a burin point deliberately made as shown in the figure. It is made of black chert.

9. Reg. No. F. 183, trench AO layer (12). This is a flake of flint showing an awl edge at one end, as is shown in the figure. It measures .8 inches by .7 inches.

10. Reg. No. F. 184, trench AO layer (12). This is almost a leaf-shaped flake with a rough central ridge. Attempt is made to make an awl edge. It is of flint and measures 1.1 inches by .95 inch.

11. Reg. No. F. 185, trench AO layer (12). This is a typical example of a leaf-

shaped flake, but slightly broken at the top left edge. It is made of flint, and measures 1.3 inches in length.

12. Reg. No. F. 188, trench AO layer (12). This is a flake scraper of flint, measuring one inch long, with a narrow end, probably for hafting. The curved edge shows marks of use.

13. Reg. No. F. 189, trench AO layer (12). This is the smallest flake of flint, measuring .6 inches long, showing marks of use at the curved side. It was probably hafted.

14. Reg. No. F. 186, trench AO layer (12). This is also a leaf-shaped flake of flint, measuring one inch long, more or less similar to No. 12 but edges are broken. It does not seem to have been used.

15. Reg. No. F. 187, trench AO layer (12). This is a beautiful example of tran-
chet of flint, measuring .7 inches long. It has a small cutting edge at the broad end.

In this period only fifteen microliths were found by us. All of them have been described here.

Fig. 10 — Gumla, Period II

1. Reg. No. F. 180, trench BO layer (11). It is a small parallel sided blade of black chert, .9 inches long, trapezoidal in section.

1 a. Reg. No. F. 178, trench BO layer (11). It is a tapering blade of black chert, measuring 1.9 inches long, trapezoidal in section. The bulb of percussion is at the narrow end.

2. Reg. No. F. 156, trench BO layer (11). It is a slightly tapering blade of black chert, measuring 1.8 inches long, trapezoidal in cross section. The bulb of percussion is at the narrow end.

3. Reg. No. F. 176, trench BO layer (11). This is a broken blade of black chert, measuring 1.1 inches long, slightly trapezoidal in section. The bulb is at the narrow end.

4. Reg. No. F. 181, trench BO layer (11). This parallel sided blade is broken into two. It is made of black chert and measures 2.3 inches long. In section it is slightly trapezoidal.

5. Reg. No. F. 177, trench BO layer (11). This is a tapering blade of black chert, measuring 2.2 inches long, triangular in section. The bulb is at the narrow end.

6. Reg. No. F. 153, trench AO layer (11). This appears to be a tiny flake point of black chert, measuring .6 inches long. It has been struck from the side, as is shown in the figure.

7. Reg. No. F. 147, trench AO layer (11). It is a parallel sided blade of black chert, measuring 1.7 inches long, triangular in section. This is a new category of blade, long and thin. It is comparatively narrow in width. The bulb is at the lower end. Henceforth we will call this type as category (ii) type of blade. We did not get a single specimen of this category in period I.

8. Reg. No. F. 179, trench BO layer (11). It is a parallel sided blade of black chert, measuring 1.5 inches long, trapezoidal in section. Though this is also not so long, still it belongs to category (ii).

9. Reg. No. 191, trench AO layer (11). This is a typical example of category (ii) type of blade of black chert, measuring 1.5 inches long, very thin and narrow in width.

10. Reg. No. 165, trench BO layer (11). It is a tapering blade of pale chert, measuring 1.4 inches in length, trapezoidal in section, with its bulb at the narrower end. There is a notch towards the upper end.

11. Reg. No. 150, trench AO layer (10).

This is a typical example of a backed blade of black chert with its lower end deliberately made narrow for hafting. The cutting edge shows marks of use. It is 1.15 inches long. This belongs to category (ii).

12. Reg. No. 164, trench BO layer (11). This is a very fine narrow and thin blade of pale chert, measuring .8 inches long. This has its lower end made deliberately narrower. This belongs to category (ii).

13. Reg. No. 149, trench AO layer (10). This is a tapering blade of pale chert triangular in section, measuring .8 inches long. The bulb is at the lower end and also shows a notch at either side.

14. Reg. No. 163, trench BO layer (11). This is a long thin tapering blade of black chert, measuring 2.4 inches long, triangular in section. The bulb is at the broad lower end. This belongs to category (ii).

15. Reg. No. 175, trench BO layer (11). This is a parallel sided blade of flint, broken at either end, trapezoidal in section. Its one edge shows a break. It now measures 1.4 inches long.

16. Reg. No. 146, trench AO layer (11). This is a saw-tooth edged blade of flint, measuring 1.5 inches long. One end is narrower for hafting.

17. Reg. No. 152, trench AO layer (11). This is a leaf-shaped scraper of flint, measuring 1.1 inches long. This is actually a rejuvinated flake.

18. Reg. No. 139, trench AO layer (10). This is a tapering blade of flint, trapezoidal in section, 1.5 inches long.

19. Reg. No. 151, trench AO layer (10). This is a small parallel sided blade of black chert, measuring .8 inches long, triangular in section.

Plate 53: Gumla Period III

1. Reg. No. 157, trench AO layer (8).

This is a side scraper of red jasper, almost triangular in shape. The scraping edge is made by retouching. Its top face retains the cortex. (The photo is upside down).

2. Reg. No. F. 161, trench AO layer (8). This is a long side scraper of flint, measuring 2.1 inches long, trapezoidal in section. One end is narrowed for hafting.

3. Reg. No. F. 160, trench AO layer (8). This is a small parallel sided blade of pale chert, measuring 1.1 inches long. (The photo is upside down).

4. Reg. No. F. 159, Trench AO layer (8). This is a parallel sided blade triangular in section of flint.

5. Reg. No. F. 158, trench AO layer (8). This is a very long parallel sided blade of flint, triangular in section, measuring 3.25 inches long. Both the sides show marks of use.

6. Reg. No. F. 131, trench AO layer (4). This is a rough tapering flake of pale chert, measuring 1.9 inches long, triangular in section. (The photo is upside down).

7. Reg. No. F. 146, trench AO layer (5). This is a small side scraper of pale chert, measuring .8 inches long, triangular in section.

8. Reg. No. F. 133, trench AO layer (4). This is a thin side scraper of flint, measuring .95 inches long, triangular in section.

9. Reg. No. F. 132, trench AO layer (4). This is a small side scraper of pale chert, measuring .5 inches long, triangular in section.

10. Reg. No. F. 125, trench BO layer (7). This is a broken blade of black chert, trapezoidal in section, now measuring .8 inches long.

11. Reg. No. F. 141, trench AO layer (7). This is almost a rectangular scraper, the upper edge being broken. It is made of flint. There is no sign of use.

12. Reg. No. F. 129, trench BO layer (6). This is a side scraper, one face retaining the cortex, of flint, measuring 1.1 inches long.

Gumla: Period IV

Plate 53

13. Reg. No. F. 142, trench CO layer (5). This is a well developed leaf-shaped scraper of pale chert showing the crested ridge technique, measuring 1 inch long.

Plate 54

1. Reg. No. F. 115, trench CO layer (2). This is a backed knife blade of flint, measuring 1.4 inches long. (The photo is upside down).

2. Reg. No. F. 134, trench CO layer (1). This is a parallel sided flake blade of flint, trapezoidal in section, now measuring 1.2 inches long.

3. Reg. No. F. 113, trench BO layer (3). This is a tapering flake of flint, with a notch on one side, measuring 1.5 inches long.

4. Reg. No. F. 127, trench AO layer (3). This is a ribbon flake of flint, triangular in section, measuring 2.5 inches long.

5. Reg. No. F. 173, trench AO layer (1). This is a thin parallel sided blade of pale chert, measuring 2.3 inches long. This is of category (ii).

6. Reg. No. F. 137, trench BO layer (3). This is a rough and broken blade of black chert, measuring 1.5 inches long.

7. Reg. No. F. 114, trench CO layer

(1). This is a parallel sided flake blade triangular in section, measuring 1.6 inches long.

8. Reg. No. F. 128, trench AO layer (3). This is a parallel sided blade of black chert, trapezoidal in section, measuring one inch long.

9. Reg. No. F. 116, trench CO layer (2). This is a side scraper of pale chert, measuring .8 inches long.

10. Reg. No. F. 123, trench (1). This is also a backed knife blade of flint, measuring .8 inches long.

8. Reg. No. F. 101, surface. This is an end and side scraper made on a flake of flint, measuring 1.8 inches long.

9. Reg. No. F. 193, surface. This is a tapering flake of flint, trapezoidal in section, measuring 1.7 inches long.

10. Reg. No. F. 148, Circle grave No. 1. This is a backed blade side scraper of pale chert, measuring one inch long.

11. Reg. No. F. 190, trench H6 surface. This is a tapering flake of flint measuring 2 inches long.

Plate 56: Hathala

Pl. 55: Gumla

1. Reg. No. 108 surface. This is a flake scraper of red jasper from which three long flakes have been taken out from the upper face. Its upper end is retouched for the edge. It is 1.1 inches by 1.4 inches.

2. Reg. No. 155 found in circle grave No. 3. This is a backed knife blade of black chert, measuring 1.95 inches. One end shows the notch for hafting.

3. Reg. No. F. 121. Surface. This is a tapering flake blade of black chert, measuring one inch long.

4. Reg. No. F. 106. Surface. This is a tapering blade of black chert, trapezoidal in section, measuring 1.8 inches long.

5. Reg. No. F. 110. Surface. This is a parallel sided flake blade of flint, measuring 1.1 inches long.

6. Reg. No. F. 103. Surface. This is also a parallel sided flake blade of pale chert, measuring 1.15 inches long.

7. Reg. No. F. 102. Surface. This is a parallel sided flake blade of chert, with its lower end narrow. It measures 1.45 inches long.

1. Reg. No. F. 18. Surface. It is a thick scraper of black chert measuring 1.1 inches long.

2. Reg. No. F. 70. Surface. It is a fluted core of black chert, from which a series of long thin flakes have been taken out. It is 1.5 inches long.

3. Reg. No. F. 1. Surface. This is also a fluted core of flint having several long scars of flake. It is 1.8 inches long.

4. Reg. No. F. 3. Surface. This is a long flake scraper of flint, almost like a leaf but no ridge in the middle. It measures 2.4 inches long.

5. Reg. No. F. 37. Surface. This is a unique crested ridge blade of chalcedony measuring 3.2 inches long, triangular in section. This is the best example of this type known in our excavations.

6. Reg. No. F. 67. Surface. This is a leaf shaped scraper of flint, measuring 2.2 inches long.

7. Reg. No. F. 4. Surface. This is almost a parallel sided flake blade triangular in section, 1.5 inches long. In the photograph the bulb is at the narrow end.

8. Reg. No. F. 52, trench AO layer (7). This is a flake scraper of black chert, measuring 1.5 inches long. The side edge is retouched. Some parts of one face retain the cortex.

9. Reg. No. F. 17. Surface. This is a backed side scraper of pale chert, measuring 1.4 inches long.

10. Reg. No. F. 16. It is similar to No. 9, of pale chert, measuring 1.2 inches long.

11. Reg. No. F. 44, area Y layer (2). This is a double sided scraper of pale chert with notches for hafting. It measures .9 inches long.

12. Reg. No. F. 6. Surface. This is a knife blade of pale chert with a tang for hafting. It measures 1.5 inches long.

Plate 57: Hathala

1. Reg. No. F. 35. Surface. It is a tapering flake, triangular in section, measuring 1.6 inches long. The bulb is at the broad end.

2. Reg. No. F. 69. Surface. It is a flake scraper of red jasper, measuring 1.1 inches long. The bulb is at the narrow end.

3. Reg. No. F. 56, trench AO layer (5). A flake scraper of pale chert, measuring 1.2 inches long. The bulb is at the upper end of the photograph.

4. Reg. No. F. 25. Surface. It is a broken flake scraper of pale chert measuring 2.2 inches long.

5. Reg. No. F. 42. Surface. It is a parallel sided blade, trapezoidal in section, having saw tooth edge on one side. It measures 1.1 inches long.

6. Reg. No. F. 46, trench Y layer (2). This is a parallel sided blade of pale chert, measuring .8 inches long.

7. Reg. No. F. 73. Surface. It is a ta-

pering blade of pale chert, trapezoidal in section, measuring 1.25 inches long.

8. Reg. No. F. 54, area Y layer (2). This is a long tapering blade of pale chert, trapezoidal in section, measuring 1.6 inches long.

9. Reg. No. F. 74. Surface. This is a thin tapering blade of black chert, measuring .9 inches long.

10. Reg. No. F. 38. Surface. This is a parallel sided blade of pale chert, trapezoidal in section, measuring 1.6 inches long.

11. Reg. No. F. 53, trench CO layer (2). This is a parallel sided blade of pale chert, measuring 1.25 inches. The bulb is at the top end in the photograph.

12. Reg. No. F. 70. Surface. This is a parallel sided blade of black chert, measuring 1.05 inches long.

13. Reg. No. F. 71. Surface. It is a broken parallel sided blade of pale chert, measuring .9 inches long.

14. Reg. No. F. 26. Surface. It is a parallel sided blade of greenish chert, trapezoidal in section, measuring 1.6 inches long.

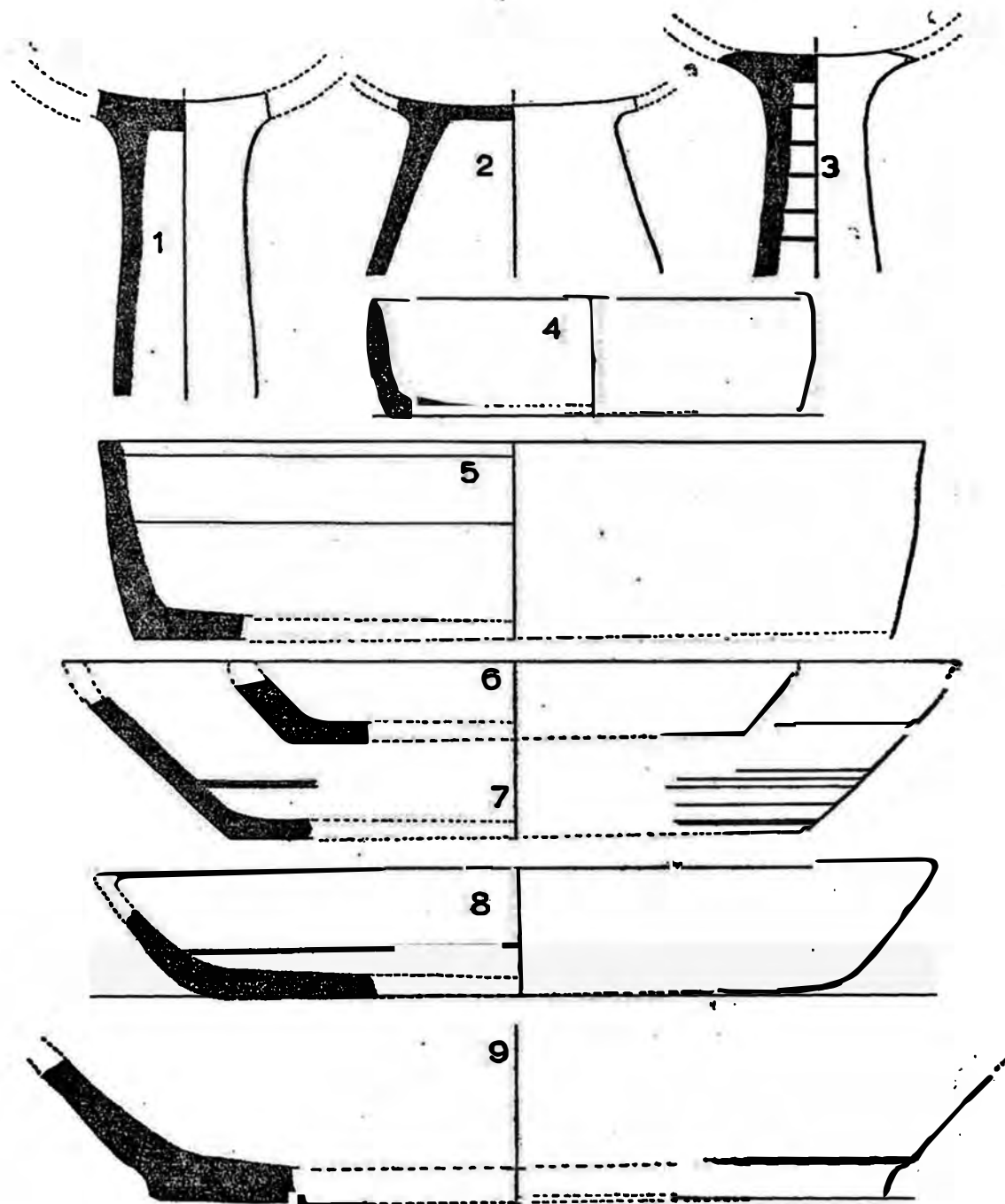
15. Reg. No. F. 34. Surface. This is a parallel sided blade of flint with a notch at either side. It measures two inches long.

16. Reg. No. F. 32. Surface. This is a flake scraper of pale chert, triangular in section. It measures 1.9 inches.

17. Reg. No. F. 45, trench A2 layer (5). This is a parallel sided blade of flint, triangular in section, measuring 2 inches long. Both the long sides show extreme use marks.

18. Reg. No. F. 22. Surface. This is a parallel sided blade of pale chert, trapezoidal in section, measuring 2.5 inches long.

Fig.11



PERIOD II
Scale

Fig.12

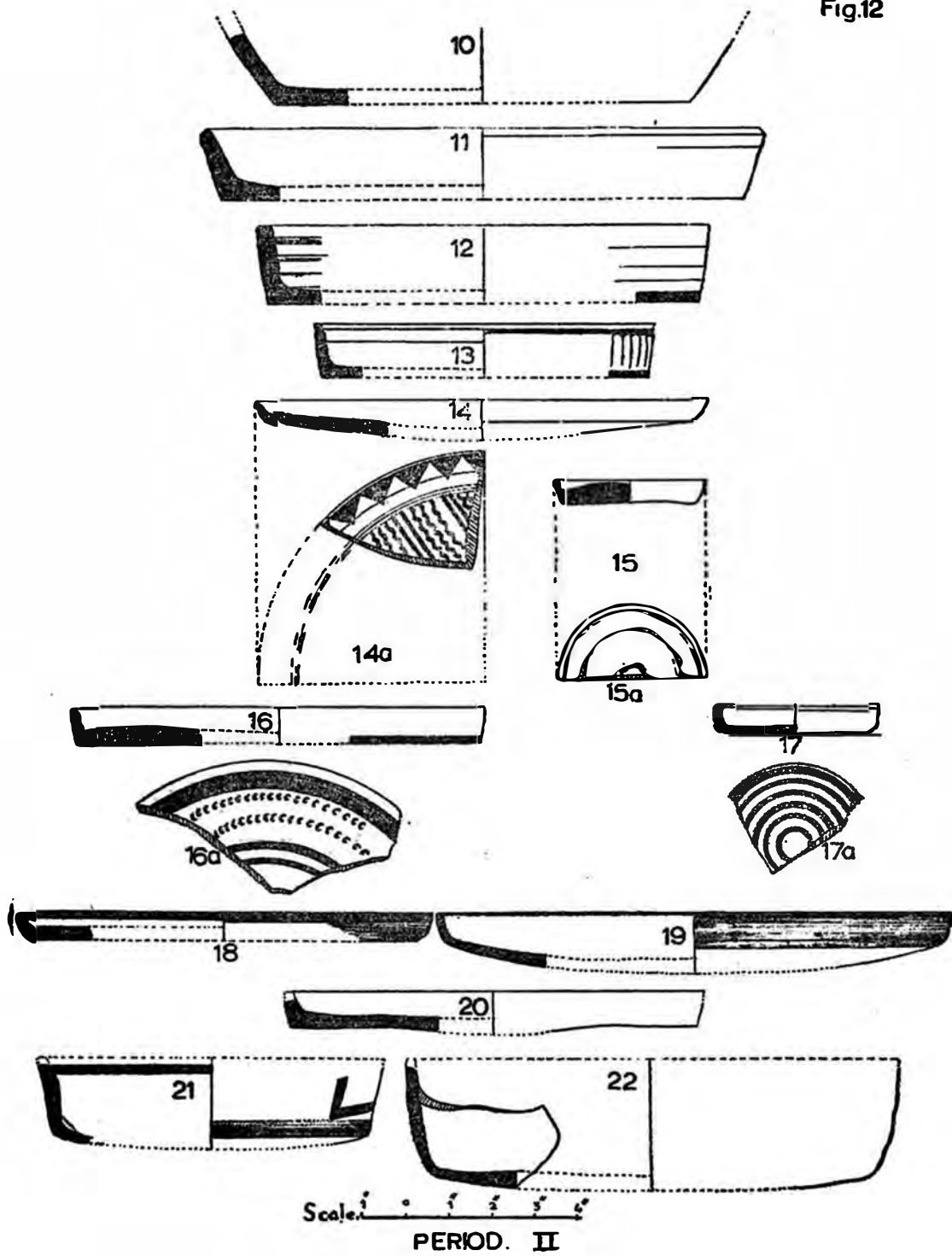


Fig. 13

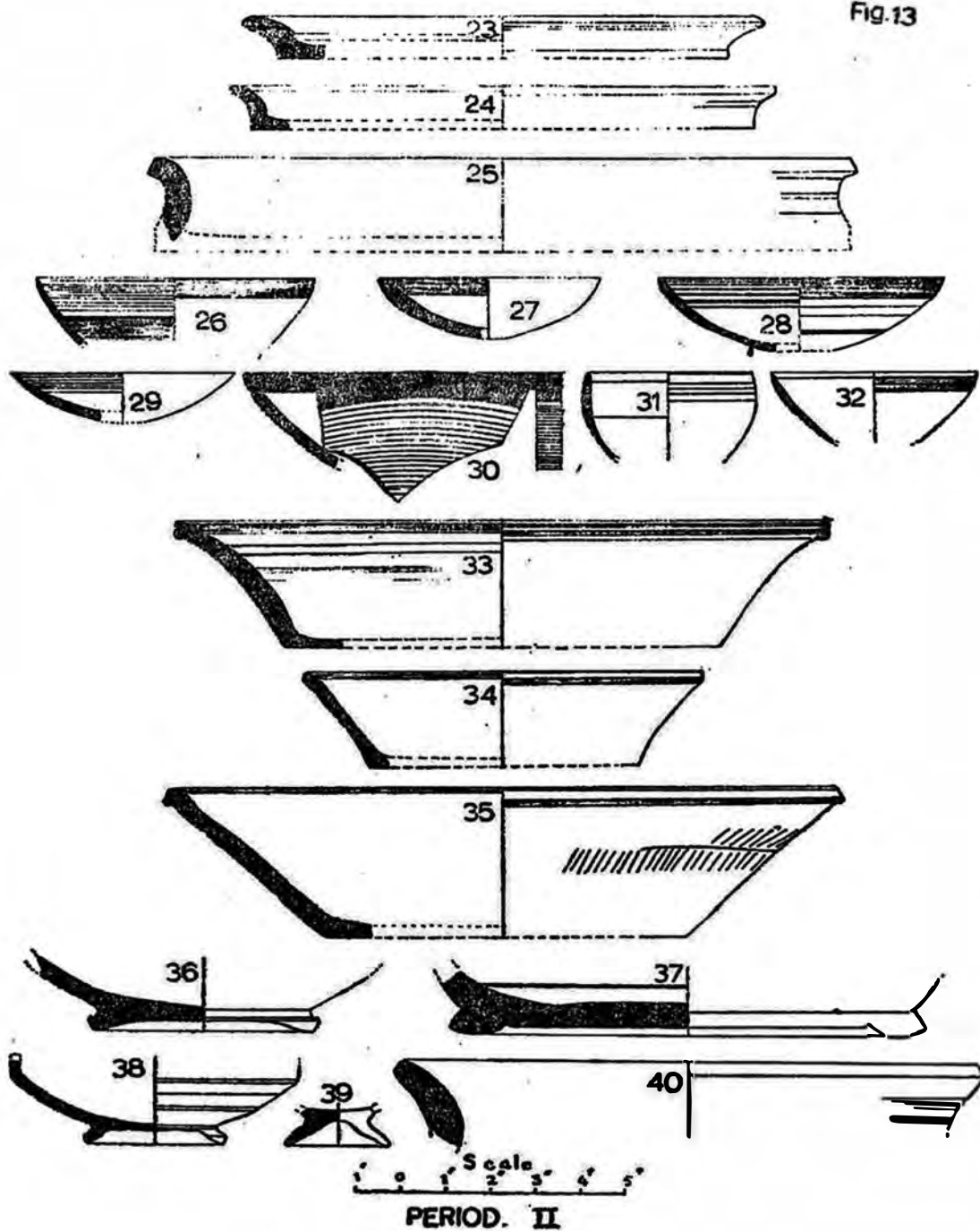
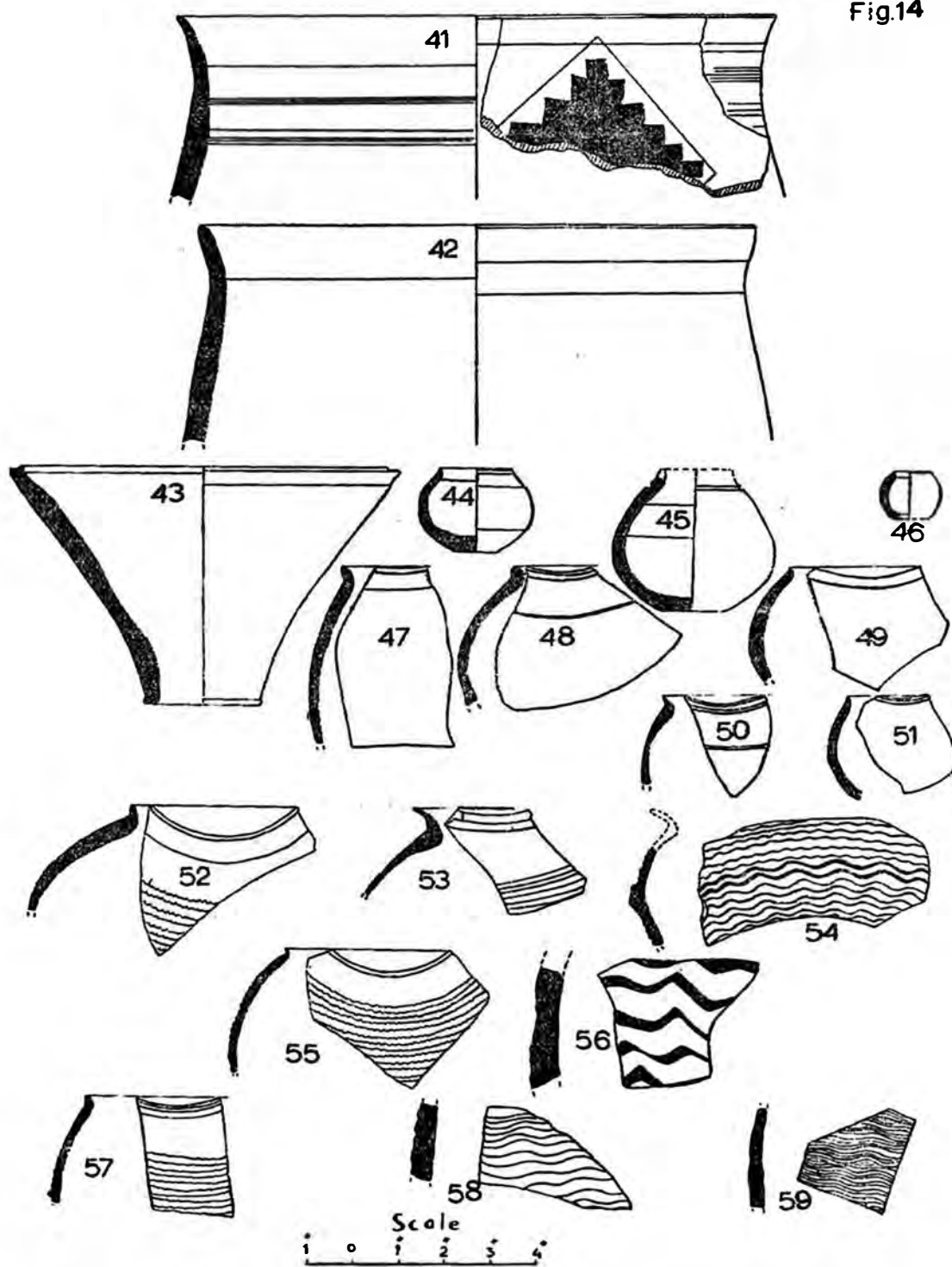
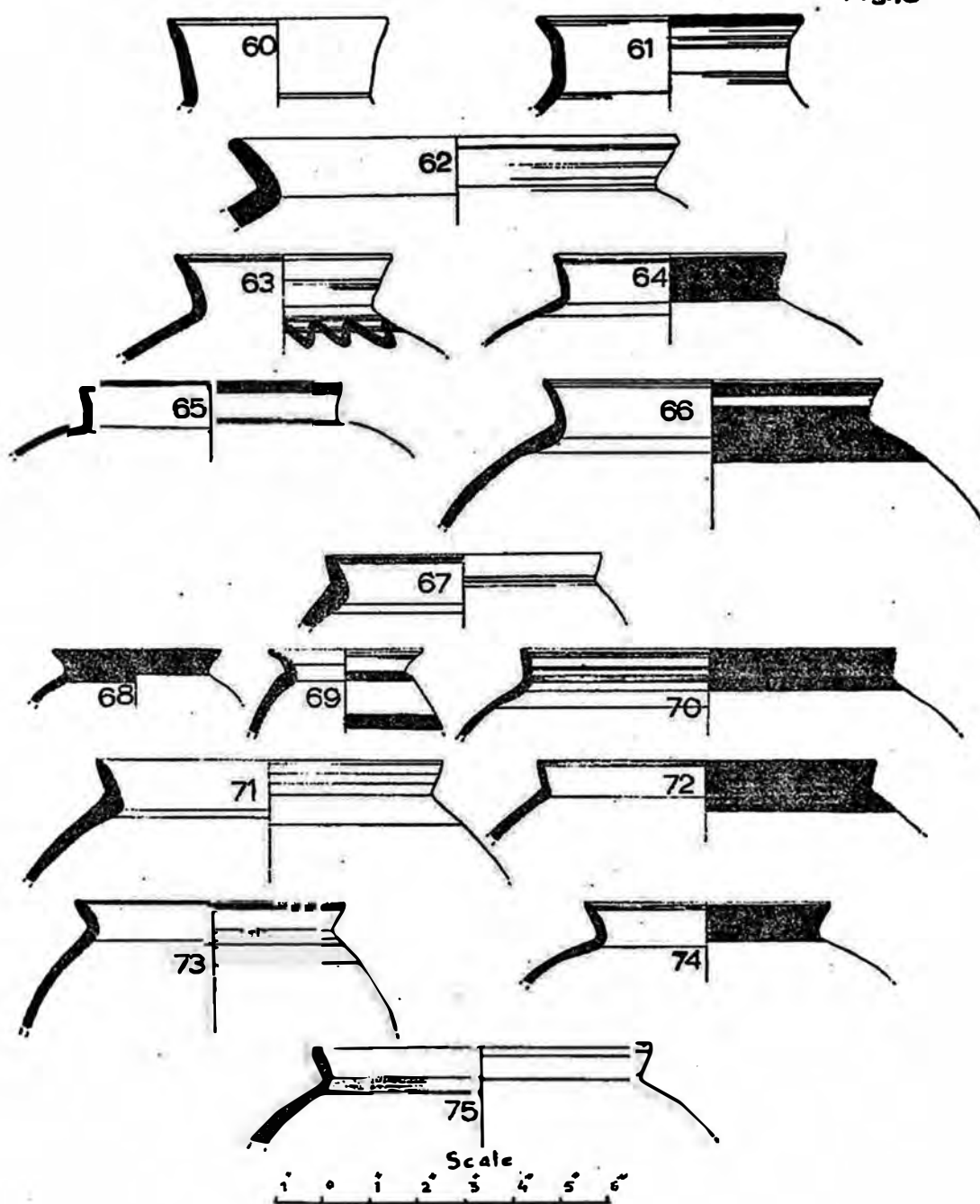


Fig.14



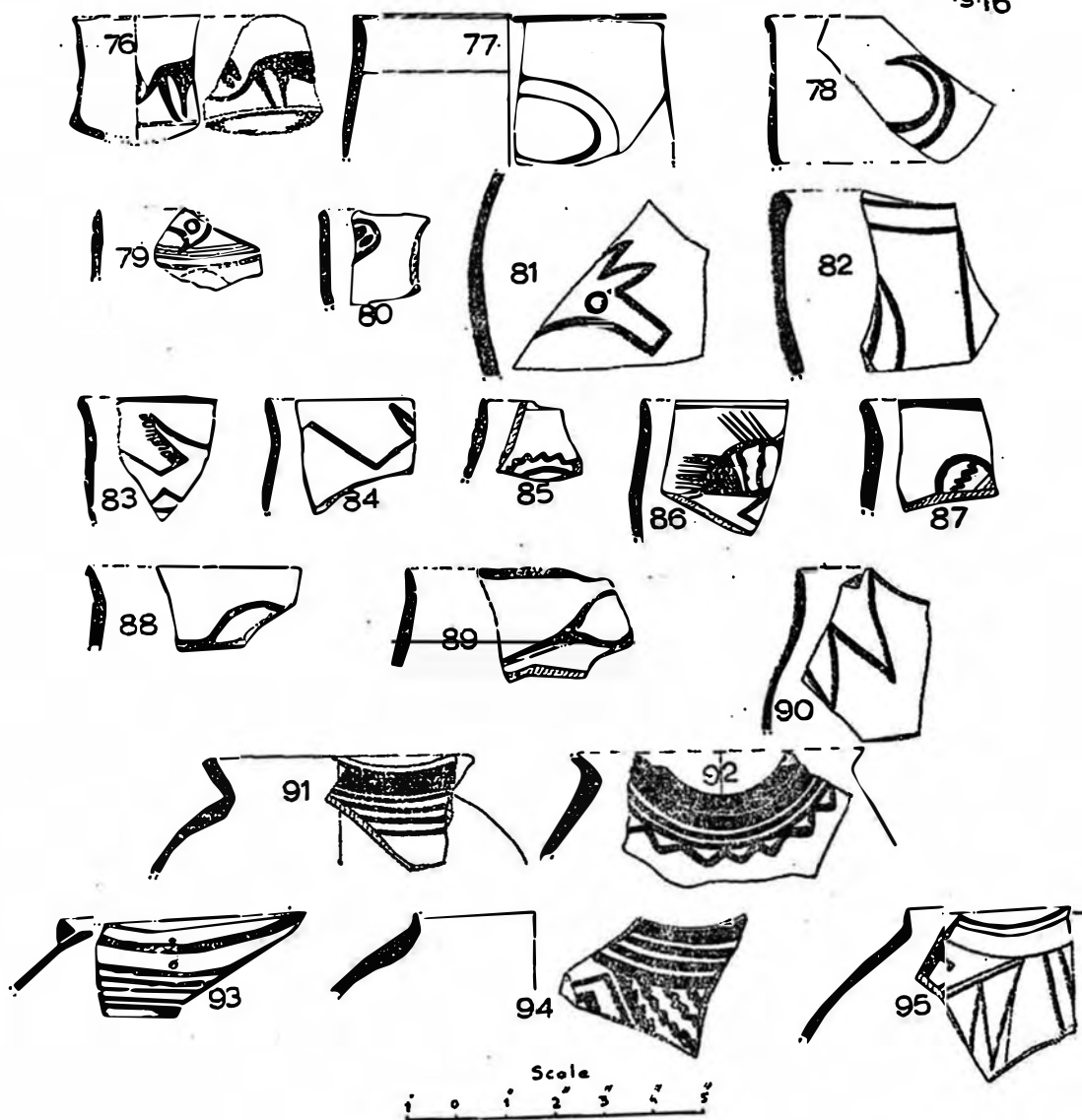
PERIOD. II

Fig.15



PERIOD. II

Fig.16



PERIOD. II

Fig 17

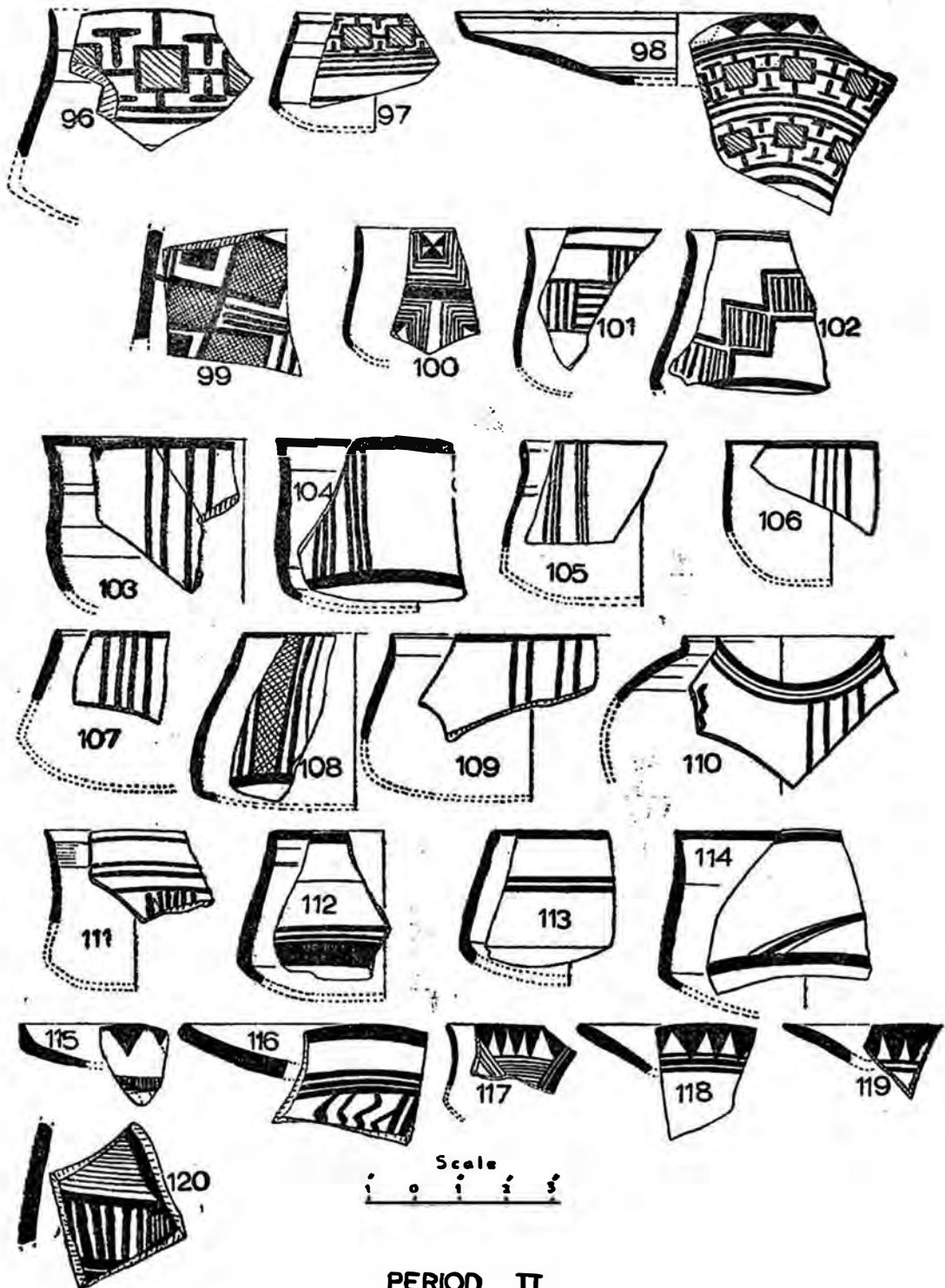
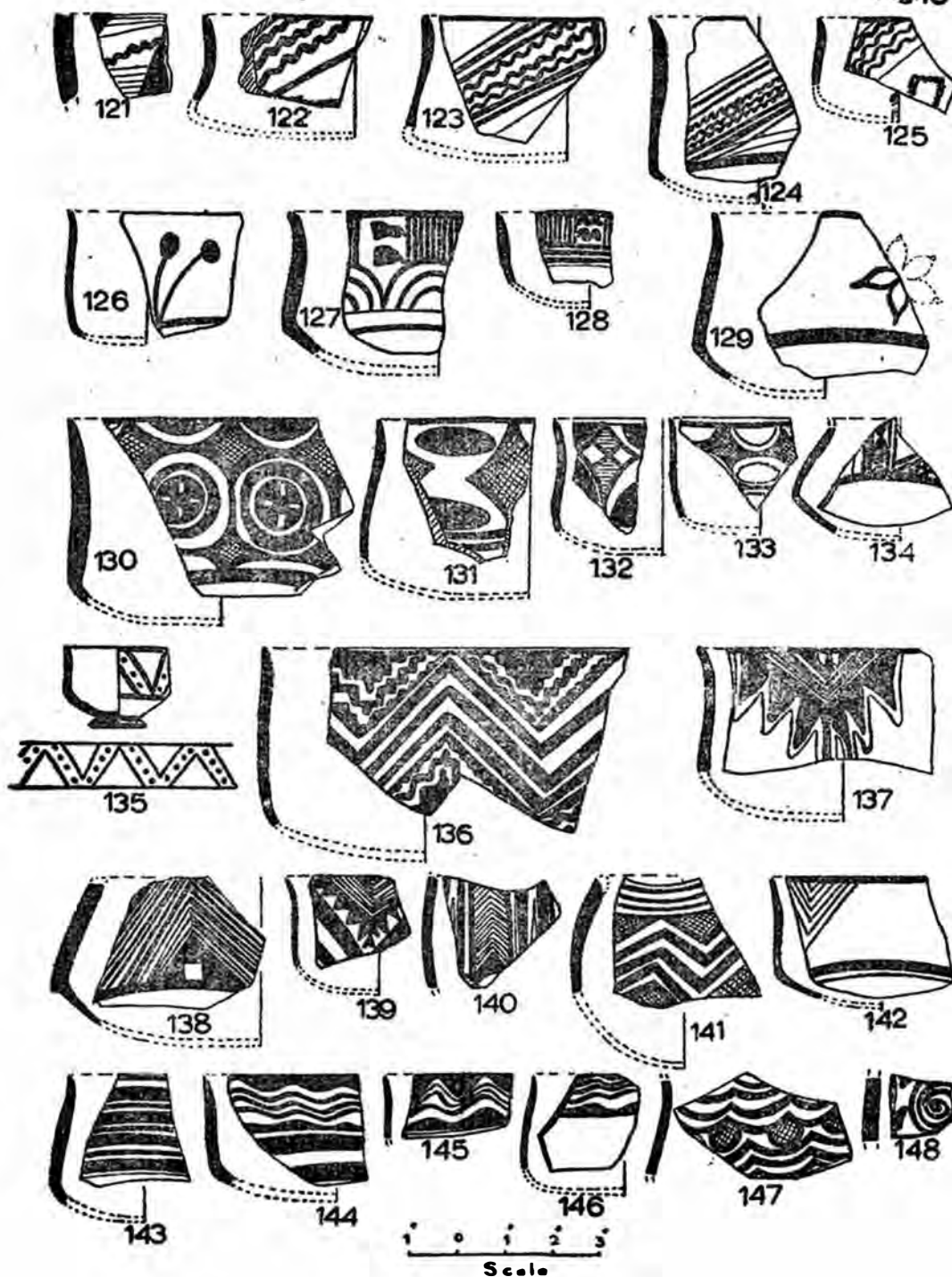
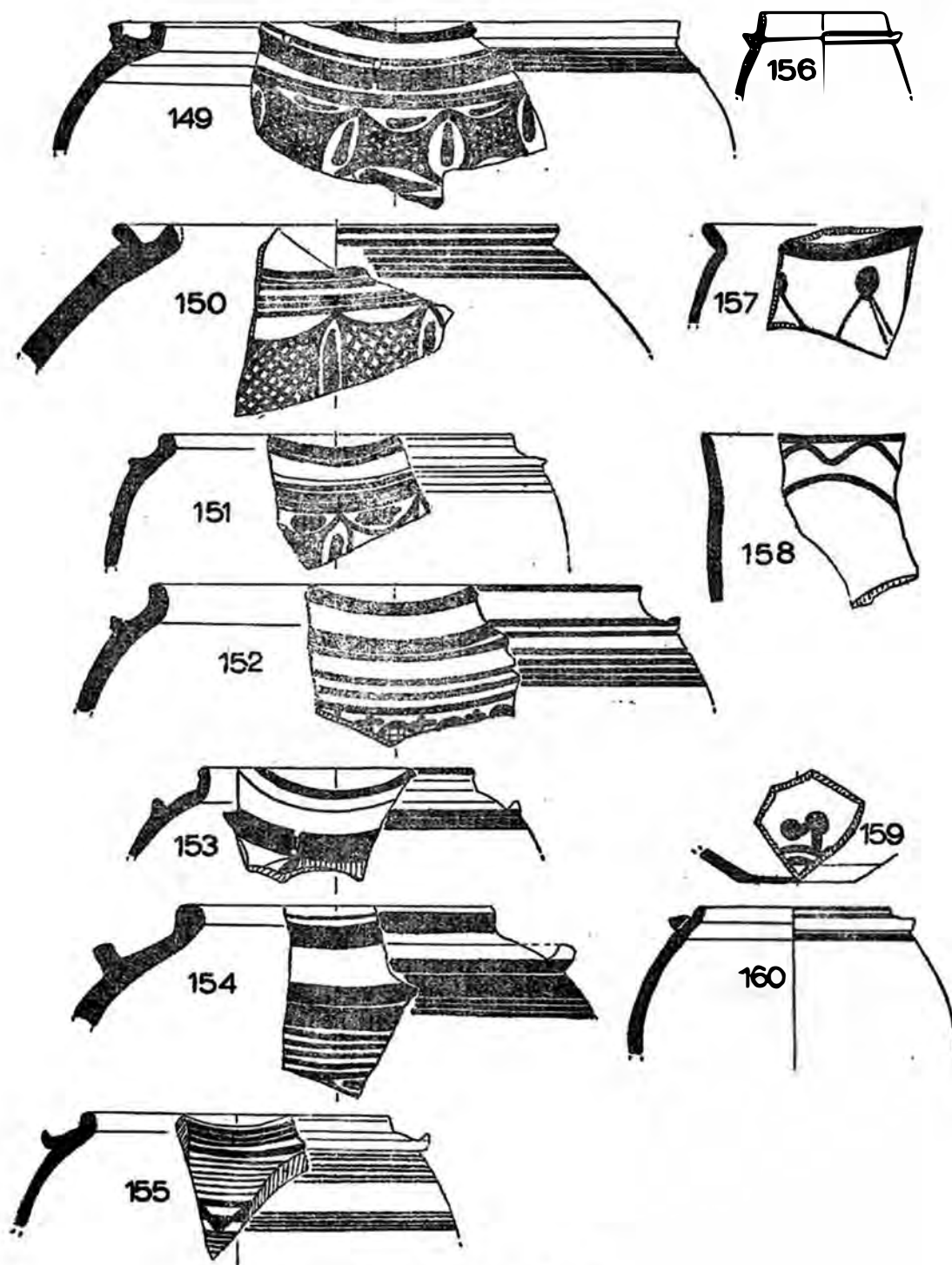


Fig.18

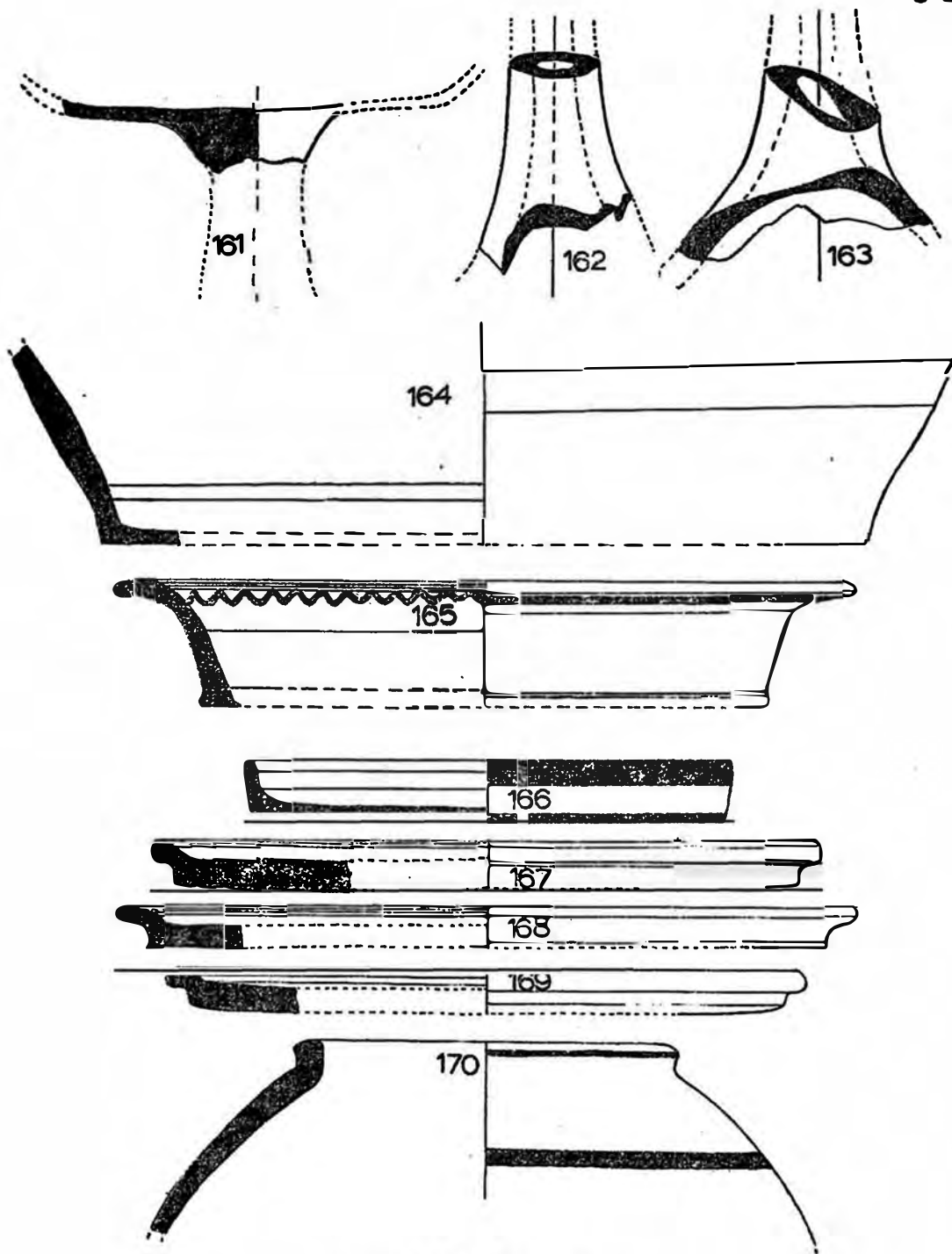


PERIOD. II



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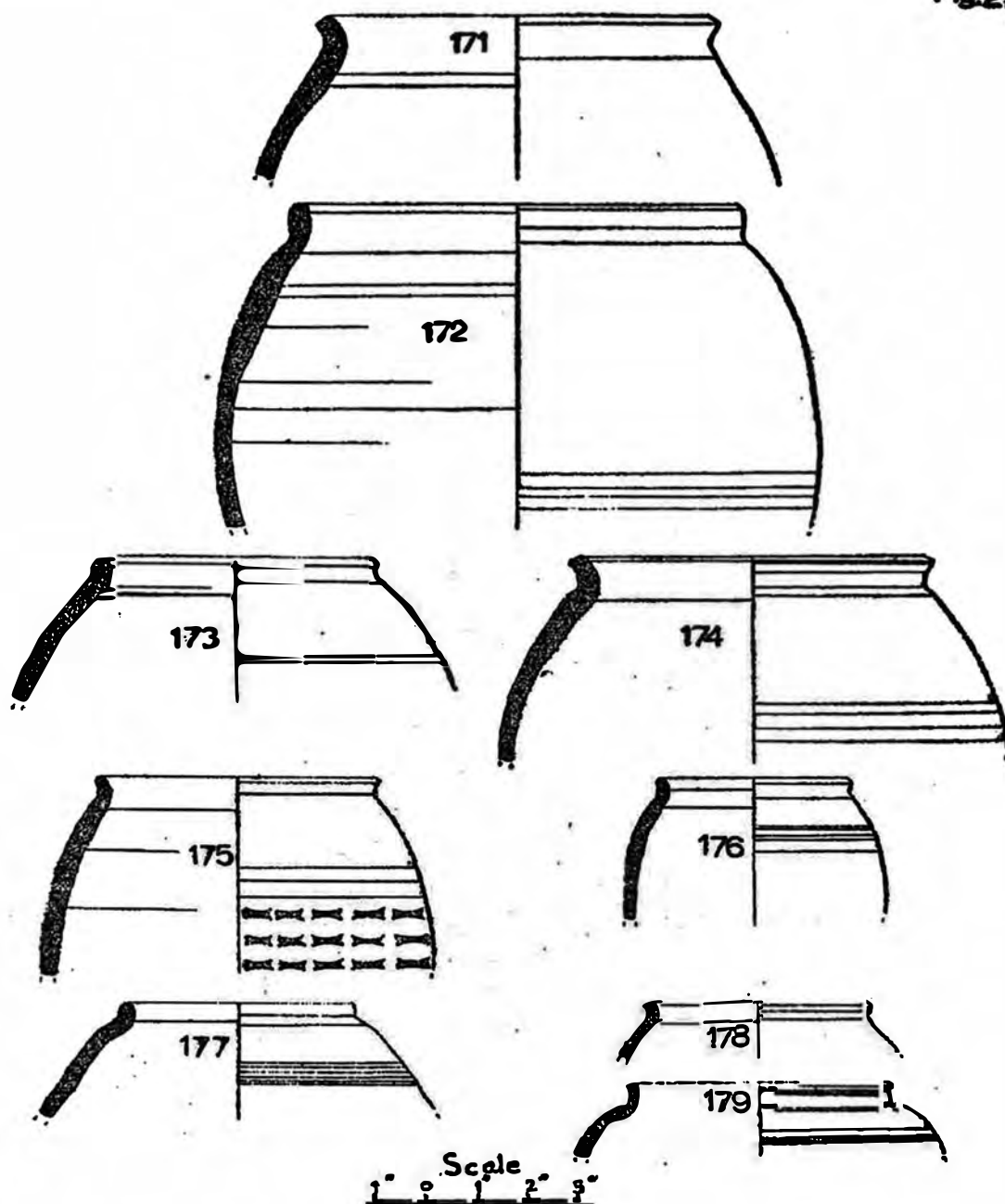
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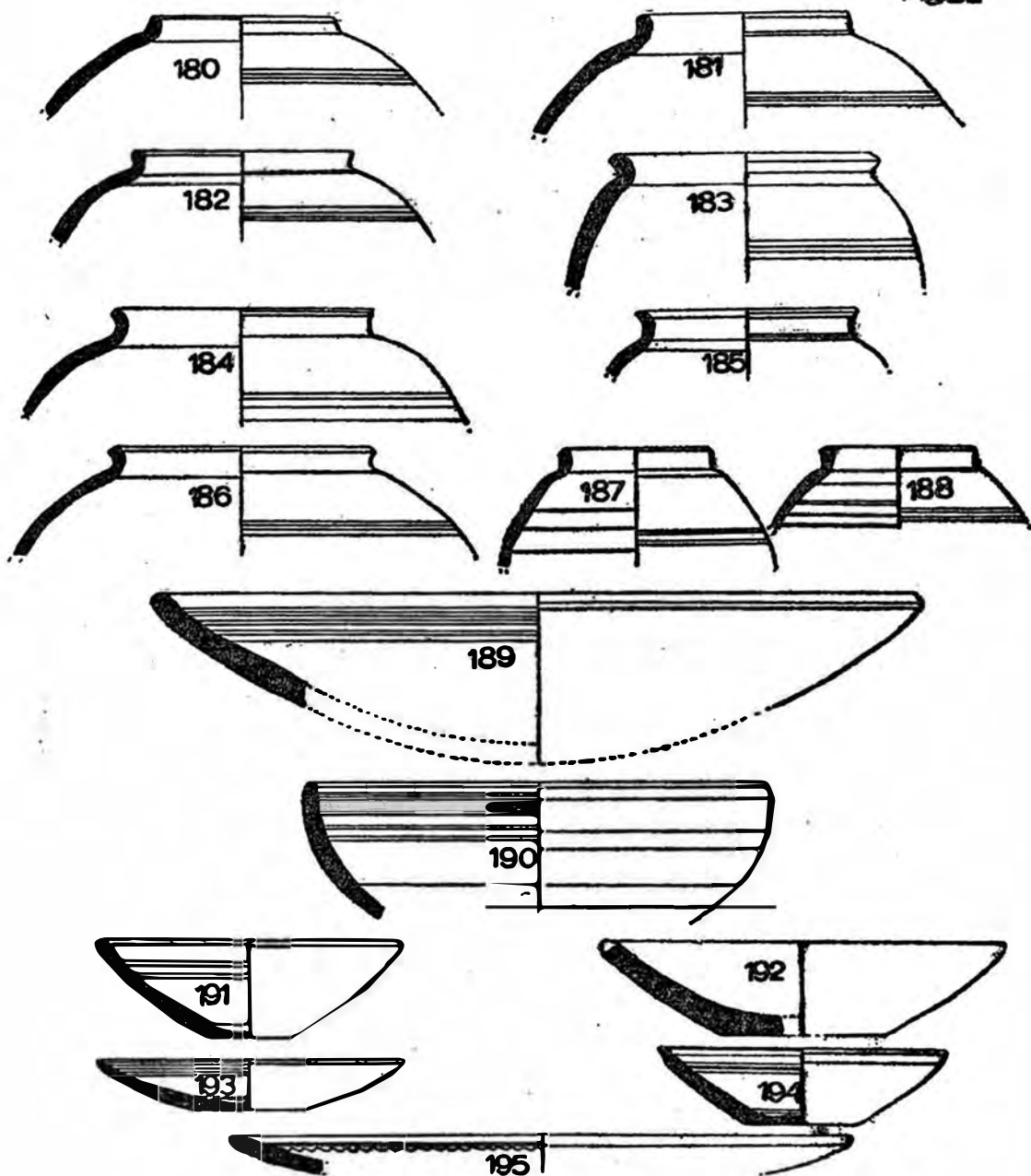
PERIOD. III

Fig. 21



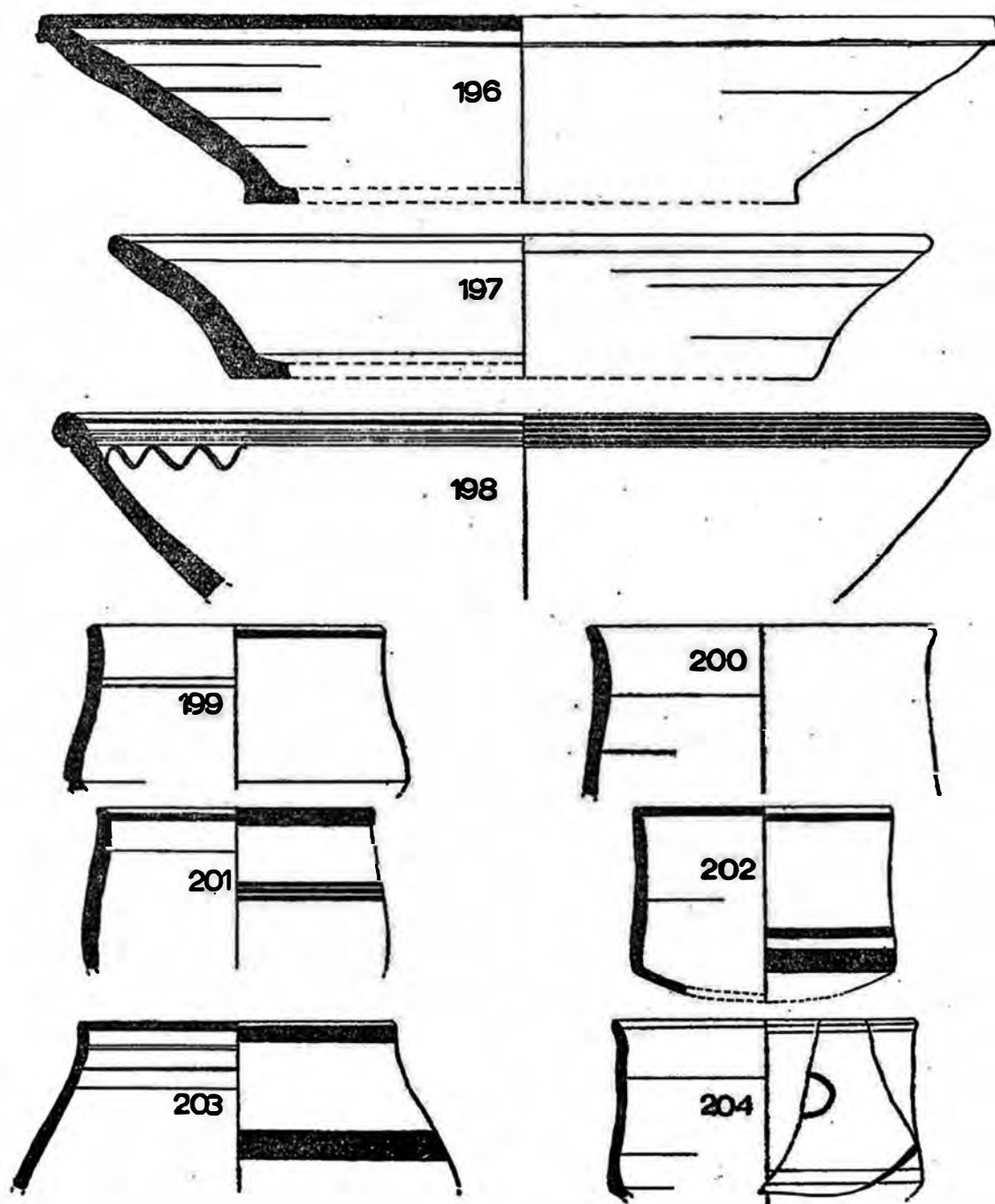
PERIOD. III

Fig. 22



Scale
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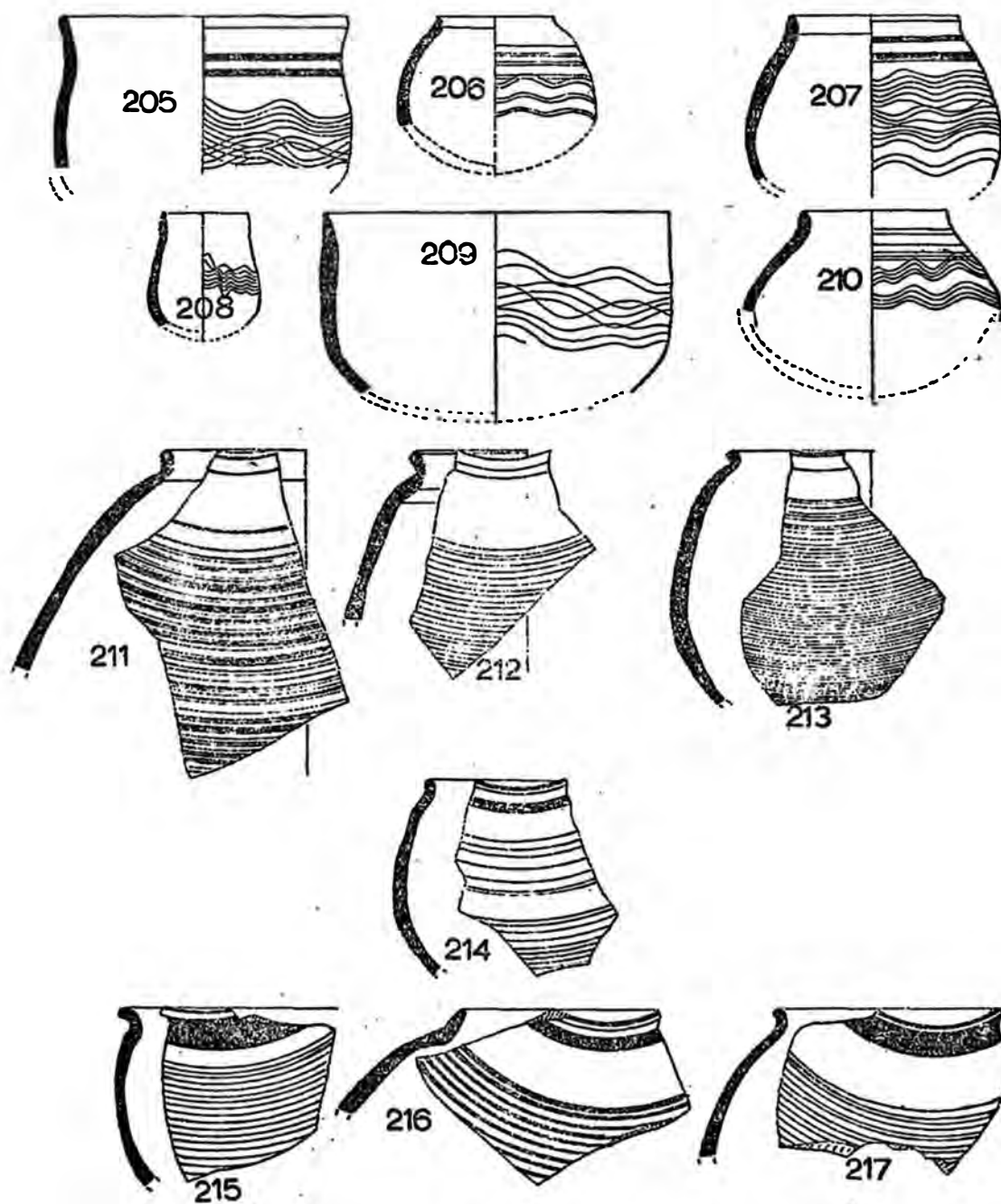
PERIOD III



Scale
1 2 3 4 5

PERIOD III

Fig.24



Scale
1" 2" 3"

PERIOD III

Fig.25

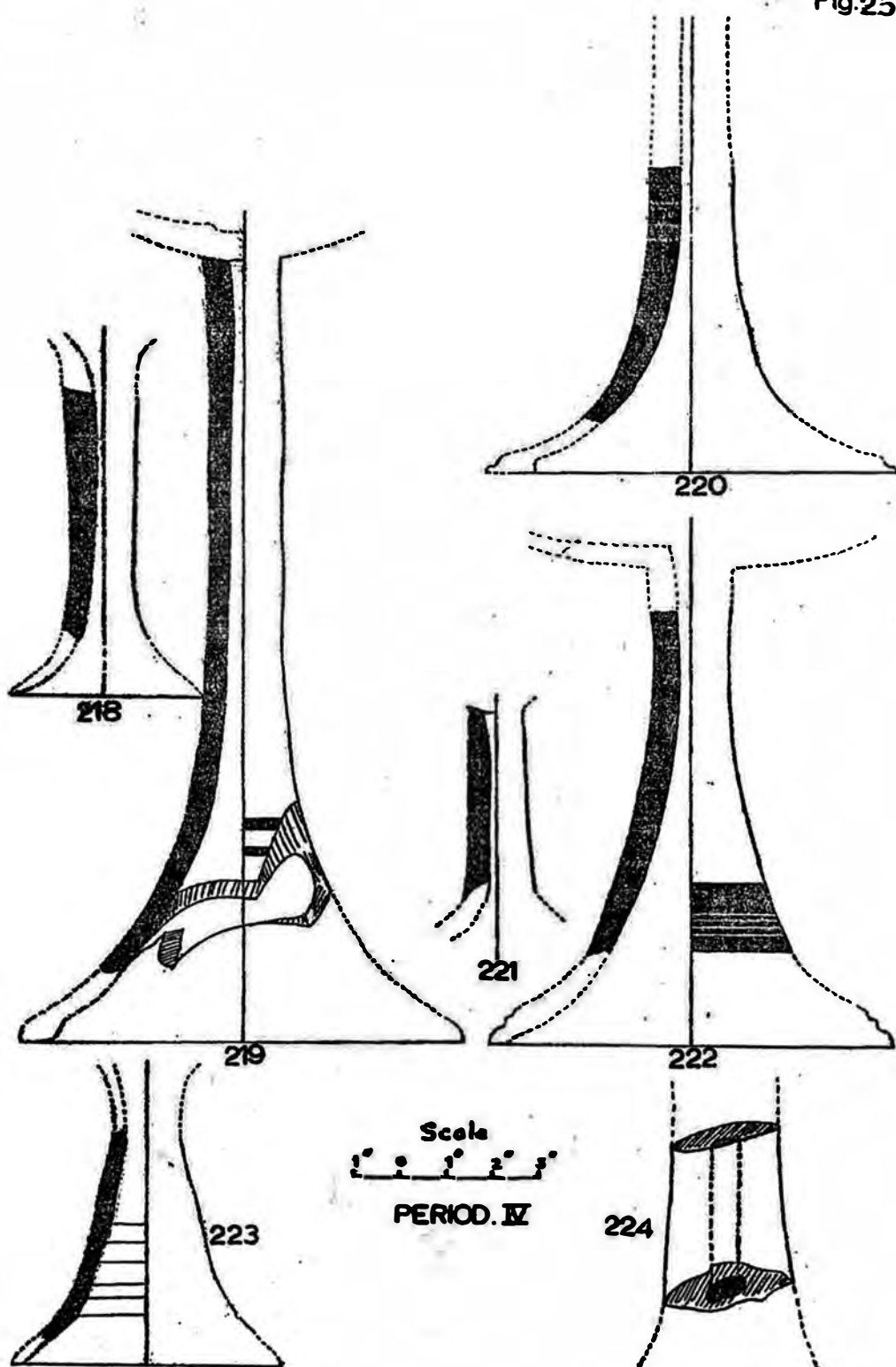
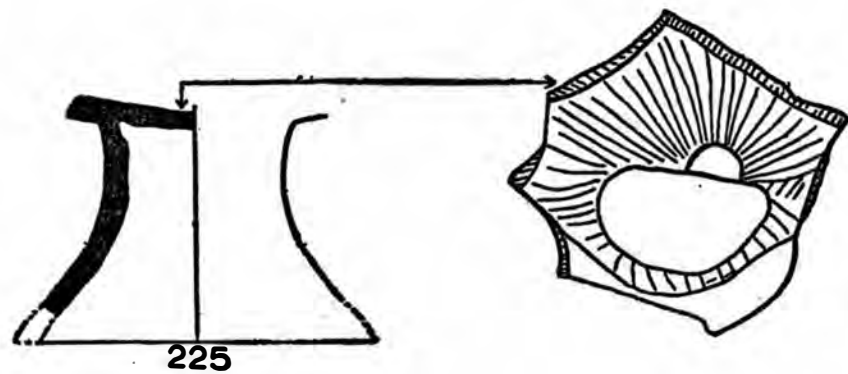


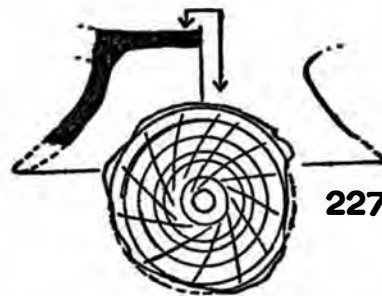
Fig.26



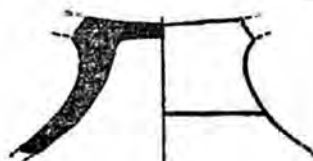
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226



227

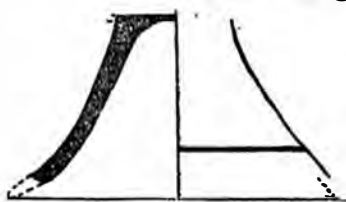


228



229

Scale
PERIOD. IV

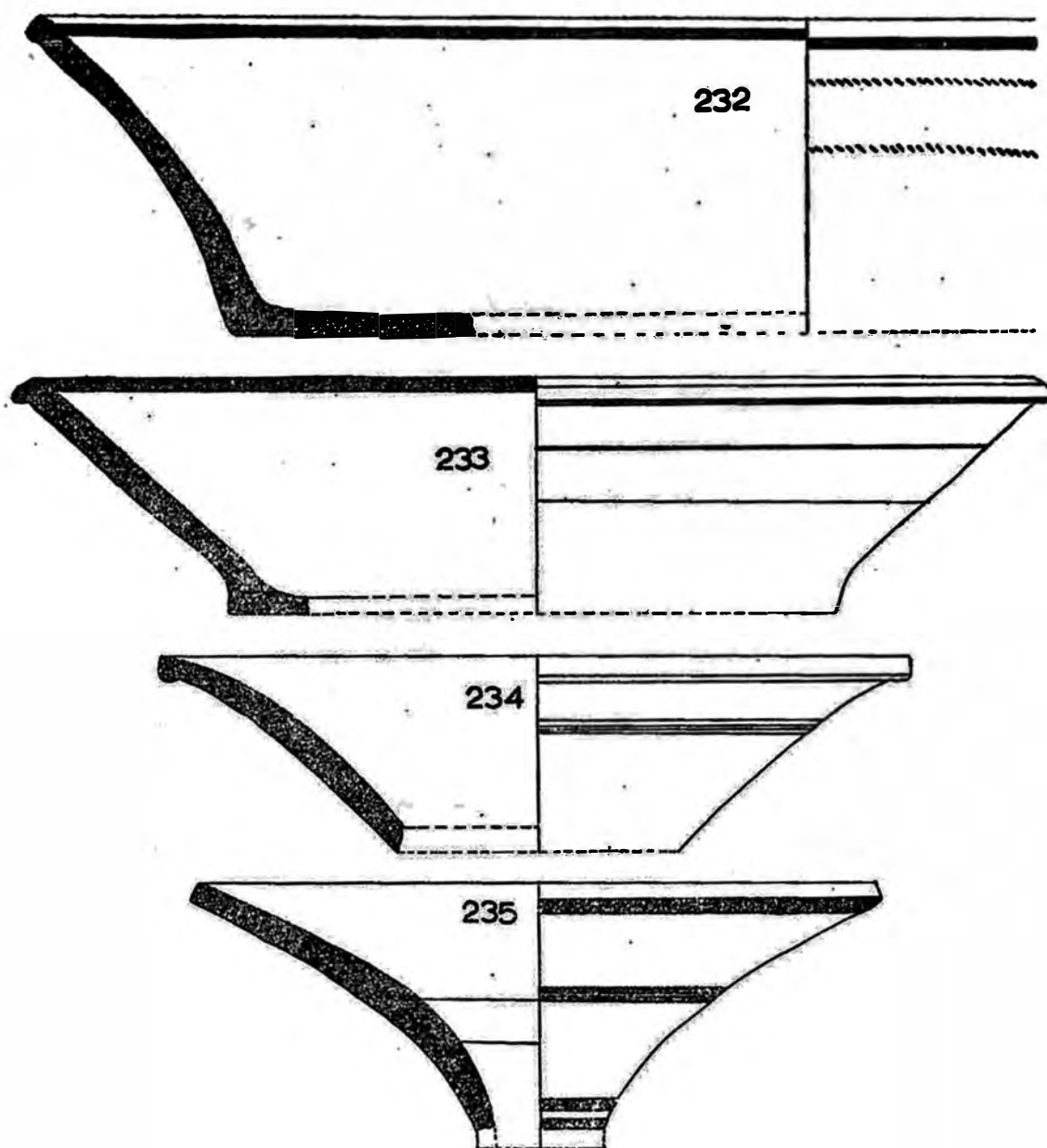


230



231

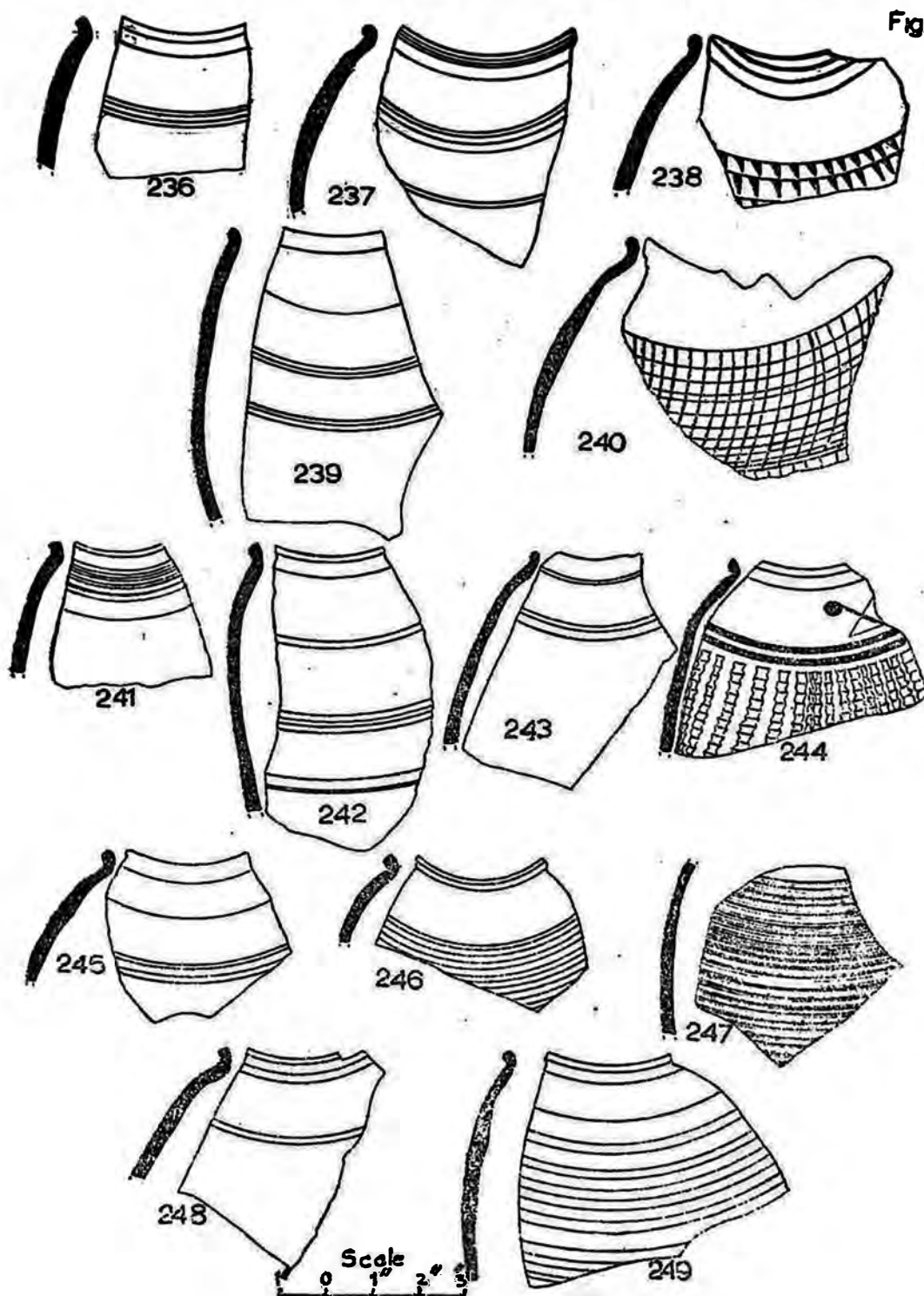
Fig. 27



Scale
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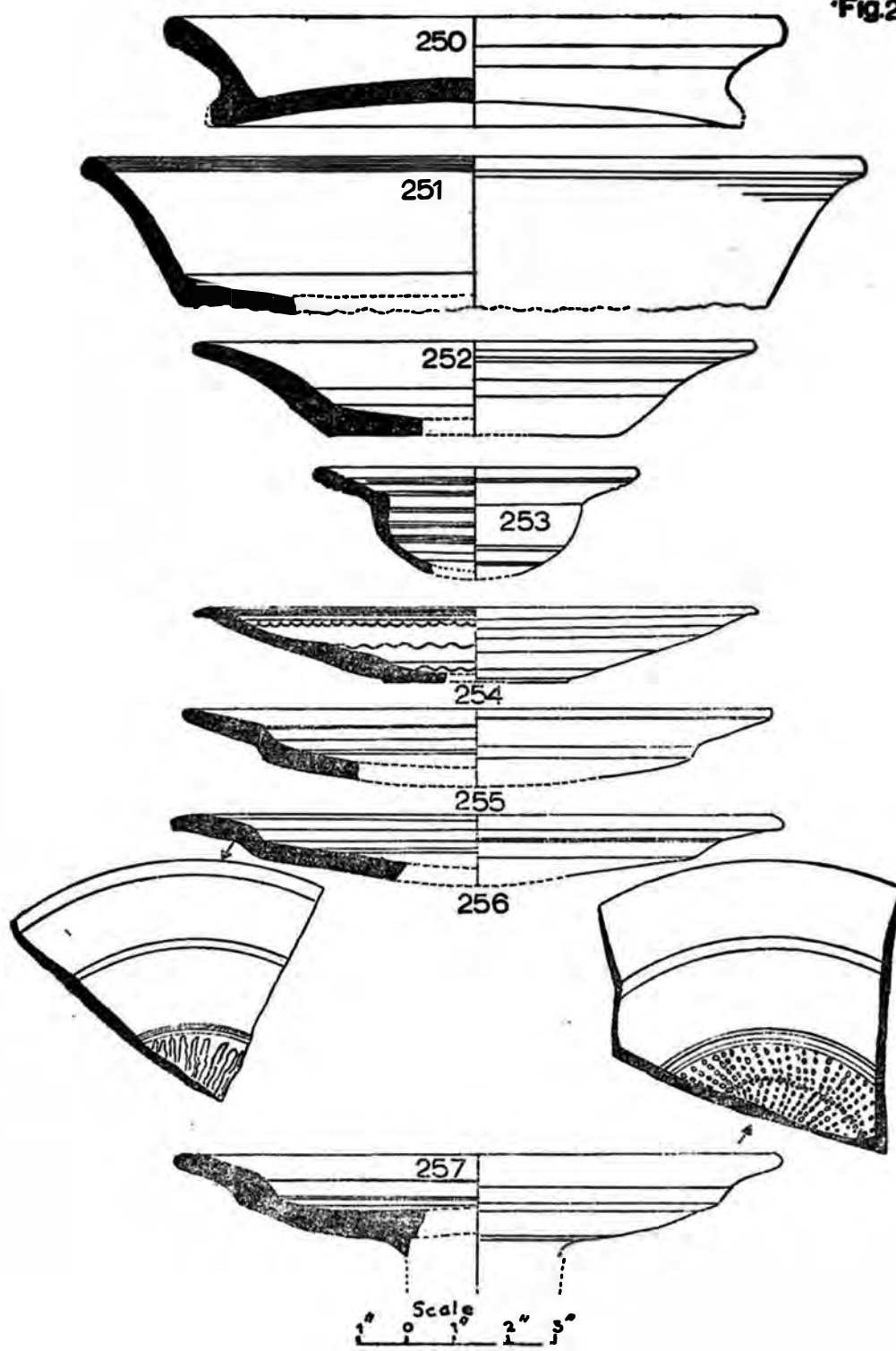
PERIOD. IV

Fig.28



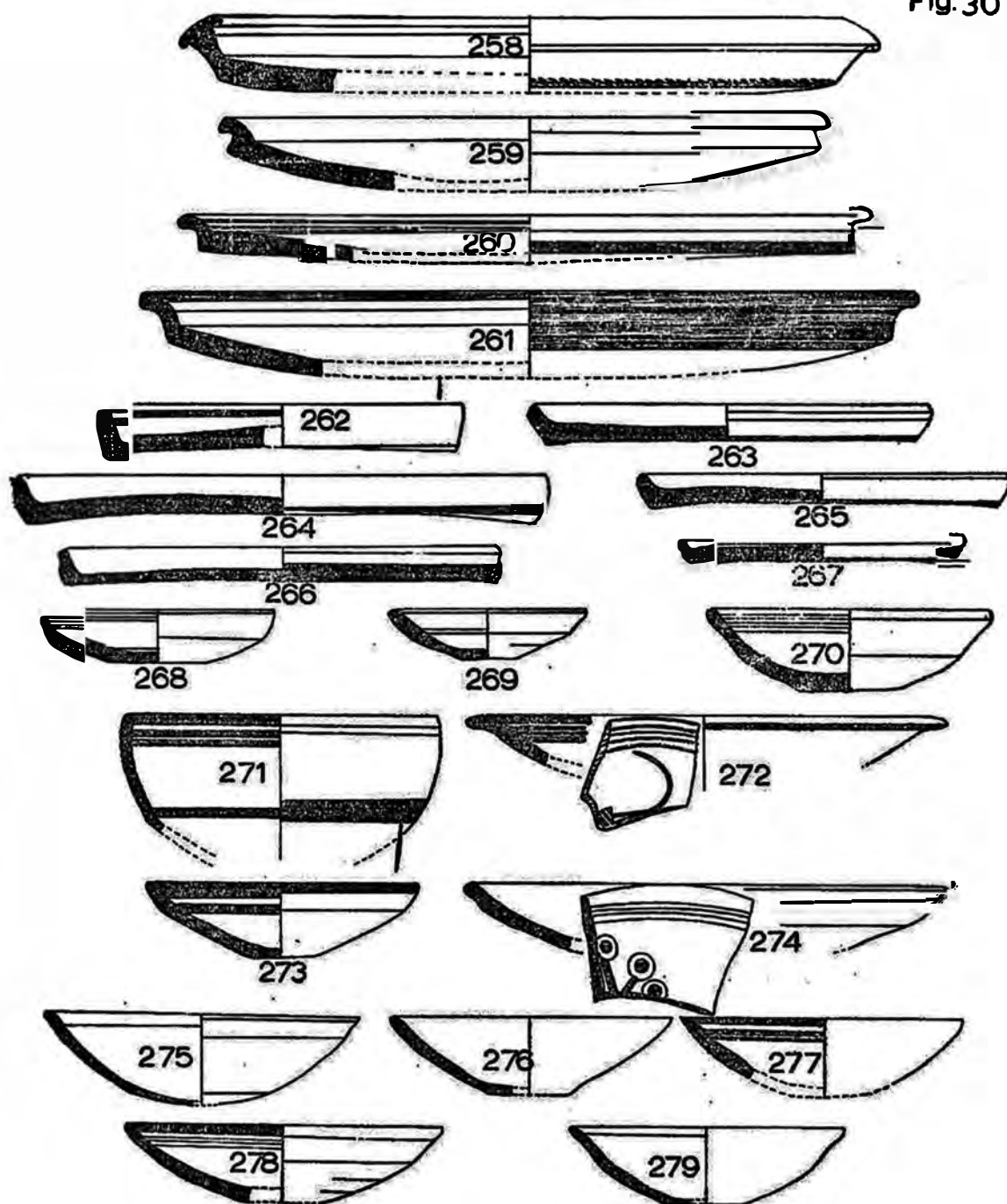
PERIOD. IV

Fig.29



PERIOD. IV

FIG. 30



PERIOD. IV

Fig.31

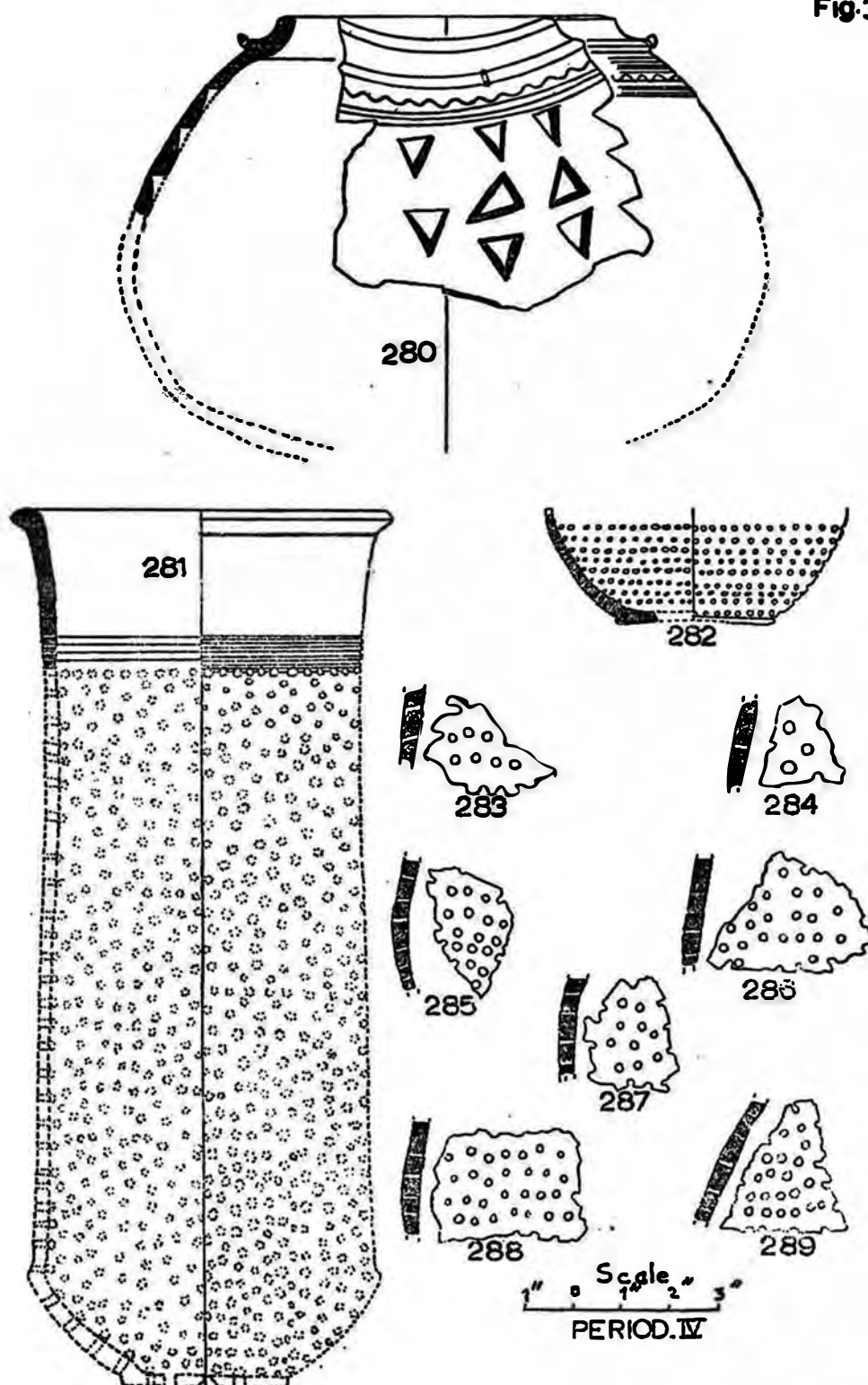
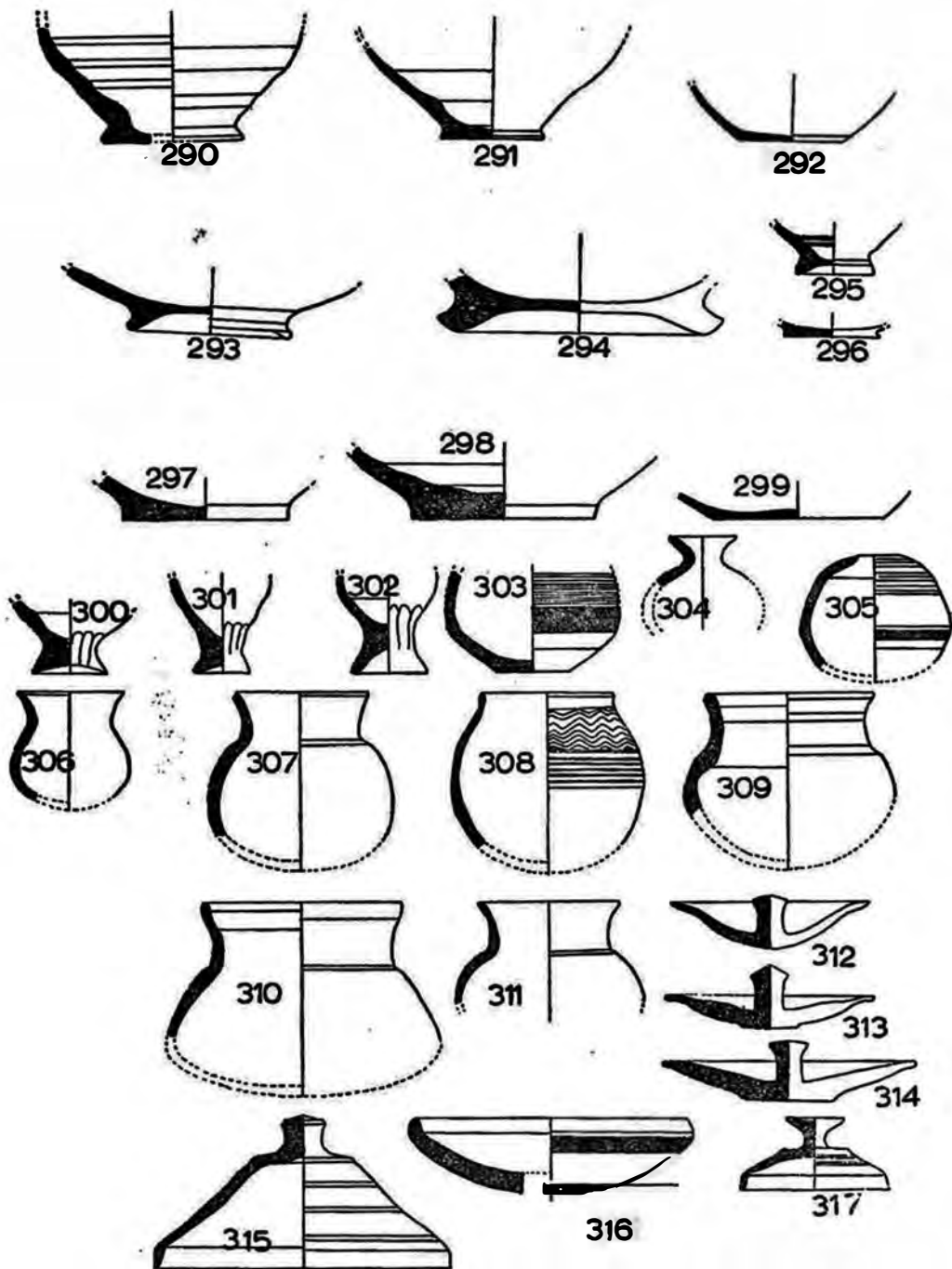
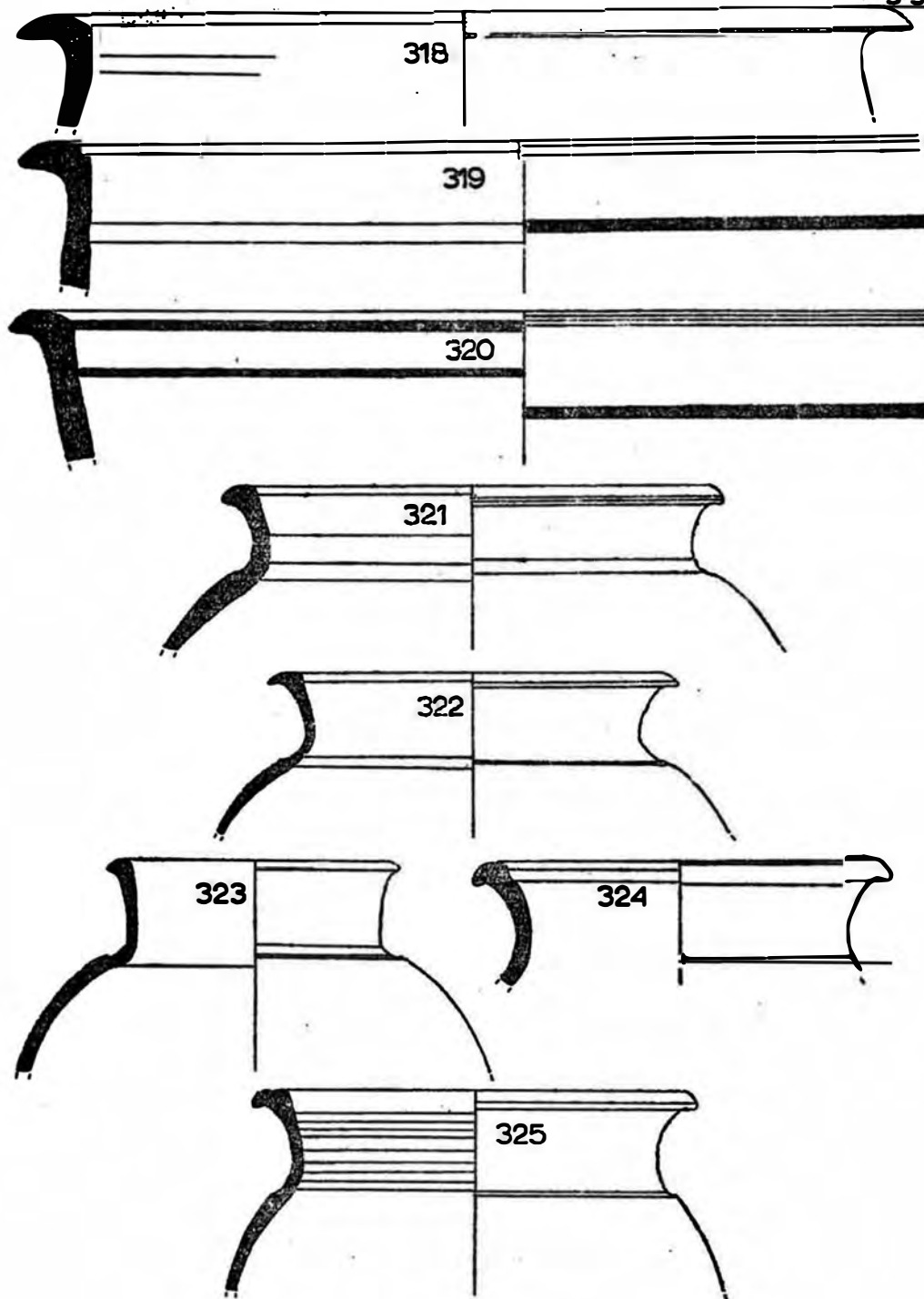


Fig. 32



Scale
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 PERIOD IV

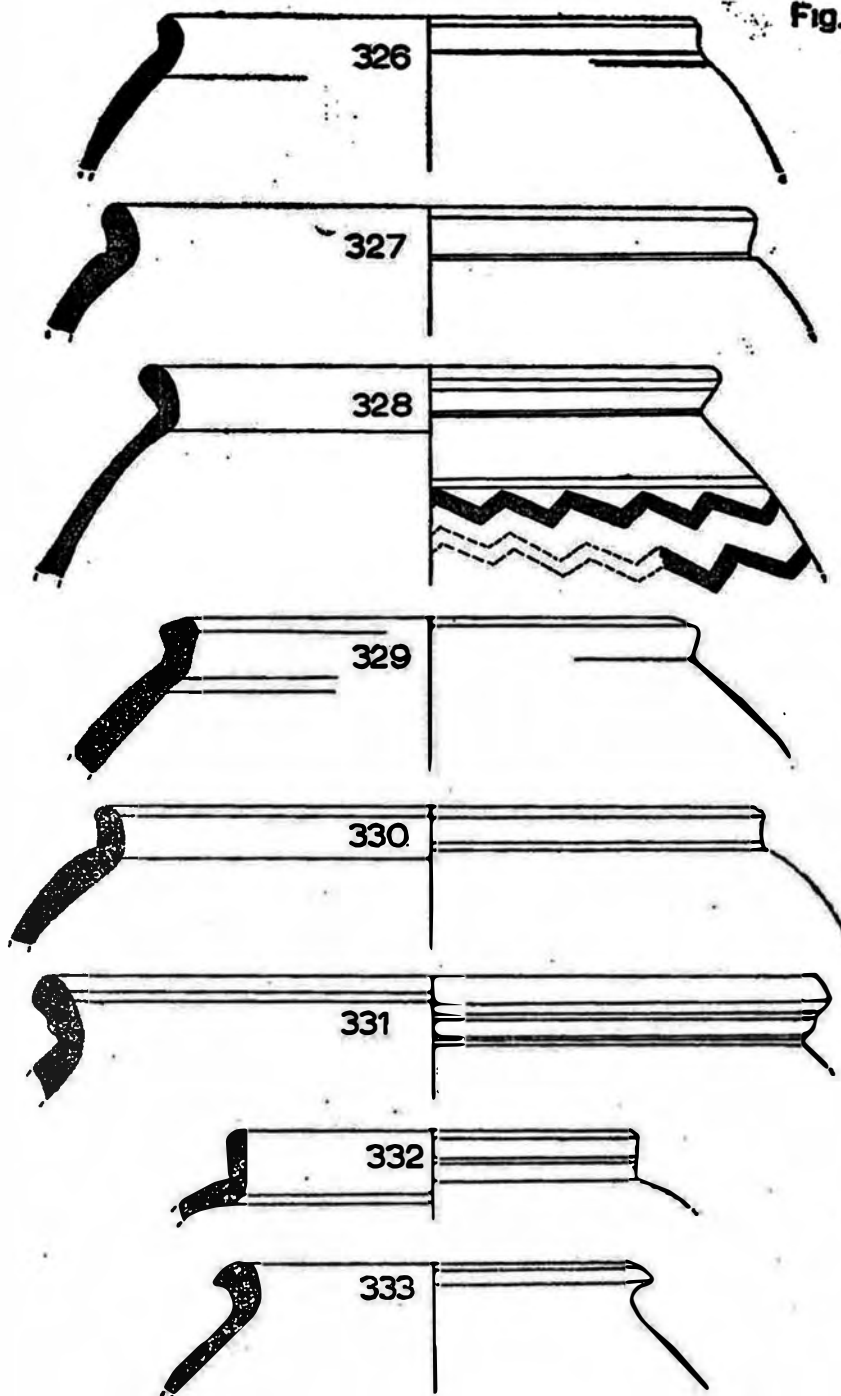
Fig. 33



Scale 1" 2" 3"

PERIOD. IV

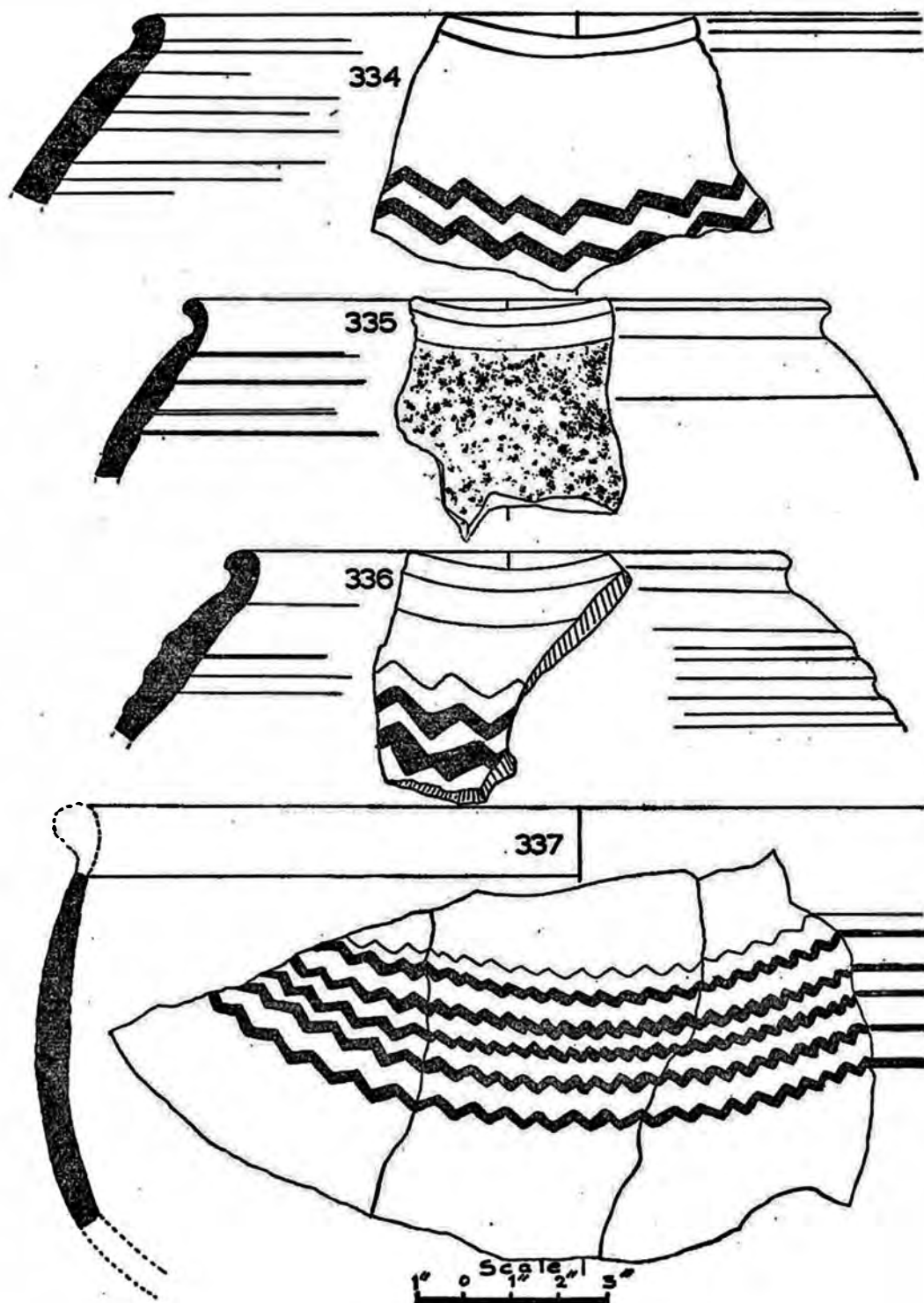
Fig.34



Scale
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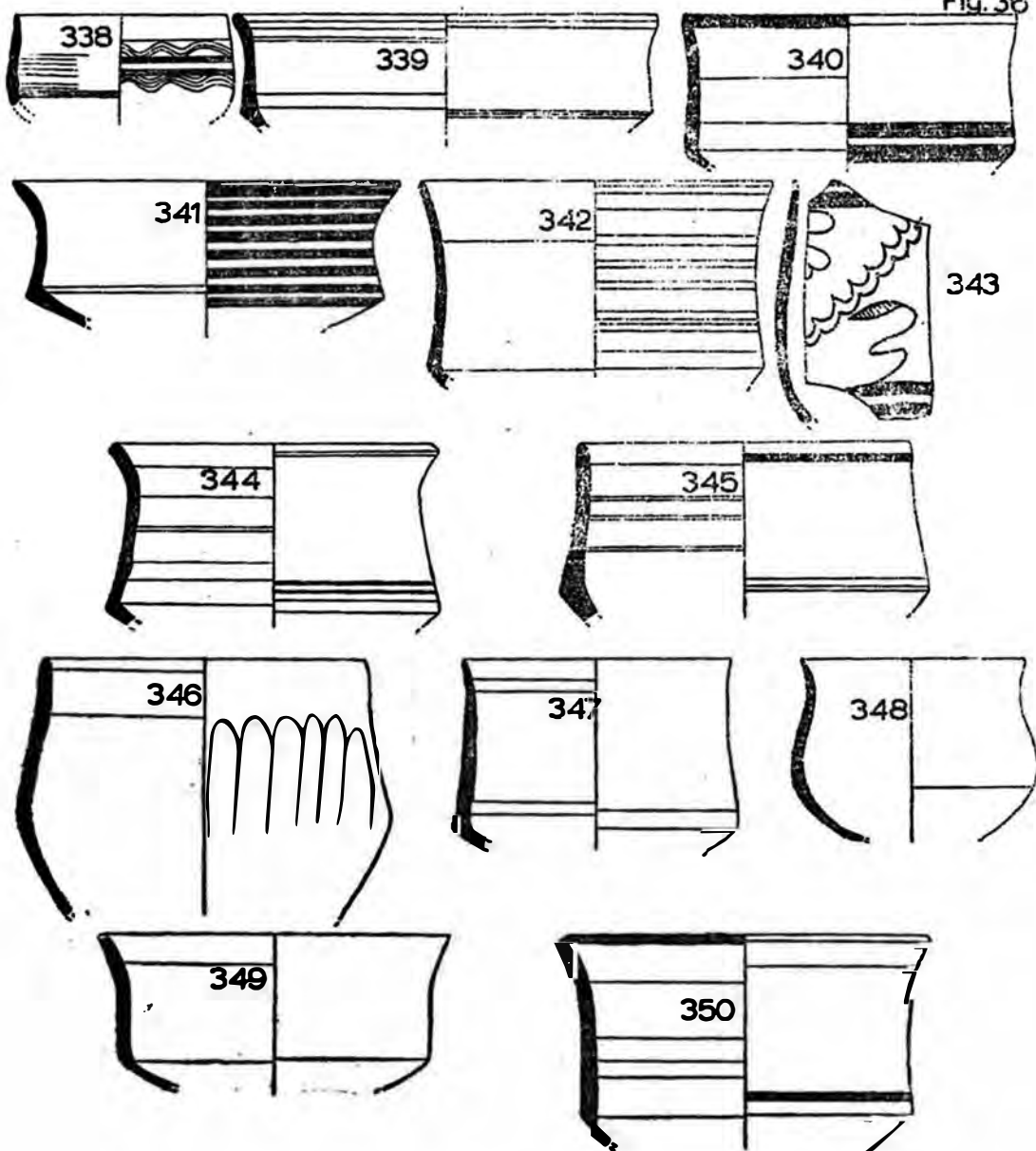
PERIOD. IV

Fig.35

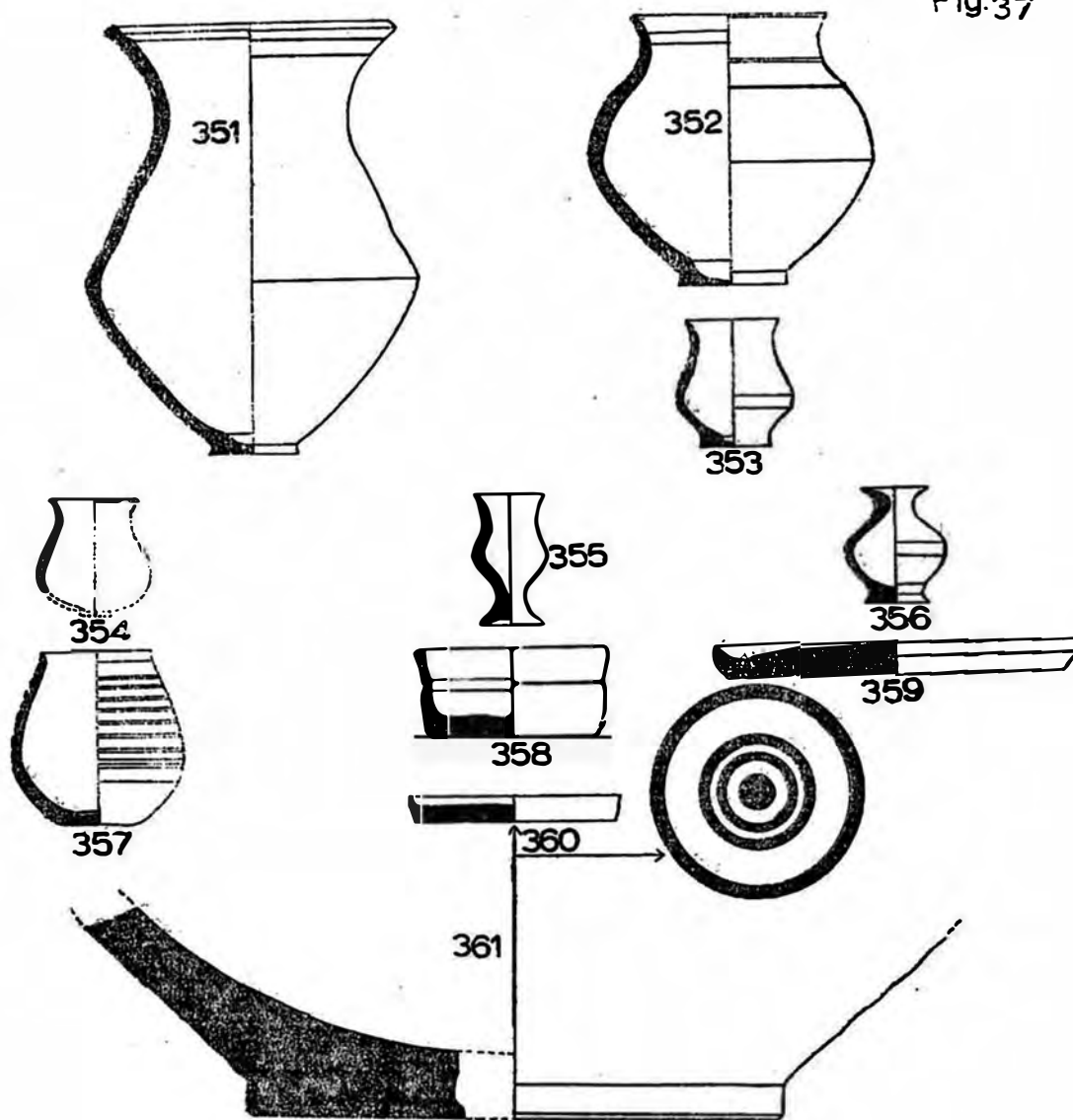


PERIOD. IV

Fig. 36



Scale
PERIOD. IV



Scale
1" 0 1" 2" 3"
GRAVE POTTERY

CHAPTER X

POTTERY FROM GUMLA

The pottery from Gumla is interesting as well as instructive. Although the early stage of pot-making is not attested here stratigraphically, yet we have a clear picture of the pottery as developed during the Bronze Age. The pre-pottery layer (12) is, as has been said before, actually neolithic. In period II (see below) we have distinguished one group of hand made pottery found elsewhere in a definite early stratigraphic level. However, the find of such pottery there does not indicate that the pottery originated in that place. It only means that the tradition of hand made pottery reached there earlier than the painted pottery tradition.

Period II pottery continues the hand made pot tradition and further introduces the regional types of the Gomai valley. This Gomai pot tradition is related to Mundigak period II and period III. I as well as to Rana Ghundai II and Sur Jangal II. There are some painted designs common to both but Gomai valley has also developed its own peculiar style and peculiar forms. Some of the forms persisted till the end. The colours, chocolate on white and chocolate on red, are dominant in this period. This white background also continued in later periods.

Period III is one of deterioration in the art of pot making. The pottery forms are also reduced in number. The tradition of painting gets simplified. Painted broad neck bands are the major decorative style in this period although the jars with flanged rim have designs formed by the process of intersecting circles. A horned deity of Kot Diji type is seen painted on the pots. Black-on-red tradition became popular.

Period IV shows a revival of the fine art of painting. Along with the new designs and new forms we observe the arrival of typical Harappan pottery. The new type of the intersecting circle motif and the pipal

leaf at once establish relation with the Indus plains. In this period chocolate on white and black on red continued side by side.

Period V has very few pots produced in the graves. By this time the painting tradition is almost lost. We get only unpainted simple forms, although some of the old types also persisted.

On the whole the Gomai pottery belongs to red ware group. The grey ware pottery is very scarce. Period II introduced the typical regional variety, which is known to have spread later in the Indus plain. Certainly period III pottery is found at Kot Diji, Sarai Khola and Jalilpur.

Period II

This was the earliest period in which pottery was found at Gumla. The lowest layer (11) of this period was very thick. As a number of pits were dug through this layer, it was difficult to separate the pottery found in these pits from the possible lower occupation stratum. As a result all the potsherds found in the pits and outside the pits have been put in the same layer (11). However, it must be noted that the majority of the fine painted sherds were found inside the pits and the coarse hand-made ware sherds were obtained outside the pits in the lower levels of layer (11). Whether this distinction allows us to make a separate period is difficult to say. I believe stratigraphically we are not justified. But culturally there is some ground for such a differentiation in view of the fact that the hand-made coarse potsherds have parallels in the pottery of the lowest levels at Mundigak and in Quetta and Zhob and Loralai valleys. However, we would not stress the point, as we have already suggested a gap (see chapter IV) between periods I and II at Gumla. Under this assumption the examples given in type II be-

low may be survivals in this period.

In all we have distinguished 15 main types in this period. The two complete jars found in the excavation are separate. They have not been drawn. Only their photographs are published. Out of these types quite a large number persisted till the last occupation of the site, although some underwent changes as will be shown below. The plain sherds were no doubt larger in number than the painted sherds although we have illustrated more of the latter.

Almost all the pots have slips either red of varying density or white (or buff). The red slip is dominant and as its density increases we have used the terms red-dressed, red-washed and red-slipped. In the first example it is almost indistinguishable from the pinkish red texture of the pot. In the second example the colour is almost reddish — a dull red, which is in contrast to the original ware of the pots. In the last example the red is very deep and stands in sharp contrast to the pinkish red. The white slip is not exactly white but rather dirty white and may be a variant of buff. The burnishing is observed only in the coarse hand-made pots of type (II).

The painting varies from the simple band at the exterior and, or interior, of the rim, or a neck band, or a wavy loop hanging from the neck band to exuberant designs seen in the exterior of the thin ware cups or the interior of the saucers (type XV). The colour scheme is usually a deep chocolate, very rarely black, on red or white. A second colour pinkish red or yellow is sometimes added to give a multi-colour concept. The painted designs are usually animal or bird forms or some geometric patterns. Floral or tree representation is rare. The animals and birds are drawn in outline, and only in the case of lion (Fig. 16, No. 76, pl. 1 a, in the figure the lion is wrongly shown as solid) it is partly hatched. In other cases it is left

vacant, thus giving rise to a new regional style. We do not get here antelopes nor their crooked horns. Instead we have here well-formed big size horns (Nos. 77 and 78), which in later periods appertain to a serpent god.

A new design (See fig. 18, No. 130) of a series of cross-hatched space with bent arms resulting from the technique of intermeeting circles or circles meeting at tangents is very favourite in this region. The circles may not be fully drawn but the cross-hatched space is met with in various combinations. It is also seen at Mundi-gak (See Casal, Fig. 58, No. 111), in Quetta valley (See Fairservis, Nos. 134-138) and in Zhob valley (See Fairservis, fig. 46, Nos. f, g and h). It is probably from this motif that later the intersecting circle motif was developed. This latter was very popular in the Harappan culture.

It may also be pointed out that we got here only one specimen of ledged (actually flanged) rim vessel (No. 93). The thin ware cups found in this period have designs special to this region. Similar cups have also been found at Jalilpur in Multan district. The description of the pottery is given type-wise.

Type I: Dish-on-stand

In this period we have found only parts of stands. They are all of red ware. They fall into two varieties: (a) has tall slender stem hollow inside just as we get in Fairservis, Zhob Fig. 69. S; and variety (b) has a broad based stand comparable with Fairservis, Zhob, Fig. 66.t. Both the varieties are plain.

Fig. 11, No. 1: broken stand of a dish-on-stand of red ware, fine texture, having red wash. The dish is broken. The stand is tall and hollow; variety (a), trench AO, layer (11).

Fig. 11, No. 2: Broken stand of a dish-

on-stand of red ware, fine texture, having red wash. The dish is broken. The stand is broad and spreading; variety (b), trench AO, layer (11).

Fig. 11, No. 3: Broken stand of a dish-on-stand of red ware, fine texture, having red slip at the exterior. The stand, which is tall and hollow and hence belonging to variety (a), has lines of grooves on the inner side. Trench BO, layer (10).

Type II: Flat-bottomed Plate or Dish

These sherds fall into two groups — Nos. 4, 5, 6, 7, 8 and 9 have been found in the lower levels of layer (11). The remainder, i.e., Nos. 10, 11, 20, 22, 23 and 40 have been found in the upper levels of layer (11) or in layers (10) and (9). They fall into six varieties.

Fig. 11, No. 4: Fragment of a flat-bottomed plate with its upright arm slightly curving in. Hand-made and of coarse texture. It has reddish wash inside and deep red slip at the exterior. Trench AO, layer (11). Its counterpart can be seen in Fairservis, Zhob, fig. 80.t, and Casal, Mundigak, fig. 51, No. 36. It is of variety (a).

Fig. 11, No. 5: Fragment of a heavy coarse ware dish, has high thick upright walls with a slight bent in the upper part. Top of the rim is flat. It has a deep chocolate slip at the exterior and the interior. Trench AO, layer (11). Compare with Fairservis, Quetta, Fig. 46 B bottom left. It is of variety (b).

Fig. 11, No. 6: Fragment of a heavy coarse ware dish with its arms diverging to the side. It has a reddish wash. Trench AO, layer (11). Compare shapes in Fairservis, Quetta, Fig. 45 B bottom right. It is of variety (c).

Fig. 11, No. 7: Fragment of a dish similar to No. 6 in shape but the present one

is slightly thinner in fabric. It has a deep red slip at the interior but only a reddish wash at the exterior. Trench AO, layer (11). It is of variety (c).

Fig. 11, No. 8: Fragment of a heavy coarse ware dish. Its arms curve down to the flat bottom as we have in Fairservis, Quetta, Fig. 46 B second row from top. It has a reddish wash. Trench AO, layer (11). It is of variety (d).

Fig. 11, No. 9: Fragment of a heavy coarse ware dish. Its base is disc-shaped and it is exaggerated by a slight dip just before the junction of the arm and the base. Trench BO, layer (11). Compare Fairservis, Quetta, Fig. 46 B, top right. It is of type (e).

The following belong to the second group:

Fig. 12, No. 10: Fragment of a flat-bottomed dish with its arms diverging. The texture has quartz particles mixed with clay. It has a reddish wash and may have been made in a slow wheel. Trench AO layer (9). It belongs to variety (c).

Fig. 12, No. 11: Fragment of a dish with its arms small and diverging. It is made of coarse texture but well fired. It has a reddish wash at the interior and red slip at the exterior. Trench AO, layer (10). It belongs to variety (b).

Fig. 12, No. 20: Fragment of a plate of coarse texture mixed with mica particles, hand-made, whitish wash at the inner side and red slip at the exterior. Trench BO, layer (10). It belongs to variety (b).

Fig. 12, No. 22: Fragment of a dish of red ware, comparatively better texture, well fired, has a further dressing of wet clay at the exterior. Trench AO, layer (11). It belongs to variety (b).

Fig. 13, No. 23: Fragment of a flat-bottomed plate with out-turned rim, of

coarse texture, fired black. Trench AO, layer (10). It is of variety (f).

Fig. 13, No. 40: Rim fragment of a flat-bottomed plate with its rim out-turned, made of coarse texture, reddish washed. Trench BO, layer (11). It belongs to variety (f).

Type III: Plates painted with simple lines

These are also plates like the above. The ware is also sometimes coarse and sometimes fine but they invariably have a banded line painted at the rim or at the junction of the arm and the base. They are divided into four varieties. Some of the forms are derived from those of type II; e.g., variety (a) of the present type is taken from variety (b) of the former; Variety (c) is from variety (f), and variety (d) is from variety (c).

Fig. 12, No. 12: Fragment of a dish with its arms upright and flat top, of red ware, fine texture, has a reddish wash at the interior and red slip at the exterior. It has a chocolate banded line at the rim and also at the junction of the arm and the base. Trench BO, layer (10). Compare Mundigak, Fig. 51, No. 34. Variety (a).

Fig. 12, No. 13: Fragment of a dish with its arm upright but towards the rim there is a slight inset, of red ware, fine texture, has a reddish wash and further chocolate painted line as in the above example. We also note some streaks dropping from the rim. Trench AO, layer (9). Variety (a).

Fig. 12, No. 18: Fragment of a slightly sagger based plate with its short arms curving outward, of red ware, fine texture, has a red slip both at the interior and the exterior of the top part of the rim with a further chocolate painted band. Below the band the exterior has a reddish wash. Trench BO, layer (11). Variety (b).

Fig. 12, No. 19: This is similar to the above. Trench BO, layer (11). This variety is not known in type II.

Fig. 12, No. 21: Fragment of a deep dish having its upright arm slightly curving, of red ware, fine texture, reddish washed, has a red painted line at the inner lip and remnant of a chocolate painted linear design at the exterior. Trench BO, layer (9). Variety (a).

Fig. 13, No. 24: Fragment of a flat-bottomed plate with out-turned rim, of red ware, fine texture, but not well fired, has a red slip at the interior and the exterior, and a further chocolate painted lining at the inner lip. Trench AO, layer (10). Variety (c).

Fig. 13, No. 25: Rim fragment of a plate similar to the above but the rim is curving much more, of coarse texture, thick fabric, has a reddish wash and chocolate painted lining at the tip of the rim. Trench BO, layer (9). Variety (c).

Fig. 13, No. 33: Fragment of a deep dish of red ware, coarse texture, not well fired, has a diverging out-curved arm with clubbed rim, reddish wash at the exterior and red slip at the interior with chocolate painted line at the rim. Trench AO, layer (9). Variety (d).

Fig. 13, No. 34: Fragment of a deep dish of red ware, fine texture, well fired, has a diverging arm, red slipped, with deep chocolate painted bands at the rim. Trench AO, layer (9). Variety (d).

Fig. 13, No. 35: Fragment of a deep dish of red ware, fine texture, well fired, has a diverging arm with clubbed rim, whitish wash at the exterior and red slip at the interior with chocolate painted line at the rim. A series of lines in two horizontal rows is incised at the exterior. Trench BO, layer (11). Variety (d).

Type IV: Ring-based Bowls

These bowls have either ring base as we find in the first three examples or a saucer-shaped base as we get in the last example. They are all made of fine red ware. Only the second has a very thick fabric but others are thin.

Fig. 13, No. 36: Base of a deep bowl of fine texture, well fired, has a reddish wash. Trench AO, layer (11). Compare Fairservis, *Quetta*, Fig. 51, bottom left. *Mundigak*, Fig. 51, No. 37 and Fig. 52, No. 47.

Fig. 13, No. 37: Thick base of fine red ware, well fired, has a reddish wash. Trench AO, layer (11). Compare Fairservis, *Zhob*, Fig. 80, No. 0.

Fig. 13, No. 38: Base of a fine red ware carinated bowl, well fired, red washed at the interior and white washed at the exterior with deep chocolate painted line at the carination. Trench AO, layer (11).

Fig. 13, No. 39: Saucer-shaped base of a broken cup of fine red ware, well fired, has a reddish wash. Trench BO, layer (11).

*Type V: Plates or lids with**variegated designs*

Fig. 12, Nos. 14 and 14 a: Fragment of a painted plate similar to No. 19, described above, with a curving arm, of red ware, thin in section, fine texture, well fired, has a reddish wash. The exterior of the arm shows deep chocolate paint. The interior has a series of triangles at the margin and the flat plate shows alternatively triple wavy lines in red and double straight lines in chocolate. Trench AO, layer (11). Variety (a).

Fig. 12, Nos. 15 and 15 a: Portion of a small tray-like plate having insignificantly little curving arm. The bottom has its interior slightly bulging. It is of red ware, fine texture, has red wash and at the outside traces of double concentric circles in

chocolate paint are noted. Trench AO, layer (11). Variety (b).

Fig. 12, Nos. 16 and 16 a: Fragment of a flat lid of red ware, fine texture, has its arms upright as in No. 13 described above. It has a reddish wash at the interior and red slip at the exterior. Deep chocolate painted lining at the joint of the arm and base and two concentric painted lines near the centre (on the exterior), and in between them there are two concentric dotted nail heads. Trench AO, layer (9). Variety (b).

Fig. 12, Nos. 17 and 17 a: Fragment of a flat-bottomed lid with its arms upright, of red ware, fine texture, has a whitish wash at the exterior and has concentric chocolate painted lines. Trench BO, layer (11). Variety (b).

Type VI: Painted troughs and funnel

These are all thick vessels of red ware made of coarse texture. The first two have parallels in Mundigak and in Quetta valley but the funnel is unique. It is not painted but burnished.

Fig. 14, No. 41: Rim fragment, thick fabric, not well fired, reddish wash at the interior and exterior, with a solid stepped design painted in chocolate on white background within a triangle. Trench BO, layer (11). The form is comparable with Mundigak, Fig. 51, No. 35. For the design see *Ibid*, Fig. 55, No. 81 although the triangle here is not solid. For design see also Fairservis, *Quetta*, P. 295, designs 275, 277.

Fig. 14, No. 42: Rim fragment of red ware, not well fired, reddish wash at the interior but chocolate slip at the exterior and only at the interior lip. The exterior has a painted white band below the rim. Trench BO, layer (11).

Fig. 14, No. 43: A complete funnel having narrow discharge mouth, of red ware, not well fired, having reddish wash at the interior and red slip at the exterior.

Trench BO, layer (11).

Type VII: Painted thin shallow bowls

These are all thin shallow bowls with their base rounded or flat. Except No. 31 they are similar to Mundigak, Fig. 51, No. 33. Like it they have also got painted banded line at the inner lip and the outer rim. No. 31 is like the deep bowl from Mundigak, Fig. 49, No. 6.

Fig. 13, No. 26: Fragment of a shallow bowl of red ware, fine texture, well fired, having reddish wash with a series of chocolate and white lining at the inner lip and the exterior rim. Trench AO, layer (11).

Fig. 13, No. 27: Fragment of a shallow bowl of red ware, fine texture, well fired, having reddish slip with chocolate painted lining at the inner lip only. Trench BO, layer (11).

Fig. 13, No. 28: Fragment of a shallow bowl of red ware, fine texture, well fired, having red slip at the interior and reddish wash at the exterior with deep chocolate painted lining at the inner lip and exterior rim. Trench BO, layer (11).

Fig. 13, No. 29: Fragment of a thin bowl of red ware, fine texture, well fired, having red slip all over with chocolate painted line on white background at the inner lip and a broad chocolate band at the exterior rim. Trench BO, layer (11).

Fig. 13, No. 31: Fragment of a deep bowl with upright rim, of thin red ware, fine texture, well fired, having reddish wash all over with deep chocolate painted band at the inner lip and the exterior rim. Trench AO, layer (11).

Fig. 13, No. 32: Fragment of a flat-based bowl of red ware, fine texture, well fired, having red wash all over with deep chocolate painted band at the exterior rim and inner lip. There is an additional red painted band below chocolate at the exte-

rior. Trench AO, layer (11).

Type VIII: Scored Pottery

These are all thin ware bowls of fine red ware, except the first one, which is a storage jar. The bowls generally have painted bands at the exterior and below the body is scored.

Plate 13 a: Storage jar No. 1, broken into three pieces, a well shaped round bottomed jar of red ware, having everted rim, made of medium texture, red dressed. Below the shoulder it is scored. Trench AO, layer (11).

Fig. 13, No. 30: Fragment of a thin bowl similar to type VII, of red ware, fine texture, having red slip with chocolate painted band at the exterior rim and inner lip. Below the exterior face is scored. Trench AO, layer (11).

Fig. 14, No. 52: Fragment of a red ware vase of fine texture, well fired, having reddish wash at the interior and red slipped at the exterior with a broad painted chocolate band at the exterior rim, below which the body is scored. Trench AO, layer (11).

Fig. 14, No. 53: Fragment of a scored pot with an out-turned rim, of fine red ware, has a red slip at the exterior and red washed at the interior. Trench BO, layer (11).

Fig. 14, No. 54: Fragment of a carinated scored pot of red ware, fine texture, red washed at the interior and red slipped at the exterior. Trench BO, layer (11).

Fig. 14, No. 55: Fragment of a scored pot with an insignificant rim and bulging body, of fine red ware. The interior is reddish washed and the exterior is red slipped, with a chocolate painted band at the rim. Trench AO, layer (11).

Fig. 14, No. 57: Fragment of a scored pot of fine red ware, having reddish wash inside and red slip outside, with chocolate painted band at the rim. Trench AO, layer (11).

Type IX: Painted narrow mouthed vessels

These vary from small tiny pots to bigger vases having bulging body or broad goblets. They are all thin or at the most medium fabric and they have generally a broad painted band at the rim.

Fig. 14, No. 44: A flat-based cup having insignificant rim and bulging body, of fine red ware, red washed, with a chocolate painted line at the neck. Trench AO, layer (11).

Fig. 14, No. 45: A flat-based cup having a grooved line at the neck and flat base, red washed, plain. Trench AO, layer (11).

Fig. 14, No. 46: A ball-shaped tiny little cup of fine red ware, flat-base, having red slip at the exterior and painted chocolate lining at the rim. Trench AO, layer (11). The shape can be compared with Mundigak, Fig. 55, No. 76, but the latter example has a painted design.

Fig. 14, No. 47: Fragment of a deep bowl with a slight everted rim and curving body, of red ware, fine texture, well fired, has a red wash, with chocolate painted lining at the rim. Trench BO, layer (11).

Fig. 14, No. 48: Fragment of a deep bowl with a slight thickened rim and bulging body, of red ware, fine texture, reddish washed at the interior and below the rim at the exterior. Lower portion is red slipped and a chocolate lining at the rim. Trench AO, layer (11).

Fig. 14, No. 49: Fragment of a deep bowl with a slight straight rim of fine red ware, having reddish wash, with chocolate painted band at the rim. Trench AO, layer (11).

Fig. 14, No. 50: Fragment of a deep bowl having everted rim, of red ware, fine texture, reddish washed at the interior and below the rim at the exterior. Lower portion is red slipped and a chocolate lining at the rim. Trench AO, layer (11).

Fig. 14, No. 51: Fragment of a small cup like No. 44 above, of red ware, having whitish slip at the exterior and a chocolate lining at the rim. Trench AO, layer (11).

Type X: Vessels with applied clay bands

These are all coarse ware fragments and found in all the subsequent periods. They are thick and without any slip but the coarse surface appears to be red dressed. And further applied clay bands in wavy forms run round the exterior.

Fig. 14, No. 56: Fragment of red ware, thick fabric, has thick wavy clay bands applied at the exterior. Trench BO, layer (11).

Fig. 14, No. 58: Fragment of a thick red ware similar to above, has wavy clay bands in the same fashion. Trench BO, layer (11).

Type XI: Incised ware

Such incised ware vessels are common in all the subsequent periods. They are of red ware with red dressing at the exterior. Probably when the clay was wet the wavy lines in various shapes were drawn by broom stick or by a comb.

Fig. 14, No. 59: Fragment of a fine red ware, thin section, well fired, with a clayey wash at the exterior with a series of wavy incised lines or rather combed lines. Trench BO, layer (11).

Type XII: Jars with painted neck bands

These are various sizes of jars with bulging body and simple rims of red ware, medium fabric. They generally have a painted band at the neck or at the rim.

This style of neck band decoration survives in all the subsequent periods.

Fig. 15, No. 60: Neck fragment of a jar of red ware, fine texture, reddish wash at the interior and red slip at the exterior with chocolate painted lining at the inner lip and at the outer rim. The rim is flaring. Trench AO, layer (11).

Fig. 15, No. 61: Jar fragment having long neck and everted rim, of red ware, well fired, reddish wash at the inside. There is a deep red slip at the exterior of the rim and the neck and below this there is whitish slip. A chocolate painted lining at the inner lip. Trench AO, layer (11).

Fig. 15, No. 62: Jar fragment with out-turned rim, of red ware, reddish wash inside and red slipped outside with a further chocolate painted band at the rim and red painted band at the neck. Trench AO, layer (11).

Fig. 15, No. 63: Jar fragment having flaring rim, of red ware, fine texture, reddish wash inside and faint red slip at the outside, with chocolate painted lines at the rim and double lines at the shoulder painted over by a wavy line. Trench AO, layer (11).

Fig. 15, No. 64: Fragment of a jar with flaring rim, of red ware, fine texture, reddish wash inside and red slipped outside. Chocolate painted band at the outer neck and the inner lip. Trench AO, layer (11).

Fig. 15, No. 65: Fragment of a jar with a small straight neck and everted rim, of red ware, fine texture, reddish wash at the inside and outside, with a chocolate painted band at the outer rim. Trench AO, layer (11).

Fig. 15, No. 66: Fragment of a jar with flaring rim, of red ware, fine texture, reddish wash inside with white slip at the outer rim and shoulder, in between which

is a red painted band. Below the shoulder there is a rough dressing of wet clay. Trench AO, layer (11).

Fig. 15, No. 67: Fragment of a small thick pot having everted short rim, of red ware, fine texture, white wash at the inside and outside, with chocolate painted band at the inner lip and the outer rim. Trench AO, layer (11).

Fig. 15, No. 68: Fragment of a small thin pot with out-curved rim, of red ware, fine texture, with deep red slip at the outside and at the inner lip and additional chocolate band at the outer rim and the inner lip. Trench AO, layer (11).

Fig. 15, No. 69: Fragment of a small pot with out-curved rim and a slight ledge at the neck, of dull red ware, with whitish wash and smoky stains at the outside. Deep chocolate band at the outer rim and below the shoulder. Trench BO, layer (11).

Fig. 15, No. 70: Fragment of a big jar having straight rim, of red ware, fine texture, reddish wash inside, red slipped at the outside and also at the inner lip, with deep chocolate band at the neck. Trench AO, layer (11).

Fig. 15, No. 71: Fragment of a jar with out-turned rim, of fine red ware, reddish wash inside with a dull chocolate slip at the inner lip and at the outer rim and shoulder. Below is white slip. Trench BO, layer (11).

Fig. 15, No. 72: Fragment of a jar having out-turned rim, of red ware, fine texture, reddish wash inside and red slipped outside, with chocolate painted band at the inner lip and at the outer rim. Trench BO, layer (11).

Fig. 15, No. 73: Fragment of a jar with everted rim, of red ware, fine texture, reddish wash inside and red slipped outside, with chocolate painted band at the outer

rim and inner lip. Trench BO, layer (11).

Fig. 15, No. 74: Fragment of a jar with flaring rim, of red ware, having red slip at the inner lip and at the outer rim and white slip on the outer surface. Trench BO, layer (10).

Fig. 15, No. 75: Fragment of a jar with clubbed rim, of red ware, fine texture, reddish wash all over with traces of chocolate band at the outer neck. Trench AO, layer (11).

Type XIII: Jars with variegated

painted designs

These are jars similar to the above type but they have different painted designs at the shoulder and the body of the pots. Some of the designs, e.g. No. 94 can be compared with those seen in the thin cups (Type XV below), No. 136. They can also be compared with the painted jars from Mundigak, like Fig. 56, Nos. 85, 86, 87, 90 and 91, although the painted designs show regional variations.

Fig. 16, No. 91: Fragment of a red ware jar having out-turned rim, reddish slip inside, whitish slip outside, with chocolate painted band at the neck and four painted parallel horizontal lines at the shoulder. Trench AO, layer (11).

Fig. 16, No. 92: Fragment of a red ware jar having out-turned rim, reddish slip inside, whitish slip outside, with a chocolate painted band at the neck and below two painted lines, from which hangs down a row of wavy curls. Trench AO, layer (11).

Fig. 16, No. 94: Fragment of a red ware jar having insignificant everted rim, reddish wash inside, white slipped outside, with a chocolate painted band at the neck and three horizontal lines below it. From the lines hangs down a design consisting of concentric triangles alternating with

four wavy lines drawn at a diagonal. Trench AO, layer (11). Compare with No. 136 below and also with Fairservis, *Quetta*, design No. 383.

Fig. 16, No. 95: Fragment of a jar with almost straight rim, of fine red ware, reddish washed, with white painted band at the neck, from which hang down double triangles pointing downwards and a double ruled vertical line. The outlines are in red paint and the inner space is filled with white. Trench BO, layer (11). Compare Mundigak, Fig. 56, No. 86.

Type XIV: Jar with ledged (flanged) rim

The terminology adopted here may be confusing but in chapters III and V the term "ledged rim vase" has been used, although actually such pots have a flange below the rim. In order to give a true idea of these vases we have used the double terminology. Those which have got only ledge as in type 16 of period III, we will use the term only "ledged rim vase". In this period we obtained only one specimen of vase with flanged rim. In fabric it differs from those that became common from period III onward. Here the vase is of thin ware. Such vases have two holes on one side of the pot at the flange and two more holes on the other side obviously for strings so that the pot could be hung up. In the later periods these pots are profusely decorated. Whether they have any ritual significance, is difficult to say.

Fig. 16, No. 93: Fragment of a fine red ware jar having ledged (flanged) rim with two holes still preserved. It has white or buff slip at the outside with painted chocolate band at the neck and further painted lines at the shoulder. The lower part is broken and hence we do not know the form of the design used below. Trench AO, layer (11).

Type XV: Painted cups and saucers

These cups and saucers are of the

same type as are illustrated in *Mundigak*, Fig. 53, although the designs show regional variations. They are all of extremely fine red ware. The cups are generally carinated and bear designs at the exterior face. The saucers have sometimes slight upright rims and they have designs on the inner side.

Fig. 16, No. 76: Pl. 1 a, No. 1: Fragment of a carinated cup with concave sides and flaring rim. It is of fine red ware, and has red slip above the carination and buff wash below. At the inner lip, outer rim and the carination we have a deep chocolate painted lining. The preserved portion shows parts of two lions one behind the other. The lions are drawn in chocolate outline (in the figure it is wrongly shown as solid) and the inner space is filled with white. A few hatched lines are seen at the rear part of the body of the front lion. Just a part of the growling mouth of the back lion is preserved and the front lion has lost its fore part. The lions are drawn in a naturalistic fashion with the tail gently curving up. Trench AO, layer (11). For comparison we have two legs of a lion from *Mundigak*, Fig. 55, No. 82, although we may note stylistic difference.

Fig. 16, No. 77: Fragment of a carinated bowl with flaring rim, fine texture, red slipped at the outside and only at the inner lip, with a deep chocolate painted lining at the outer rim. The exterior has a painted design only partly preserved, consisting of a curved horn (compare No. 78 below) drawn by double chocolate lines, the inner space being filled with yellow paint. Trench BO, layer (11).

Fig. 16, No. 78: Fragment of a bowl similar to No. 77 above but thinner in section, has chocolate slip at the outside and the inner lip. The exterior has again preserved part of a horn drawn in deep chocolate outline with inner space filled with yellow. Trench BO, layer (11).

Fig. 16, No. 79: Fragment of a straight-

sided cup of fine red ware, reddish washed inside, whitish slip outside, with a painted design showing only a bird's head with its round eye drawn in deep chocolate with white filling. Trench AO, layer (10).

Fig. 16, No. 80: Fragment of a red ware cup with its sides gently curving, having red slip at the outside with a painted design, which apparently shows a part of bird's head with two long eyes drawn in chocolate outline. Trench AO, layer (10).

Fig. 16, No. 81: Pl. 1 a, No. 2: Fragment of a red ware cup with in-curving sides, having whitish or buff wash at the outside, with a painted ass on it. The preserved portion shows only its head with two straight ears and a round eye, all drawn in deep chocolate outline with white filling. Trench AO, layer (11).

Fig. 16, No. 82: Fragment of a red ware cup with almost straight sides, having whitish wash inside and white slip outside with chocolate painted lines at the lip and further unrecognisable vertical and curved lines. Trench AO, layer (11).

Fig. 16, No. 83: Fragment of a red ware cup with gently curving sides and rim, having reddish slip with an unidentified animal design (probably a rabbit) drawn in chocolate outline with white filling. Trench AO, layer (11).

Fig. 16, No. 84: Fragment of a cup similar to No. 83 above and similar painted design on the exterior surface. Trench AO, layer (11).

Fig. 16, No. 85: Fragment of a red ware cup with tapering sides, having reddish slip at the outside with a design showing only a wavy and a curved line drawn in deep chocolate outline with white filling. Trench AO, layer (9).

Fig. 16, No. 86: Fragment of a red ware cup similar to No. 83, having reddish slip

at the outside with a design partly preserved, drawn in chocolate outline with white filling. The design represents a crab with only one bent leg preserved. Its body has two wavy lines drawn vertically. Trench BO, layer (11).

Fig. 16, No. 87: Fragment of a red ware cup similar to the above and probably having the same crab design painted in chocolate outline but just a part is preserved. Trench BO, layer (11).

Fig. 16, No. 88: Fragment of a red ware cup with everted rim, having whitish slip inside and reddish slip outside with an unidentified design drawn in chocolate outline with white filling. It may be a part of a rat (see No. 89). Trench AO, layer (11).

Fig. 16, No. 89: Fragment of a red ware cup similar to No. 84 above, having whitish slip inside and reddish slip outside with a part of a long tailed rat painted in chocolate outline with white filling. Trench BO, layer (11).

Fig. 16, No. 90: Fragment of a red ware cup similar to No. 84 above, having red wash, with a part of two triangles drawn in chocolate outline with white filling. Trench AO, layer (11).

Fig. 17, No. 96: Pl. 77, No. 1: Fragment of a cup of fine red ware, having red slip at the inner lip and white slip outside, with a design drawn in chocolate outline and the inner space hatched. The design consists of inter-connected hatched squares and T's. The preserved portion shows three squares and four T's. Trench AO, layer (11).

Fig. 17, No. 97: Pl. 77, No. 2: Fragment of a similar carinated cup of fine red ware, having the same painted design in the same colour. Here the preserved portion has two hatched squares and five T's. Trench AO, layer (11).

Fig. 17, No. 98: Pl. 77, No. 3: Fragment of a saucer with upright rim having reddish wash, with a design in chocolate. At the inner lip we have a row of triangles and then three lines alternating with inter-connected hatched squares and T's. In all there are three triangles, six squares and ten T's. Trench AO, layer (11).

Fig. 17, No. 99: Pl. 77, No. 7: Fragment of a red ware cup having white slip at the outside with a design painted in chocolate. It consists of three cross hatched squares meeting at diagonals and two solid squares. The end squares are separated by three painted lines. For this design see Fairservis, *Zhob*, design No. 117. Trench AO, layer (11).

Fig. 17, No. 100: Pl. 77, No. 4: Fragment of a fine red ware cup, having reddish slip at the outside with a design drawn in deep chocolate and white filling. It consists of concentric squares in two rows, the innermost square enclosing triangles meeting at their apex. Trench AO, layer (11). Compare Fairservis, *Quetta*, P. 294, design No. 265.

Fig. 17, No. 101: Pl. 77, No. 6: Fragment of a fine red ware cup, reddish slip below the rim with a painted design of linear pattern, representing group of vertical lines in white alternating with horizontal lines in chocolate. Trench BO, layer (11). Compare Fairservis, *Quetta*, P. 291, design No. 234.

Fig. 17, No. 102: Pl. 77, No. 9: Fragment of a fine red ware cup, having red slip outside with a design of hatched squares meeting in one diagonal row. The outline of the squares in chocolate, the background in white and the vertical hatching in red. Trench BO, layer (11). Compare Fairservis, *Quetta*, P. 298, design No. 321.

Fig. 17, No. 103: Pl. 77, No. 11: Fragment of a fine red ware cup, having red slip at the outside and at the inner lip, with a design consisting of double vertical lines drawn in chocolate outline with white fill-

ing and further chocolate painted line at the rim. Trench AO, layer (9).

Fig. 17, No. 104: Pl. 77, No. 10: Fragment of a fine red ware cup, having red slip outside above the carination and white below, with two triple vertical line drawn in chocolate and the space filled with white. Trench BO, layer (11).

Fig. 17, No. 105: Pl. 77, No. 8: Fragment of a fine red ware cup, having smoky red slip outside, with further two triple vertical lines painted in chocolate. The lines are drawn clumsily. Trench BO, layer (11).

Fig. 17, No. 106: Pl. 77, No. 15: Fragment of a fine red ware cup, having red slip outside and a painted chocolate band at the rim, with double vertical line in chocolate outline with white filling as in No. 103 above. Trench BO, layer (11).

Fig. 17, No. 107: Pl. 77, No. 14: Fragment of a fine red ware cup having reddish wash and double vertical line painted in chocolate outline with white filling as in No. 106 above. Trench AO, layer (11).

Fig. 17, No. 108: Pl. 77, No. 5: Fragment of a fine red ware cup, having red slip outside with double vertical lines in chocolate enclosing a cross hatched pattern extended vertically on white background. Trench AO, layer (11). Compare Fairservis, *Quetta*, design No. 57 and *Zhob*, No. 252.

Fig. 17, No. 109: Pl. 77, No. 13: Fragment of a fine red ware cup, having reddish slip at the outside, with double vertical line in chocolate outline with white filling as in No. 103 above. Trench BO, layer (11).

Fig. 17, No. 110: Pl. 77, No. 12: Fragment of a small jar of fine red ware having straight rim, red slipped outside, white painted band at the rim between chocolate lines and two vertical lines enclosing white filling. Trench BO, layer (11).

Fig. 17, No. 111: Pl. 78, No. 2: Fragment of a cup of dull black ware, fine texture, not well fired, white slip outside, having chocolate painted four horizontal lines. From the last hang down the verticals. Trench BO, layer (11).

Fig. 117, No. 112: Pl. 78, No. 4: Fragment of a carinated cup of fine red ware, red slipped, having horizontal painted lines and bands at the rim and at the carination. Trench BO, layer (10).

Fig. 17, No. 113: Pl. 78, No. 1: Fragment of a carinated cup of fine red ware, reddish slipped below double horizontal chocolate lines at the outside and at the rim a chocolate band, in between which white filling. Trench AO, layer (11).

Fig. 17, No. 114: Pl. 78, No. 3: Fragment of a carinated cup of fine red ware, red slipped at the outside, having painted line in chocolate at the rim and at the carination with an additional curved stroke towards the carination. Trench BO, layer (10).

Fig. 17, No. 115: Pl. 78, No. 8: Fragment of a saucer having upright rim of fine red ware, reddish washed. On the inner side we have a row of triangles at the lip and in the middle a cross hatched rectangle in chocolate alternating with X-pattern painted in red. Trench BO, layer (11).

Fig. 17, No. 116: Pl. 78, No. 5: Fragment of a fine red ware saucer thick section, red slipped inside, having a design in chocolate-on-white. It consists of wavy lines alternating with straight lines within triple concentric circles. Trench BO, layer (11). Compare Fairservis, *Quetta*, design No. 231.

Fig. 17, No. 117: Pl. 78, No. 10: Fragment of a fine red ware cup reddish washed, having a design in chocolate. It consists of a row of triangles at the rim below which are ruled parallel lines bounded between triangles. Trench AO, layer (9).

Fig. 17, No. 118: Pl. 78, No. 7: Fragment of a fine red ware saucer having reddish slip inside but whitish outside and at the inner margin, where we have a row of solid triangles above three concentric lines painted in chocolate. Trench AO, layer (11).

Fig. 17, No. 119: Pl. 78, No. 9: Fragment of a similar saucer as above having painted design in the same fashion using same colour, but the concentric lines are only two. Trench BO, layer (11).

Fig. 17, No. 120: Pl. 78, No. 6: Fragment of a plate or saucer of red ware, thick fabric, having reddish wash inside and with patterns in three concentric zones painted in chocolate. Near the lip it has a series of horizontal lines, separated from the second zone having vertical painted lines on white, followed by double lines of separation. The third design is lost. Trench BO, layer (11).

Fig. 18, No. 121: Pl. 79, No. 13: Fragment of a grey ware cup, fine texture, white slipped at the outside, with a design in chocolate consisting of a wavy line (snake?) between parallel horizontal lines. Trench AO, layer (11).

Fig. 18, No. 122: Pl. 79, No. 11: Fragment of a fine red ware cup, having red slip, with triple wavy lines drawn at an incline in deep chocolate on white. Trench AO, layer (11). Compare Fairservis, *Quetta*, P. 292, design No. 248.

Fig. 18, No. 123: Pl. 79, No. 10: Fragment of a fine red ware cup having red slip outside, with triple wavy lines within double straight lines painted in chocolate on white. Trench BO, layer (11). Compare *Mundigak*, Fig. 52, No. 45.

Fig. 18, No. 124: Pl. 79, No. 9: Fragment of a carinated cup of fine red ware, red slipped outside, with a painted design of triple wavy lines within triple straight

lines in chocolate on white. Trench AO, layer (11).

Fig. 18, No. 125: Pl. 79, No. 12: Fragment of a fine red ware cup, red slipped outside, with a painted design consisting of four wavy lines in chocolate on white and an additional square having wavy arms painted in white. Trench BO, layer (11).

Fig. 18, No. 126: Pl. 79, No. 5: Fragment of a carinated cup of fine red ware, red slipped outside, with a design partly preserved. It consists of curved arms with a disc at the end painted in deep chocolate. Trench AO, layer (11). Compare Fairservis, *Quetta*, design No. 18 and *Zhob*, design No. 11.

Fig. 18, No. 127: Pl. 79, No. 6: Fragment of a carinated cup of fine red ware, white slipped at the outside above the carination and chocolate slipped below, having a design consisting of double lined semi-circles (parts of only two are preserved), on the top of which stand vertical lines and in between the groups of lines are two blobs in chocolate. Trench BO, layer (11).

Fig. 18, No. 128: Pl. 79, No. 7: Fragment of a carinated cup of fine red ware, red slipped outside, with a design in chocolate on white. It consists of two sigmas in between groups of vertical lines below marginal line at the rim and above three parallel lines at the carination. Trench AO, layer (11). Compare *Mundigak*, Fig. 50, No. 28.

Fig. 18, No. 129: Pl. 79, No. 8: Fragment of a carinated cup of fine red ware, red slipped outside, having chocolate painted line at the rim and at the carination. In the middle of the body there is a flower painted in chocolate outline with white filling. Only two petals of the flower are preserved. Trench BO, layer (11). Compare *Mundigak*, Fig. 52, No. 46.

Fig. 18, No. 130: Pl. 79, No. 1: Fragment

of a carinated cup of fine red ware, with a chocolate painted line at the rim and white slip outside above the carination, on which there is a complicated design. It consists of two concentric circles in the middle with their outermost lines touching at tangents and further two quarter circles above and below again inter-touching at tangents. The space thus derived by the process of inter-meeting circles makes a square with bent arms and it is cross-hatched. Generally only two cross-hatched spaces are seen together as forming one design. Here the largest circles are drawn in chocolate, the second in red and the third solid ones in black with four white spokes in the middle. Trench BO, layer (11).

Fig. 18, No. 131: Pl. 79, No. 2: Fragment of a carinated cup of fine red ware, reddish slipped, with a design in chocolate on red. The preserved portion shows parts of two cross-hatched spaces, obtained by the same process as described in No. 130, inside the semi-circles we have red solid ovals. Trench BO, layer (11).

Fig. 18, No. 132: Pl. 79, No. 3: Fragment of a carinated cup of fine red ware, white slipped outside, and a design in chocolate, obtained by a process of four semi-circles meeting at tangents leaving in the middle a space with bent arms, which is further sub-divided into four rectangles, two opposite ones being hatched and two are left vacant. Trench BO, layer (11).

Fig. 18, No. 133: Pl. 79, No. 4: Fragment of a carinated cup of fine red ware, reddish wash, with a design showing two cross-hatched spaces obtained by inter-meeting semi-circles, inside of which is a solid oval in red. Trench BO, layer (11).

Fig. 18, No. 134: Pl. 79, No. 14: Fragment of a carinated cup of fine red ware, white slipped outside above the carination and a design in chocolate on white. It consists of two opposite solid triangles within double ruled vertical lines, and by its side two wavy lines emerge at an up-

ward incline. Trench BO, layer (11). Compare *Mundigak*, Fig. 67, No. 198, but in this case the design is horizontal.

Fig. 18, No. 135: Pl. 87, No. 3: A small complete disc-based cup of fine red ware, having almost straight sides, reddish washed, having a zigzag linear pattern in chocolate in between two horizontal lines. The design is double lined with dots in between and white filling. Trench BO, layer (11). Compare *Mundigak*, Fig. 53, Nos. 54 and 55.

Fig. 18, No. 136: Pl. 80, No. 1: Fragment of a large carinated cup of fine red ware, white slipped outside, having a zigzag line in the middle in red and at the angles of these lines double triangles with wavy arms enclosing a stepped motif, which is red. Trench BO, layer (11). Compare *Mundigak*, Fig. 56, No. 92. *Fairservis*, *Quetta*, design No. 383 and No. 217.

Fig. 18, No. 137: Pl. 80, No. 2: Fragment of a carinated cup of fine red ware, red slipped outside, having a fretted design outlined in white and filled with chocolate, and further enclosing concentric triangles. Trench AO, layer (11).

Fig. 18, No. 138: Pl. 80, No. 4: Fragment of a carinated cup of fine red ware, white slipped outside above the carination, with a design in chocolate consisting of a series of concentric triangles, the innermost one is solid with a white square. Trench BO, layer (11). Compare *Fairservis*, *Zhob*, Fig. 42 m.

Fig. 18, No. 139: Pl. 80, No. 3: Fragment of a carinated cup of fine red ware, white slipped outside, with a design in chocolate and red. It consists of two series of concentric triangles in chocolate, on the outside arms of the biggest one stand a row of solid triangles, the whole design being enclosed in red lines. Trench BO, layer (11). Compare with design in *Mundigak*, Fig. 56, No. 92.

Fig. 18, No. 140: Pl. 80, No. 5: Frag-

ment of a carinated cup of fine red ware, white slipped outside, having in between double vertical lines a vertical row of chevrons in chocolate. There are other curved lines in red. Trench AO, layer (11). Compare Fairservis, *Quetta*, design No. 45, and *Zhob*, design No. 102.

Fig. 18, No. 141: Pl. 80, No. 6: Fragment of a carinated cup of fine red ware, white slipped outside with triple zigzag lines in red and in between the angles cross-hatched pattern in chocolate. Trench BO, layer (11). Compare Fairservis, *Quetta*, design Nos. 215 and 216.

Fig. 18, No. 142: Pl. 80, No. 7: Fragment of a carinated cup of fine red ware, white slipped inside and outside below the carination and above chocolate slipped, with a chocolate painted line at the rim and at the carination and a series of concentric triangles in chocolate on white. Trench AO, layer (11).

Fig. 18, No. 143: Pl. 80, No. 8: Fragment of a carinated cup of fine red ware, white slipped outside, with horizontal lines — red bands alternating with chocolate lines. Trench BO, layer (11).

Fig. 18, No. 144: Pl. 80, No. 9: Fragment of a carinated cup of fine red ware, white slipped outside, with triple wavy lines in chocolate on white besides other horizontal lines. Trench AO, layer (11).

Fig. 18, No. 145: Pl. 80, No. 10: Fragment of a carinated cup of fine red ware, reddish washed, having double wavy lines in the middle in chocolate with a series of solid fillings above and below in chocolate. Trench BO, layer (11).

Fig. 18, No. 146: Pl. 80, No. 12: Fragment of a carinated cup of fine red ware, white slipped outside in the upper half with four wavy lines in chocolate, and below red slipped. Trench BO, layer (11). Compare Fairservis, *Zhob*, design No. 259.

Fig. 18, No. 147: Pl. 80, No. 11: Fragment of a carinated cup of fine red ware, white slipped outside, with a series of wavy lines in chocolate, and in between crossed eye motif. Trench BO, layer (11). Compare Fairservis, *Zhob*, Fig. 42 I, and design No 166.

Fig. 18, No. 148: Pl. 80, No. 13: Fragment of a carinated cup of fine red ware, white slipped outside, with a spiral design in chocolate. Trench AO, layer (9).

Period III

In layer (8) of this period the pottery was very scarce, suggesting that the occupation, if at all, was rather very flimsy. When the real occupation started in this period with mud brick construction, we note a great change in the pottery tradition. The beautifully painted fine carinated cups became scarce. In fact the tradition of fine painting received a great set-back. Although the polychrome tradition continued in this period, yet we do not get here that mastery in painting nor do we have the great variety in designs. For the first time we meet here the process of intersecting circles in place of inter-meeting circles of the second period. The ledged (flanged) rim vessels became very common. Some of the old types persisted in this period. For easy comparison the old numbering has been kept. Those types of period II, which are absent here, have been left out. The new types have been given additional numbers. From the point of view of painting we get for the first time the new style of black-on-red, which, as we will see later, became the dominant tradition in period IV. The broad neck band decoration on pots was very popular. In all twelve types of pottery have been distinguished in this period. They are described below:

Type I: Dish-on-stand

Fig. 20, No. 161: Fragment of a flat dish of red ware, texture partly gritty, thick

fabric, red slipped at the lower part. Trench AO, layer (4).

Fig. 20, No. 162: Part of the tall hollow stand of red ware, gritty texture, thick fabric, red slipped. Two black bands are painted at the upper side. Trench BO, layer (4). Variety (a).

Fig. 20, No. 163: Lower part of the tall hollow stand of red ware, gritty texture, thick fabric, red slipped at the outside. Trench BO, layer (4).

Type II: Flat-bottomed Dish

Fig. 20, No. 164: Fragment of a deep flat-bottomed dish having diverging arms, of red ware, coarse texture, thick fabric, red slipped inside and at the rim. Trench AO, layer (4).

Type III: Plates painted with simple lines

Fig. 20, No. 165: Fragment of a deep flat-bottomed dish having an extended flaring lip, of red ware, red slipped inside and at the outer rim, with black wavy line painted at the inner lip and horizontal line at the outer side. Trench BO, layer (4). It is of a new variety (e).

Fig. 20, No. 167: Fragment of a flat bottomed plate having out-curved rim, of red ware, fine texture, not well fired, thick fabric, reddish slipped inside. Trench AO, layer (8). Variety (c).

Fig. 20, No. 168: Fragment of a flat bottomed plate similar to the above, well fired, thick fabric, red-slipped with black painted line at the lip. Trench AO, layer (7). Variety (c).

Fig. 20, No. 169: Fragment of a plate similar to the above, red slipped with black painted band at the lip. Trench AO, layer (6). Variety (c).

Fig. 23, No. 196: Fragment of a deep

dish having diverging sides with thickened rim, of red ware, fine texture, thick fabric, red-slipped inside and at the outer rim, with black painted band at the lip. Trench AO, layer (4). Variety (d).

Fig. 23, No. 197: Fragment of a deep dish with out-turned rim, of red ware, fine texture, thick fabric, reddish washed with red painted band at the outside rim. Trench BO, layer (6). Variety (d).

Fig. 23, No. 198: Fragment of a deep dish having everted rim, of red ware, coarse texture, thick fabric, deep red slip on the inside with chocolate painted lines, straight and wavy, at the margin. Trench AO, layer (4). Variety (d).

Type V: Lid with variegated design

Fig. 20, No. 166: Fragment of a flat-bottomed plate or lid having upright straight arm, of red ware, coarse texture, thick fabric, red-slipped outside with concentric circles painted in black. Trench AO, layer (4).

Type VII: Painted shallow bowls or saucers

Fig. 19, No. 159: Pl. 81, No. 11: Base of a flat-bottomed bowl, of red ware, fine texture, thin fabric, reddish washed inside with a design in chocolate-on-red. It shows part of two concentric circles, on which stand two connected disc on a leg. Trench AO, layer (6).

Fig. 22, No. 189: Fragment of a round bottomed big sized bowl, of red ware, coarse texture, thick fabric, red slipped inside and at the outer rim with black painted bands at the inner lip. Trench BO, layer (4).

Fig. 22, No. 190: Fragment of a bowl having incurved sides, of red ware, fine texture, medium fabric, red slipped inside and part of the outer margin with black painted lines on red. Trench BO, layer (4).

(4).

Fig. 22, No. 191: Fragment of a flat-bottomed saucer of red ware, fine texture, thin fabric, reddish washed with further black painted lines on the inside. Trench AO, layer (4).

Fig. 22, No. 192: Fragment of a plain flat-bottomed saucer of red ware, fine texture, thick fabric, reddish washed. Trench AO, layer (4).

Fig. 22, No. 193: Fragment of a flat-bottomed saucer of red ware, fine texture, thin fabric, reddish washed with black painted bands on the inside. Trench BO, layer (4).

Fig. 22, No. 194: Fragment of a flat-bottomed saucer of red ware, fine texture, red slipped on the inner side with black painted bands on red at the margin. Trench BO, layer (4).

Fig. 22, No. 195: Fragment of a big sized saucer of red ware, fine texture, red slipped with black painted bands and a wavy line on the inside. Trench BO, layer (4).

Type VIII: Scored Pottery

Fig. 24, No. 211: Fragment of a vase having curved sides with insignificant straight rim, of red ware, coarse texture, medium fabric, white slipped outside, and the exterior face below the shoulder is scored. Trench BO, layer (4).

Fig. 24, No. 212: Fragment of a vase having everted rim similar to No. 211 above. Trench BO, layer (4).

Fig. 24, No. 213: Fragment of a vase having slightly bulging body with insignificant everted rim, similar to No. 211. Trench BO, layer (4).

Fig. 24, No. 214: Fragment of a small bowl with insignificant rim of red ware, white slipped outside and black painted

lines at the outer rim and the lower portion of the body scored. Trench BO, layer (4).

Fig. 24, No. 215: Fragment of a bowl similar to No. 214, of red ware, fine texture, red slipped outside with black painted bands at the rim and the shoulder and the lower portion of the body scored. Trench BO, layer (6).

Fig. 24, No. 216: Fragment of a vase having straight rim of red ware, fine texture, red slipped outside and scored lines upto the shoulder and black painted band at the rim and the neck. Trench BO, layer (4).

Fig. 24, No. 217: Fragment of a bowl having insignificant everted rim, of red ware, fine texture, red slipped outside with painted band at the rim and the neck and the lower body scored. Trench BO, layer (4).

Pl. 1 b, No. 2: Fragment of a small jar having out-curved rim, of red ware, rather coarse in texture. The exterior has red slip right upto the neck and above it has deep chocolate slip. The same chocolate lining is at the inner lip and outer rim. The exterior face upto the neck is scored and has in the middle the head of a horned deity drawn in black similar to Pl. 1a, No. 4 but there is some difference in the style. In the present example the neck, the left ear-ring and the horns are all solid. The horns also go straight up with a curve at the tip. Above the head there is a dot. Trench AO, layer (8).

Type XI: Incised Pottery

This group includes pots of different shapes, some of them are bowls, some cups and some narrow mouthed vessels.

Fig. 24, No. 205: Fragment of a bowl having curved sides with slightly flaring rim, of fine red ware, red slipped outside and at the inner lip, with two black painted

bands at the outer neck and below the body is incised. Trench BO, layer (4).

Fig. 24, No. 206: Fragment of a narrow mouthed cup having insignificant rim, of fine red ware, red slipped outside and at the inner lip, with two black painted bands at the neck and the lower portion incised. Trench BO, layer (4).

Fig. 24, No. 207: Fragment of a narrow mouthed cup similar to No. 206 but bigger in size. Similar decoration. Trench AO, extension, layer (4).

Fig. 24, No. 208: Fragment of a small cup with tapering sides and straight rim, red slipped outside, outside body incised. Trench AO, layer (8).

Fig. 24, No. 209: Fragment of a wide mouthed bowl having straight sides and slightly flaring rim, of fine red ware, red slipped and having similar incised lines as above.

Fig. 24, No. 210: Fragment of a narrow mouthed vase having broad body of fine red ware, red slipped, and having incised lines outside. Trench AO, layer (4).

Type XII: Jars with painted neck bands

Fig. 20, No. 170: Fragment of a medium sized jar having short squarish rim, the body is bulging, of red ware, red slipped outside and only at the inner lip, with black painted band at the rim and in the middle of the body. Trench BO, layer (4).

Fig. 21, No. 171: Fragment of a medium sized jar having out-curved squarish rim, of red ware, fine texture, thick fabric, red slipped with black painted band at the rim and the neck. Trench BO, layer (4).

Fig. 21, No. 172: Fragment of a potbellied jar with small clubbed rim, of red ware, fine texture, thick fabric, red slipped, with black bands at the rim and in the middle of the body. Trench AO, layer (6).

Fig. 21, No. 173: Fragment of a jar similar to No. 170 but smaller in size and with a dip at the neck, of red ware, fine texture, reddish washed inside, but outside has black band at the rim and at the neck. The exterior body has two slips, red above and white below, separated by black double lines. Trench AO, layer (4).

Fig. 21, No. 174: Fragment of a jar with out-curved rim, of red ware, fine texture, red slipped outside and black painted lines at the rim and in the middle of the body. Trench AO, layer (6).

Fig. 21, No. 175: Fragment of a jar having small everted rim, of red ware, fine texture, red slipped at the inner lip and at the outer shoulder bounded by black painted lines. Below the line is a series of roughly applied clay in wet condition and then washed red. Trench AO, layer (4).

Fig. 21, No. 176: Fragment of a small jar with out-curved small rim, of red ware, coarse texture, with double slip outside, white below and red above separated by black painted bands. Trench BO, layer (4).

Fig. 21, No. 178: Rim fragment of a plain grey ware, coarse texture, medium fabric. Trench AO, layer (4).

Fig. 22, No. 180: Fragment of a jar having bulging body, simple straight rim, of fine red ware, medium fabric, with double slip outside, red above and white below separated by black painted bands. At the outer rim and the inner lip we have also black painted band. Trench BO, layer (4).

Fig. 22, No. 181: Fragment of a jar having out-turned squarish rim and pronounced shoulder, of red ware, fine texture, medium fabric, with similar double colour slip and painted bands as in the above example. Trench BO, layer (4).

Fig. 22, No. 182: Fragment of a jar having bulging body, squarish rim, of red

ware, fine texture, medium fabric, with double slip and painted bands as in the above example. Trench AO, layer (4).

Fig. 22, No. 183: Fragment of a small jar having out-turned squarish rim, of red ware, fine texture, medium fabric, with double slip and painted bands as in the above examples. Trench AO, layer (4).

Fig. 22, No. 184: Fragment of a jar having bulging body, out-curved rim, of red ware, fine texture, medium fabric, with double slip and painted bands as in the above examples but the lower white slipped portion is not preserved. Trench AO, layer (6).

Fig. 22, No. 185: Fragment of a small jar having out-curved rim, of red ware, fine texture, medium fabric, with similar decoration as in the above examples but the lower portion is broken off. Trench BO, layer (7).

Fig. 22, No. 186: Fragment of a jar having bulging body and squarish rim, of red ware, fine texture, medium fabric, with similar decoration as in the above examples.

Fig. 23, No. 203: Fragment of a small jar of red ware, fine texture, medium fabric, red slipped outside and at the inner lip with black painted bands at the rim and at the shoulder. Trench AO, layer (8).

Pl. 1 b, No. 3: Fragment of a medium sized vase with out-curved rim, of red ware, fine texture and the inside having red wash. The exterior has three zones of slips. The lowermost is whitish separated by deep chocolate bands from the above, which is deep red. At the neck and rim we have chocolate paint. On the lowest white-slipped register we have the head of a deer drawn in deep chocolate. The long neck, mouth and the ears are solid. One horn, which goes behind is wavy and the other which comes to the front is twice bent. Trench BO, layer (6).

The colour combination, described in the case of the above medium sized jars, is very popular in this period at Gumla. Probably it is a variation of the painted broad neck bands, so well known from Kot Diji.

Type XIV: Ledged (Flanged) rim vase

As has been said before, this type of flanged rim vase became common from this period onward. The ware differs from the one example (No. 93 above) found in period II. Here we have mainly thick sectioned jars of red ware with reddish wash outside and the main design is in black on red.

Fig. 19, No. 149: Pl. 81, No. 1: Flanged rim of a jar, coarse texture, not well fired, deep chocolate band at the rim and at the neck and also at the inner lip. The design is common in all such pots. Only one row is preserved. It is actually made by the process of intersecting circles — a process which is not evidenced in period II. The intersecting circles produce a bracket at the intersection and a space in between, which is cross-hatched. The whole gives the appearance of a series of dumbles or double axe, although it is not actually so. The brackets enclose red painted brush line. Henceforward we would call this design "dumbles formed by intersecting circles". Trench AO, layer (5). For the design compare Fairervis, *Quetta*, P. 304, design No. 391.

Fig. 19, No. 150: Pl. 81, No. 4: Flanged rim of a jar, coarse texture, reddish washed. The same design as in No. 149. Only two dumbles are partly preserved. Trench BO, layer (4).

Fig. 19, No. 151: Pl. 81, No. 3: Flanged rim of a comparatively small jar, fine texture, medium fabric, reddish washed. The same design as in above but just a portion of one dumble is preserved. Trench BO, layer (4).

Fig. 19, No. 152: Pl. 81, No. 2: Flanged rim of a jar, coarse texture, not well fired, reddish washed inside and white slip outside below the flange. The design is in black-on-white but very little is preserved. We have now a row of plus symbols alternating with an unidentified hatched ovals. Trench BO, layer (4).

Fig. 19, No. 153: Pl. 81, No. 5: Flanged rim of a jar, fine texture, well fired, reddish washed but having red painted band at the outer rim and at the inner lip. The design is in black-on-white but very little portion is preserved. Trench AO, layer (6).

Fig. 19, No. 154: Pl. 81, No. 6: Flanged rim of a jar, fine texture, medium fabric, reddish washed, and the design is in black-on-red. Only a portion of an oval with red painted line is preserved. Trench BO, layer (4).

Fig. 19, No. 155: Pl. 81, No. 10: Flanged rim of a jar, fine texture, medium fabric, well fired, reddish washed, and the design is in black-on-white. The preserved portion shows only three solid triangles and a part of hatched oval. Trench BO, layer (4).

Fig. 19, No. 156: Pl. 81, No. 7: Flanged rim of a small jar, fine texture, thin fabric, has only one hole preserved, reddish washed, no design is preserved. Trench BO, layer (4).

Fig. 19, No. 160: Pl. 81, No. 12: Flanged rim of a jar, fine texture, medium fabric, only one hole is preserved at the flange, reddish washed. The design is missing. Trench BO, layer (4).

Type XV: Painted Cups

Here the cups continue the old shapes and they are of similar fabric but they do not have the same highly decorated designs. This simplicity of decoration is the chief character of this period.

Fig. 19, No. 157: Fragment of a cup of

red ware, fine texture, thin fabric, reddish washed, chocolate painted band at the inner lip and outer rim, with a design in chocolate-on-red. It consists of a disc at the apex of a triangle. Trench BO, layer (7). Compare the design with *Mundigak*, Fig. 50, No. 2 and with *Fairservis, Zhob*, design Nos. 8-10, but in these examples the triangles are hatched.

Fig. 19, No. 158: Pl. 81, No. 8: Fragment of a cup of red ware, fine texture, thin fabric, reddish washed. The design consists of a wavy line in between straight lines in chocolate with white filling. Trench AO, layer (8).

Fig. 23, No. 199: Fragment of a cup, fine texture, thin fabric, red slipped outside with a black painted band at the rim. Smoky stains on the lower side. Trench BO, layer (4).

Fig. 23, No. 200: Fragment of a cup of red ware, fine texture, thin fabric, red slipped outside, with black painted band at the outer rim and inner lip. Trench AO, layer (4).

Fig. 23, No. 201: Fragment of a cup of red ware, fine texture, thin fabric, red slipped outside with black painted lines at the rim and in the middle of the body. Trench BO, layer (5).

Fig. 23, No. 202: Fragment of a carinated cup of red ware fine texture, thin fabric, red slipped outside and at the inner lip with black painted bands at the rim and the lip and above carination. Trench BO, layer (6).

Fig. 23, No. 204: Fragment of a carinated cup of red ware, fine texture, thin fabric, red slipped outside and at the inner lip, with black painted lines as usual and additional loop in the middle, probably remnant of a horn. Trench AO, layer (6).

Pl. 1 a, No. 4: Fragment of a cup of fine

texture but having mica particles. The inside has a whitish wash but the outside has white slip in the upper portion and chocolate slip at the lower part. On the white portion the face of a horned deity is drawn in chocolate. The curved horns are broken. The mouth is hatched, the ear-rings are in outline and the eye balls are depicted by a dot. The head is smoothly curving. It compares well with the horned deity from Kot Diji. Trench AO, layer (7).

Type XVI: Ledge Rim Vases

These are medium sized vases of red ware and have colour combination as in type XII but at the neck there is a distinct ledge, and not flange as in type XIV. This type of ledge jars are known from the Harappan sites.

Fig. 21, No. 177: Fragment of a ledge rim jar with squarish rim, of red ware, fine texture, medium fabric, with double slip outside, white below and red above and black painted lines at the rim and the lip. Trench BO, layer (4).

Fig. 21, No. 179: Fragment of a small jar having out-curved rim of fine texture, medium fabric with red and black painted bands and slip as usual. Trench BO, layer (4).

Fig. 22, No. 187: Fragment of a small jar having almost straight rim of red ware, fine texture, thin fabric, red slipped outside with black painted bands at the rim and in the middle of the body. Trench AO, layer (4).

Fig. 22, No. 188: Fragment of a jar similar to above and similar decoration. Trench AO, layer (4).

Period IV

In going through the detail of the pottery in period III it may have been noticed that quite a large number of sherds have been illustrated from layer (4). This was the destruction layer of period III, as a

result of which that period closed. It is reasonable therefore to assume that some of the pottery types described therein may belong to the destroyers who later built up a culture illustrated in the materials of period IV. Abundance of pottery is found in this period. It marks a flourishing phase in the history of the site. While we will note quite a large number of pottery types continuing from the earlier two periods, there are many new types which were introduced from the Harappan culture. The continuance of the older types marks the evolutionary trends from the earlier periods while the introduction of new types clearly evidences the distinctive Harappan traits that must have matured in the plains of the Indus and brought here later as intrusive elements. However, it is clear that the local types of pottery had a greater tenacity to survive even when the Harappan elements were accepted. Although period III types are more dominant, yet we observe a clear improvement in the style of painting. The thin ware cups, which had so distinctive designs in period II, lost their noble art in period III, but in period IV we again note a regaining of the painting skill although the new designs differ from those of period II. The colour also is not so bright as we observed in that period. The black-on-red painting became very common. The intersecting design of the earlier period III continued here but we also get here that variety of intersecting circles and *pipal* leaf design so well known from the Harappan culture. The perforated ware pots appeared for the first time. Their form easily link them with the Harappan culture. We also get in this period knobbed lids. However, there are important varieties of the Harappan pottery not known from Gumla. We have not got here a single example of pointed bottom jars or vases, the most popular pointed bottom goblets and the straight sided tumblers. It is therefore clear that the main Harappan pottery did not develop here.

In all twenty-one main types of pottery

have been distinguished in this period. The old numbers of the types have been kept so as to remind of the older survival. The new types have been given new numbers.

Type I: Dish-on-stand

Fig. 25

Variety (a)

No. 218: A piece of long hollow stem of red ware, red slipped. Trench DO, layer (3).

No. 219: Broken part of a long stem of red ware, red slipped, with part of the saucer-shaped base still preserved, having two black painted lines at the lower part. Trench DO, layer (3).

No. 220: A small part of a long hollow stem of red ware, red slipped. Trench DO, layer (3).

No. 221: A small part of a long hollow stem, having comparatively smaller radius, of red ware, red slipped. Trench BO, layer (3).

No. 222: A part of a long hollow stem of red ware, red slipped, with black painted bands at the lower part — three thin lines in between thick bands. Trench CO, layer (1).

No. 223: A small part of a hollow stem of red ware, red slipped. Trench CO, layer (1).

No. 224: A broken stem of red ware, red slipped. In this example the hollow space within is small and straight. Trench CO, layer (3).

Fig. 26

Variety (b)

No. 225: Part of a broad based stand

with a portion of the dish, of red ware, the lower portion of the stand is whitish washed. The dish has a series of lines emerging from a rough circle in the middle, suggesting sun motif. Trench CO, layer (1).

No. 226: Part of an extremely broad stand of red ware, red slipped, with a line painted in black. The dish is bowl-like. Trench CO, layer (3).

No. 227: Part of a broad based stand of red ware, reddish washed, The preserved portion of the dish has concentric circles with radiating lines across them drawn clock-wise. Trench EO, layer (3).

No. 228: Part of a broad based stand of red ware, reddish washed, with a line painted in black. Trench BO, layer (2).

No. 229: Part of a stand of red ware, red slipped, with a band painted in black. Upper part of the trench BO, layer (4).

No. 230: Part of a broad stand, almost like an inverted saucer with narrow neck, of red ware, with a line painted in black. Trench BO, layer (2).

No. 231: A small part of the broad stand of red ware, reddish washed. Trench DO, layer (6).

Type III: Deep Dishes or plates

painted with simple lines

Fig. 27

Variety (d)

No. 232: This is like a flat-based trough with diverging sides and thickened rim of red ware, red washed, has a black painted line at the outer rim and the inner lip, and further two rows of incised strokes. Trench CO, layer (1). This variety is probably an evolution from type II. of period (II), although there it is hand-made.

No. 233: A variant of the above but smaller in size, having diverging sides, beaked rim, red washed, black painted line at the outer rim and the inner lip. Trench DO, layer (6).

No. 234: Similar to No. 232 but smaller in size, red slipped with black painted lines at the outside. Trench CO, layer (1).

No. 235: This is actually a dish meant for placing on a tall hollow stand. It is of red ware, red slipped, with a series of black painted lines at the outside. Trench CO, layer (3).

Fig. 29

No. 251: Trough-like dish similar to No. 234, having diverging sides with thickened rim, of red ware, having red slip both inside and outside and an additional margin of white slip outside. Inside the base has indented concentric circles as is well known from the Harappan pottery. Trench CO, layer (1).

Fig. 30

Variety (c)

No. 258: Carinated dish with nail head rim, of red ware, red slip at the inner lip and two rows of indentations at the carination. Trench DO, layer (2).

No. 259: Carinated dish with out-curved rim, of red ware, red slipped inside and outside with black painted line at the carination. Trench CO, layer (5).

No. 260: A variant of the above with similar black painted line at the carination. Trench AO, layer (1).

No. 261: A variant of the above with black painted lines at the outside. Trench CO, layer (5).

Type IV: Ring based bowls

No. 293: Lower part of a ring based

bowl of red ware red washed, Plain. Trench DO, layer (3).

No. 294: Lower part of a ring based bowl, of thick red ware, red washed, plain. Trench CO, layer (1).

No. 295: Lower part of a ring-based cup, of red ware, red slipped, painted with black lines. Trench EO, layer (4).

Type V: Painted lids

Fig. 30, No. 262: Flat topped lid of red ware, red washed, having black painted band outside, has smoky stains. Trench CO, layer (4).

Fig. 30, No. 263: Similar to above, red slipped outside, with black painted lines Trench BO, layer (1).

Fig. 30, No. 264: Similar to above but white slipped inside and red slipped outside with black painted line. Trench DO, layer (3).

Fig. 30, No. 265: Similar to above, red slipped outside with black painted line. Trench CO, layer (2).

Fig. 30, No. 266: Similar to above but the rim has a slight ledge in the middle, red slipped with black painted line. Trench DO, layer (4).

Fig. 30, No. 267: Similar to No. 263, red slipped, with black painted line. Trench AO, layer (1).

Type VI: Painted trough

Fig. 33, No. 318: Fragment of a trough having beaked rim, of red ware, white slipped below the rim. Trench DO, layer (1).

Fig. 33, No. 319: Rim fragment similar to above, red slipped outside above a black painted band and below which there is white slip. Similar black painted band at

the rim. Trench BO, layer (1).

Type VII: Painted thin shallow bowls

Fig. 30

No. 268: Flat based carinated shallow bowl of red ware, red slipped inside with black painted lines. Trench CO, layer (2).

No. 269: A smaller variety of the above with same colour design. Trench CO, layer (2).

No. 270: Slightly bigger size of similar bowl with a series of black painted lines on the inner side. Trench DO, layer (2).

Fig. 271: A deep flat based bowl with incurved sides, with a series of black painted lines on the inside and outside. Trench DO, layer (2).

No. 272: A saucer-like bowl with somewhat extended lip, having a curved line, looking like a horn, in black on white on the outside besides a series of black painted lines. Trench DO, layer (2).

No. 273: A variant of No. 270, same colour design. Trench DO, layer (3).

No. 274: A flat based bowl similar to the above but bigger in size, of red ware, red slipped with black painted lines at the inner lip and in the centre there is a design consisting of radiating arms from a centre, at the end of which we have a solid disc within circle. Trench DO, layer (4).

No. 275: A bowl with almost round base, of red ware, red washed, but plain. Trench CO, layer (5).

No. 276: Flat based bowl similar to No. 273 but plain. Trench CO, layer (5).

No. 277: A bowl similar to No. 275 but red slipped inside with black painted lines. Trench CO, layer (5).

No. 278: A shallow bowl similar to No. 273 with similar painting. Trench CO, layer (6).

No. 279: A flat based bowl of red ware, red washed, plain. Trench CO, layer (5).

Fig. 32

No. 316: A shallow bowl of red ware, red slipped, with black painted band inside. Trench DO, layer (6). Such bowls are sometimes seen on the top of a tall stand.

Type VIII: Scored Pottery

Fig. 28

No. 246: Fragment of a small vase with everted rim, of red ware, having black band at the neck, below which is a wide register of red slip. Still lower the outer surface is scored. Trench CO, layer (5).

No. 247: Pot-sherd with its rim missing but red slipped and scored. Trench CO, layer (5).

No. 248: Fragment of a vase with upright rim, of red ware, having black painted band at the neck, red slip at the shoulder, then a black band, below which the outer surface is scored. Trench CO, layer (6).

No. 249: Fragment of vase with everted rim, of red ware, having painted band at the neck, red slip at the shoulder, below which the outer surface is scored. Trench DO, layer (6).

Type IX: Narrow mouthed vessels

Fig. 32

No. 303: A flat based carinated cup of red ware, red slipped with black band above the carination and still above the outer surface is scored. Trench DO, layer (4).

No. 304: Fragment of a narrow mouthed bottle of red ware, plain. Trench BO, layer (3).

No. 305: Fragment of a narrow mouthed bottle with slight carination, red slipped, with a series of black painted lines at the shoulder and at the carination. Trench CO, layer (4).

No. 306: Round bottom little vase having narrow neck but flaring rim, of red ware, red washed. Plain. Trench EO, layer (3).

No. 307: A little vase having ledged shoulder and flaring rim, of red ware, red washed. Plain. Trench EO, layer (3).

No. 309: A little vase similar to No. 307 above, having slight ledge at the shoulder and flaring rim, red slipped with black painted lines outside.

No. 310: Fragment of a little vase with spreading base, ledged shoulder and clubbed rim, red slipped, having black painted lines. Trench DO, layer (2).

No. 311: A little vase similar to No. 307 above. Trench DO, layer (2).

Type X: Vessels with applied clay designs

Fig. 28

No. 238: Fragment of a vase with a slight ledge at the shoulder and squarish rim, of red ware, having black painted bands at the neck and rim, below which we have white slip. Still below there are two rows of applied triangles, their apex pointing downward. Trench CO, layer (1).

No. 240: Fragment of a vase with everted rim, having white slip below the painted band, and still below the surface is roughened and incised over with cross-hatched lines. Trench CO, layer (2).

No. 244: Fragment of a carinated vase with everted rim, having red slip below black painted lines at the rim and neck. At the shoulder we have two black painted bands, below which we have rough incisions on wet clay, giving the appearance of vertical chains. On the red slip we have a triangle, whose two arms are extended upwards ending in a solid disc. Trench CO, layer (3).

Fig. 35

No. 334: A thick walled big jar fragment of red ware, having white slip below black painted line at the neck. The white slip is bordered by two zigzag lines of applied clay, below which the surface is rough. Compare fig. 34 No. 328. Trench DO, layer (2).

No. 335: A vase similar to above but having everted rim with black painted line at the neck and below which is white slip. Trench DO, layer (2).

No. 336: Fragment of a thick vase with black painted band at the rim, below which is white slip, and still below are the applied zigzag bands of clay. Trench EO, layer (4).

No. 337: Fragment of a cauldron-like pot, having five rows of applied bands of clay. Trench DO, layer (1).

Type XI: Incised Ware

No. 308: Narrow mouthed vase with upright simple rim, red slipped, having black painted lines at the rim and in the middle of the body and in between we have incised wavy lines. Trench CO, layer (4).

No. 338: Fragment of a thin ware bowl having red wash with incised lines above and below two groups of black painted horizontal lines. Trench BO, layer (1).

Type XII: Jars with painted neck bands
Fig. 34

No. 326: Fragment of a thick jar with out-curved rim, of red ware, red washed, with black painted band at the neck. Trench AO, layer (1).

No. 327: Fragment of a jar similar to above but with thickened rim, having white slip below black band. Trench AO, layer (1).

No. 328: Fragment of a jar having everted rim and broad band of red slip at the neck and below black painted line two rows of applied zigzag lines as in type X. Trench BO, layer (1).

No. 329: Fragment of a thick jar with upright squarish rim, having white slip below the black painted line. The lower portion is broken. Trench BO, layer (1).

No. 330: Fragment of a thick jar with everted rim, having black line on red slip. Trench AO, layer (2).

No. 331: Fragment of a thick jar with double curved everted rim having black painted lines on red slip. Trench DO, layer (6).

No. 332: Fragment of a jar having straight rim with black painted lines on red slip. Trench DO, layer (6).

No. 333: Fragment of a jar having beaked rim, with red slip at the neck and black painted line below which is white slip. Trench EO, layer (6).

Type XIV: Jars with ledged (flanged) rim

Plate 85

1. Rim fragment of red ware, coarse texture, thick fabric, red slipped at the rim and the flange with black painted lines, below the flange white slip having two patterns in dull chocolate separated by a

wavy vertical in yellow. The right hand pattern consists of three ovals in the middle, each alternating with a dumbbell and a row of semi-circles above and another row below, alternating with a solid triangle. The vacant space within the oval and semi-circle has a yellow blob. The left hand pattern shows a cross hatched dumbbell in chocolate and a triangle in yellow above and below. Trench AO, layer (1).

2. Rim fragment of a jar similar to above, having only one hole preserved. Below the flange just a small portion of the body with white slip and hatched section in dull chocolate is preserved. Trench CO, layer (1).

3. Rim fragment of a jar similar to above but below the flange the usual design of a cross hatched dumbbell in dull chocolate on white. Only a part of the dumbbell with two ovals enclosing a curved red line is preserved. Trench CO, layer (1).

4. Rim fragment similar to No. 3. Below the flange in between black painted lines we have two rows of painted wavy lines. Still below on white slip we have two rows of semi-circles, each containing a red blob. In between the semi-circles we have cross hatched squares with bent arms. Trench CO, layer (1).

5. Rim fragment of a jar, of red ware, coarse texture, medium fabric, red slipped at the rim and neck with black painted bands. Below the flange white slip with a design in dull chocolate. In between the painted lines we have a row of loops and below parts of three cross hatched dumbbells derived by the process of intersecting circles. In the vacant space we have red blobs. Trench BO, layer (1).

6. Rim fragment of a jar of red ware, coarse texture, thick fabric, white slip below the flange. A design in dull chocolate consists of two circles joined by a cross-hatched rectangle. Within the circle we have a plus symbol in red. Trench BO, layer (1).

7. Rim fragment similar to No. 6 with white slip below the flange but design in black, consisting of cross-hatched triangles in between ovals with minus symbol in red. Trench DO, layer (1).

8. Rim fragment of red ware, fine texture, medium fabric, red slipped outside, with a design in black-on-red, consisting of a square with bent arms, enclosed by two groups of four vertical lines. Two fish symbols are on either side of the square and within it we have cross-hatched dummies. Trench CO, layer (1).

9. Rim fragment of a jar similar to No. 3 above and the design in dull chocolate on white is also similar. Here we have parts of three dummies preserved. Trench CO, layer (1).

10. Fragment of a jar with its rim missing and having a design similar to No. 6 above but in place of the plus symbol within the circle we have a star symbol. The circles are also double lined, the inner one in red colour and the outer one in black. Below the design we have black painted lines which separate it from the red slipped portion of the lower surface. Trench BO, layer (1).

11. Rim fragment of a jar similar to No. 4 with similar design but here we have red dots in place of long blobs within ovals. Trench CO, layer (1).

12. Rim fragment of a jar similar to No. 6 above with almost similar design but in place of circle we have here rhombos with minus symbol inside drawn in yellow. Trench CO, layer (1).

13. Rim fragment of a jar similar to No. 5 above with similar design in dull chocolate. Trench AO, layer (1).

14. Rim fragment of a jar similar to No. 11 above with similar design in dull chocolate, but here the squares are only

hatched. Trench DO, layer (1).

15. Rim fragment of a jar similar to No. 5 above with similar design but without the row of loops. Trench BO, layer (1).

Plate 86

1. Rim fragment of a jar similar to plate 85 No. 14 above with similar design but here we have long red blobs within semi-circles. A part of the second row of design is also preserved. Trench EO, layer (4).

2. Rim fragment of a jar similar to plate 85 No. 4 having similar design except that here we do not have the wavy lines. The design is in black-on-red. This was found in circle grave No. 1, but obviously re-used.

3. Rim fragment of a jar similar to No. 1 above with a poor imitation of the same design in black-on-white. Trench AO, extension, layer (3).

4. Rim fragment of a jar of red ware, fine texture, thick fabric, having double slip outside, red below and white above separated by black lines. On the white slip we have in dull black cross-hatched squares separated by red crooked lines. Trench DO, layer (6).

5. Rim fragment of a jar similar to plate 85 No. 15 above with similar design. Trench CO, layer (2).

6. Fragment of a flanged rim vase of red ware, fine texture, medium fabric, with double slip outside, red below and white above separated by black band. Below this black band we have triangular holes in the pot. On the white we have a design in dull black consisting of a series of semi-circles, each containing a three-arched symbol topped over by a red minus symbol. In between the semi-circles the space is cross-

hatched. Trench CO, layer (4).

7 and 8: Fragments of the same pot of red ware, fine texture, medium fabric, red slipped outside with designs in black formed by a process of intersecting circles. The enclosed blobs are in deep red. Trench AO, layer (3).

9. Fragment of a flanged rim vase of red ware, fine texture, thick ware, with white slip below the flange having a design in dull black and red. The wavy line in the middle is in red and the cross-hatched triangles are in black. Surface find.

11. Fragment of a flanged rim vase, the rim missing, the portion preserved shows white slip with a design having two rows of dumbles. The enclosed blobs are in red. Surface find.

Plate 84

No. 4. Flanged rim of a small vase having preserved only one hole, of red ware, fine texture, medium fabric, red slipped outside, with black painted lines. Surface find.

No. 11. Fragment of a flanged rim vase of fine red ware, red slip outside with a design in black, consisting of a series of block and vacant triangles. Surface find.

No. 12. Fragment of a vase of fine red ware, red slip outside with a design in black, consisting of a series of lines and cross-hatched section. Surface find.

Type XV: Painted Cups, bowls and saucers

Plate 86

No. 10. Lower part of a carinated cup of fine red ware, fine texture, red slipped, with a design similar to plate 85 No. 14 in black. Trench CO, layer (4).

Fig. 36

No. 339. Fragment of a carinated bowl

with flaring rim, red washed having black painted lines. Trench BO, layer (1).

No. 340. Fragment of a carinated bowl with almost straight sides with black painted bands on red slip. Trench AO, layer (2).

No. 341. Fragment of a carinated bowl with curved sides and flaring rim having a series of black painted lines on white outside. Trench CO, layer (2).

No. 342. Fragment of a carinated bowl with flaring sides having black painted lines on white. Trench DO, layer (2).

No. 343. Fragment of a round bottom bowl with black painted lines on red and further double diagonal wavy lines and a hatched leaf on a double curved stem. Trench DO, layer (3).

No. 344. Fragment of a carinated cup with flaring rim having black painted lines on red slip. Trench CO, layer (3).

No. 345. Fragment of a carinated cup with almost straight sides having black painted band and lines on red. Trench CO, layer (3).

No. 346. Fragment of a carinated cup with tapering sides having six finger impression on wet clay. The sixth finger is really interesting. Trench CO, layer (4).

No. 347. A variant of No. 345 above with similar colour combination. Trench DO, layer (4).

No. 348. Round bottom cup with flaring rim having black painted line on reddish wash. Trench CO, layer (4).

Nos. 349 and 350. Fragments of carinated cups with flaring rim having black painted lines on red. No. 349 from trench AO, layer (4) and No. 350 from trench CO,

layer (5).

Plate 82

No. 1. Fragment of a small carinated cup of red ware, fine texture, thin fabric, red slipped inside with double chocolate painted lines at the inner lip. The outside is white slipped with net pattern design in dull chocolate. Trench EO, layer (4). Compare Fairservis, *Zhob*, design No. 363.

No. 2. Similar fragment as No. 1 but the outside is reddish slipped and the net pattern design is in dull black. Trench CO, layer (4).

No. 3. Fragment of a carinated cup of red ware, fine texture, thin fabric, with double slip outside, white above and chocolate below separated by deep chocolate painted lines. On the white we have net pattern design in dull chocolate. Trench EO, layer (3).

No. 4. Fragment of a carinated cup of red ware, fine texture, thin fabric, reddish washed, with the design in dull black. The net pattern has red blob in each loop. Surface find.

No. 5. Fragment of a cup of red ware, fine texture, thin fabric, red slipped inside and white slipped outside. Black painted lines on the inner margin but outside wavy lines alternate with black painted lines. Trench CO, layer (1).

No. 6. Fragment of a cup similar to No. 5 but here we have two wavy lines on white. Trench EO, layer (4).

No. 7. Fragment of a cup similar to No. 6 above but there are multiple wavy lines on white. Trench CO, layer (1).

No. 9. Similar fragment of a cup as above but here we have on white slip vertical wavy lines dropping from horizontal straight lines. Trench CO, layer (1).

No. 10. Fragment of a cup with double

slip as in No. 3 above. On the white slip we have a series of sigmas separated by a group of vertical lines. Trench EO, layer (3).

No. 12. Fragment of a carinated cup of red ware, fine texture, with red slip inside painted over with black lines at the inner margin, white slip outside with three wavy lines and other straight lines in dull black at the rim and at the carination. Trench EO, layer (2).

Plate 83

No. 1. Fragment of a fine red ware cup with treble slip outside separated by black painted lines. We have red slip on top and bottom and white slip in the middle. On the white we have two intersecting circles in black. Trench CO, layer (3).

No. 2. Fragment of a carinated cup of red ware, fine texture, fine fabric, red slip inside but double slip outside, red below and white above. We have black painted band on red and on white a series of double semi-circles and above star design in red alternating with a group of vertical lines in black. Surface find.

No. 3. Fragment of a cup similar to No. 2 above with similar decoration but in place of star we have here a red blob. Surface find.

No. 4. Fragment of a saucer with curled up rim, of red ware, fine texture, fine fabric, having white slip, on which we have a band and a wavy line in dull black on the inner margin. Trench AO, layer (1). Compare Fairservis, *Zhob*, design No. 211.

No. 6. Fragment of a cup similar to No. 2, red slipped inside with black bands at the margin and white slipped outside, on which is a series of concentric semi-circles in black alternating with white. In between them we have a hatched lozenge

design. Surface find.

No. 7. Fragment of a bowl similar to Pl. 82, No. 6 and similar wavy design in black-on-white. Trench CO, layer (1). Compare Fairservis, *Zhob*, design No. 208.

No. 8. Fragment of a cup similar to No. 6 above with almost similar design except that the lozenge shape is replaced by cross-hatched sections. Trench CO, layer (1).

No. 10. Flat-bottom saucer of red ware, fine texture, fine fabric, reddish slipped inside, on which we have a series of concentric lines painted in red and black. Between these lines we have a row of wavy line in black. Trench CO, layer (1).

No. 11. Fragment of a cup similar to No. 3 above and with similar painted design. Trench DO, layer (1).

No. 12. Fragment of a carinated bowl having concave side, of fine red ware, reddish slip inside, white slip above the carination, on which we have a design similar to No. 3 above. Trench EO, layer (1).

No. 13. Fragment of a fine red ware saucer, white slip inside. Dull black lines on white at the margin and wavy lines in red in the middle. Trench CO, layer (1).

No. 14. Fragment of a carinated cup of fine red ware, white slip outside painted over by black lines alternating with a series of cross-hatched squares. Found in circle grave No. 1 but obviously reused here. Compare Fairservis, *Quetta*, design Nos. 180, 181, 395 and 396.

No. 15. Fragment of a fine red ware cup with a faint design in black on red. Trench CO, layer (1).

No. 16. Fragment of a fine red ware saucer, red slip inside with a concentric design in black on red and two additional wavy lines. Trench CO, layer (2).

No. 1. Fragment of a narrow mouthed bowl with insignificant rim, of red ware, fine texture with mica particles, red slip at the rim and shoulder with a black band at the rim and two black lines below the red slip. A fish is painted in black on red slip. Below the surface is kept rough. Trench DO, layer (3).

No. 2. Fragment of a dish (probably part of a dish-on-stand) of fine red ware, red slip on the upper face with a complex design in black. Found in circle grave No. 2 but obviously reused.

No. 3. Fragment of a carinated cup of fine red ware, red slip outside bounded by two black lines. Trench AO, layer (3).

No. 5. Pot-shoulder of fine red ware, red slip inside with a hatched leaf design in black. Surface find.

No. 6. Pot-shoulder of fine red ware, red slip outside with a design in black — apparently the heads of two geese on the top and a part of net pattern below. Trench DO, layer (1).

No. 7. Fragment of a carinated cup similar to No. 3 above. Trench AO, layer (3).

No. 8. Fragment of a bowl of fine red ware, red slip outside with black band at the rim and at the neck and probably a tree motif in the middle. Trench CO, layer (4).

No. 9. Fragment of a vase of red ware, coarse texture, thick fabric, red slip outside with intersecting circle motif in black on red. This motif resembles the Harappan variety. Trench EO, layer (4).

No. 10. Fragment of a plate of fine red ware, red slip inside with a stylised *pipal* leaf motif in black on red. This variety is also found in *Quetta* valley and *Zhob*. Trench EO, layer (4).

*Type XVI: Ledge Rim Vases**Fig. 33*

No. 321. Fragment of a jar having bulging body with a ledge at the shoulder and beaked rim, of red ware, with black painted lines on white. Trench EO, layer (3).

No. 322. Fragment of a fine red ware jar having bulging body, marked ledge at the shoulder and beaked rim, with similar black painted lines on white. Trench CO, layer (1).

No. 323. Fragment of a small jar having bulging body, deep ledge at the shoulder, straight neck and beaked rim with similar colour design. Trench DO, layer (2).

No. 324. Only neck fragment of a jar similar to above with the same white slip and black painted lines. Trench CO, layer (1).

No. 325. Fragment of a jar similar to No. 322 above with a series of black painted lines on white. Trench EO, layer (1).

*Type XVII: Bowls with painted bands**Fig. 28*

No. 236. Fragment of a bowl having out-curved squarish rim, of red ware, medium fabric, with two different colour slips — red above and white below separated by black painted lines. Such painted lines are also at the neck. Such broad bands have been noted in the earlier periods. Trench AO, layer (1).

No. 237. Fragment of a bowl with a ledge at the shoulder, having three zones of slip — red at the top and bottom and white in the middle, each separated by black painted lines. Trench CO, layer (1).

No. 239. A longish bowl with insignifi-

cant everted rim having black painted band at the neck and four zones of slips, each separated by black painted lines. The slips are red alternating with white. Trench CO, layer (2).

No. 241. Similar to above but below the black painted bands and lines we have preserved only the red slip portion. Trench CO, layer (3).

No. 242. A longish bowl similar to No. 239 but the rim is squarish, with similar four zones of slips, red alternating with white. Trench CO, layer (3).

No. 243. A longish bowl similar to No. 239 but below the painted neck band we have only two slips, red above and white below, and the lower portion of the surface is rough. Trench CO, layer (3).

No. 245. Fragment of a vase with everted rim having black painted band at the neck and two zones of red slip separated by black painted lines. The lower outer surface is rough as in the above example. Trench CO, layer (5).

Type XVIII: Plates with extended lips

Some of these plates may have been used as dish-on-stand, as for example No. 257 below. These varieties are common in the Harappan Culture.

Fig. 29

No. 252. Flat bottom plate or dish with diverging and extended arms, of red ware, red slip inside, deep red band at the outer rim and white slip below. Trench AO, layer (1).

No. 253. A thin bowl with extended lip, of red ware, having red slip inside with black painted lines. Outside there is white slip with black painted lines on it. Trench CO, layer (1).



a. Takht-i-Sulaiman — Flat top on the left and break on the right.



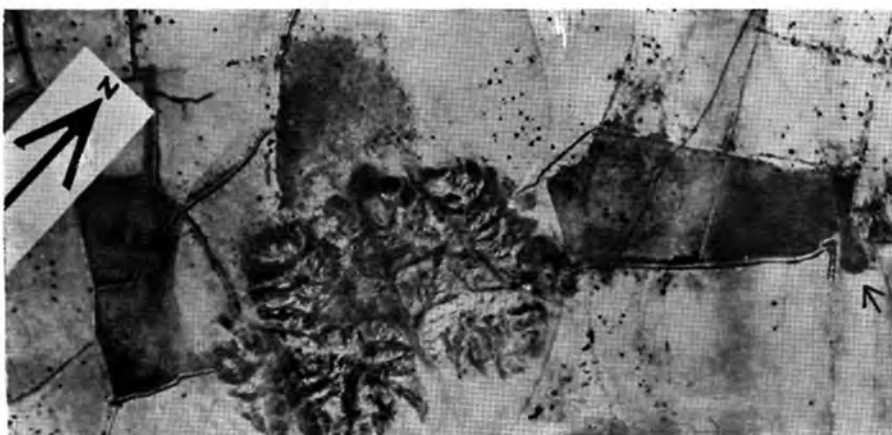
b. Drabind — The tall mound cut by a hill torrent



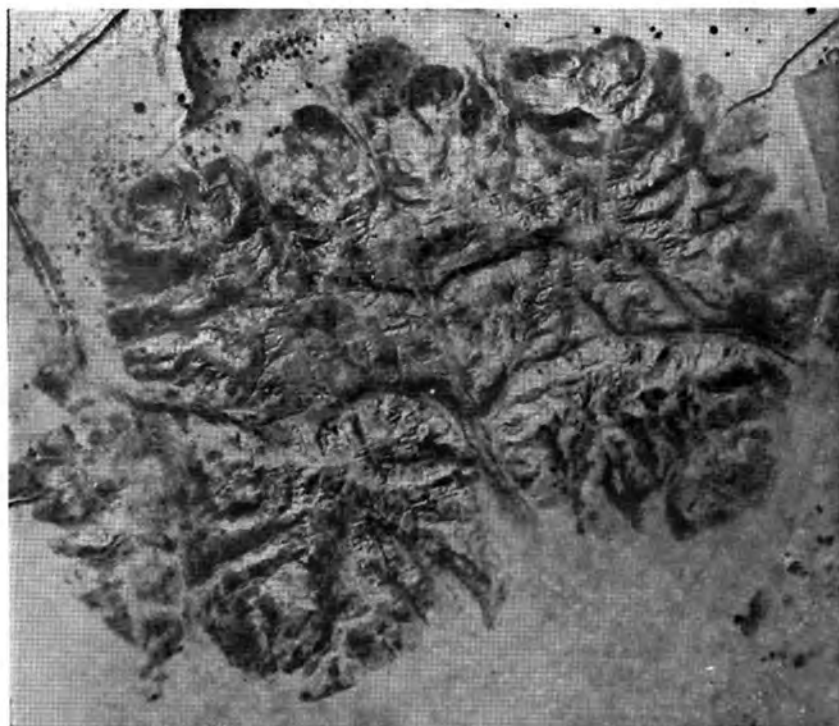
a. Pezu gap showing severe warping of the earth.



b. Pezu rough formation with Shaikh Buddin hill at the back



a. Rahman Dheri and Hisam Dheri Mounds



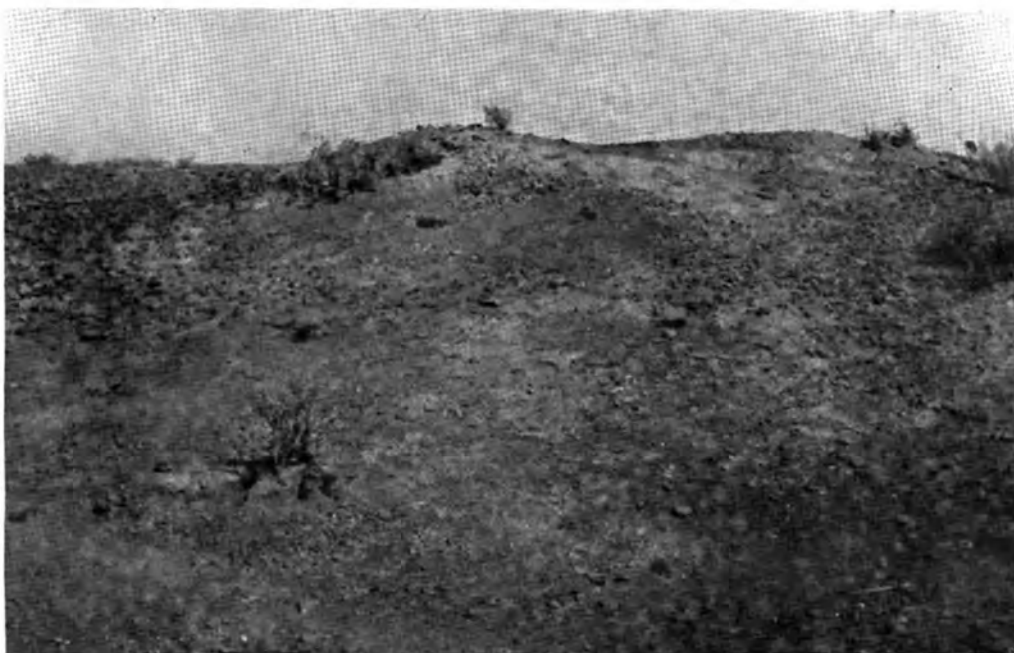
b. Aerial view of Rahman Dheri



a. Rahman Dheri — Circular pit after clearance.



b. Karam Shah — mound with scattered stones and pot-sherds.



a. Mahra Sharif mound



b. Mahra Sharif — Flexed burial (damaged) with open mouth.



a. Gumla — The mound before excavation.



b. Potsherds and terracotta missiles scattered on the top of Gumla mound.



a. Gumia — Lay-out of the long trench



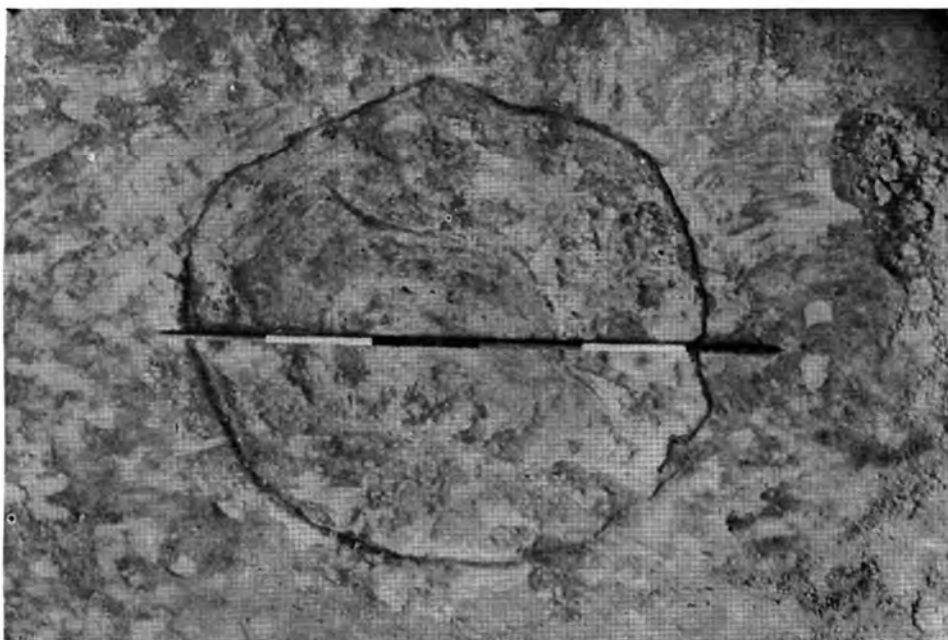
b. Gumla — Excavation at the deep cut



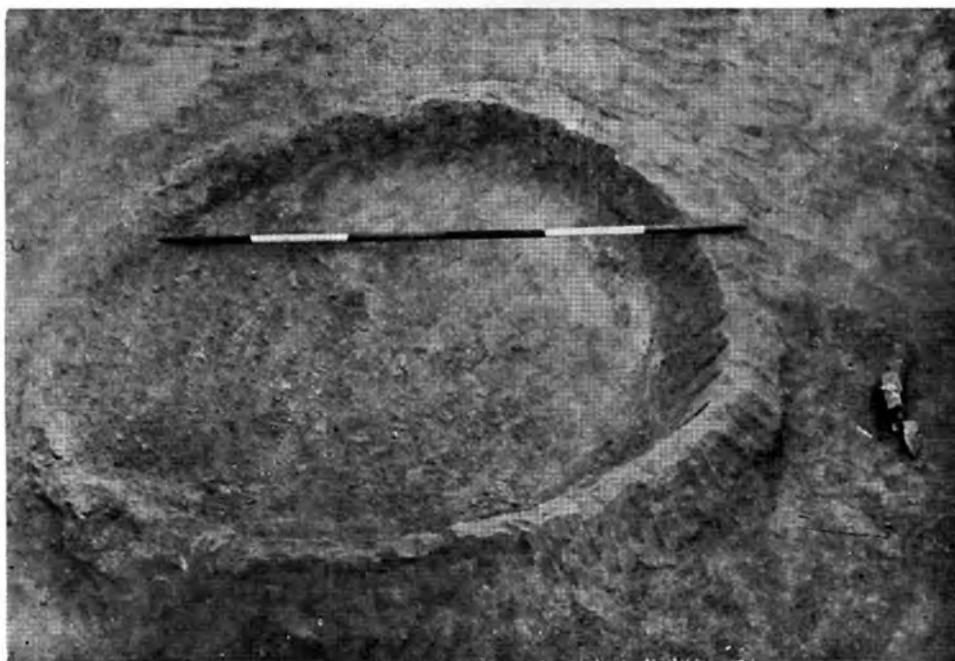
Gumla — Deep cutting. Storage jars and circular ovens of the lower levels. (Looking from east).



Gumla -- Deep cutting. Storage jars and circular ovens of the lower levels. (Looking from west).



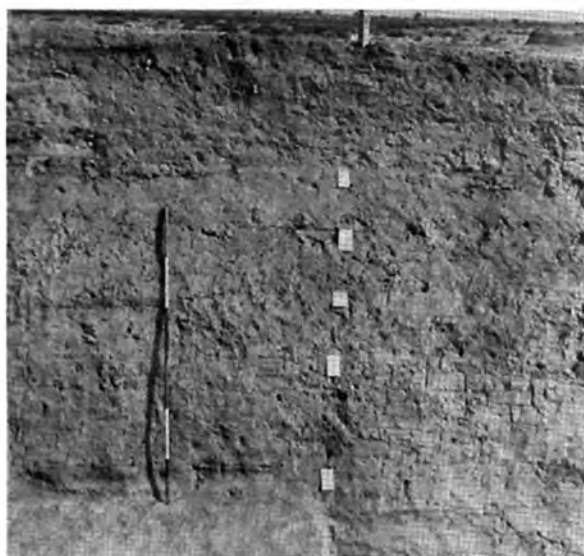
a. Gumla — Circular oven in trench A-O layer (12)



b. Gumla — Circular oven with a bone piece in trench B-O layer (12)



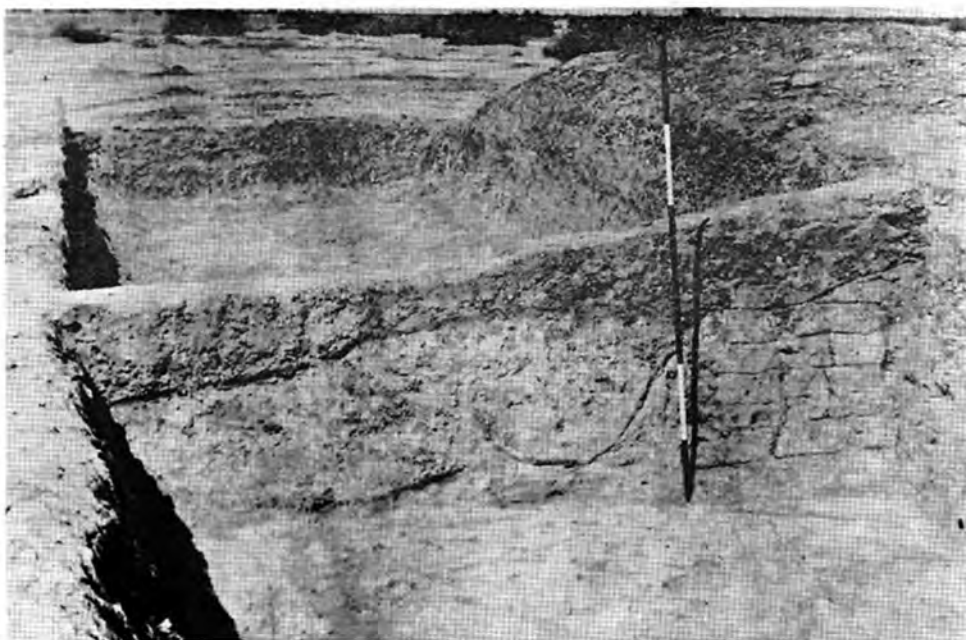
a. Gumla — Oven in trench D-O.



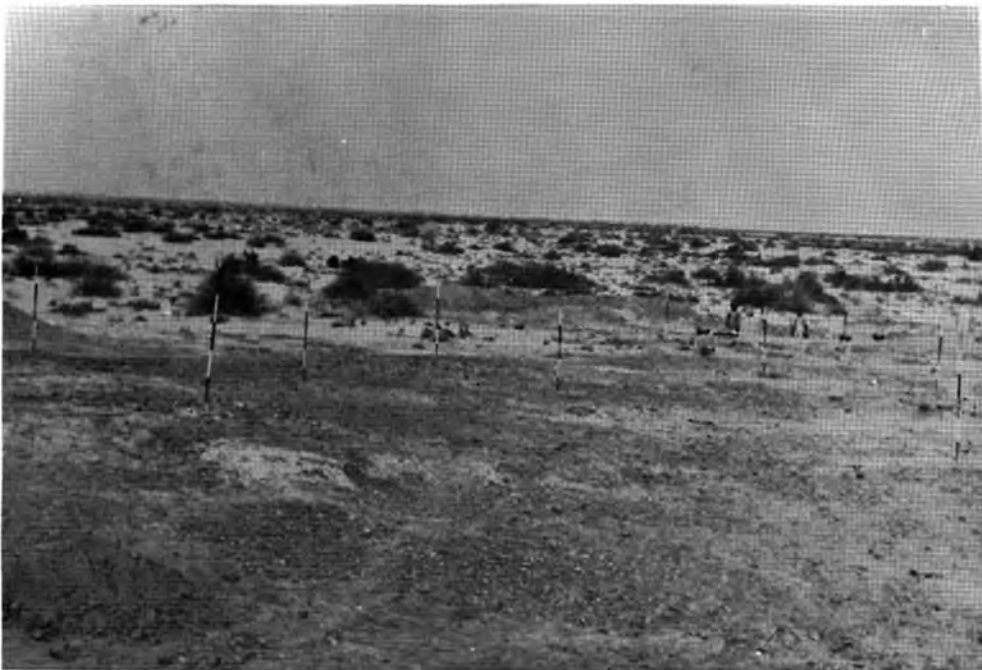
b. Gumla — Mud-brick platform of period IV.



a. Gumla — Storage jars and pits in trench A-O.



b. Gumla — Debris over the wall (broken) at the south side trench H 6



a. Gumla — Location of the circle graves at the northern side. Each pole represents a grave



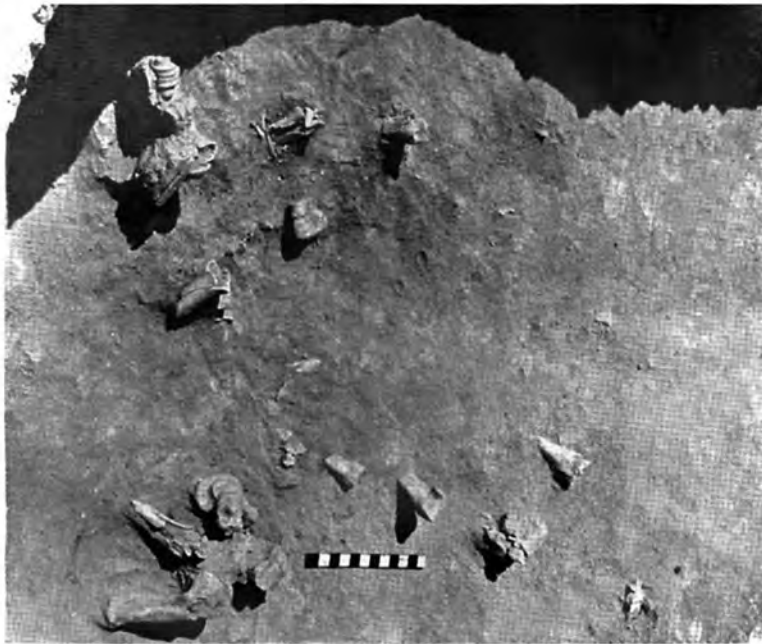
b. Gumla — Circle graves under excavation



a. Gumla — Circle grave No. 1 before excavation



b. Gumla — Circle grave No. 1. The two poles represent the later flexed burials with open mouth. Down in the pit are the earlier burnt bones



a. Gumla — The detail of the burnt bones (animal and human) in Grave No. 1



b. Gumla — Jaw of an animal inside Grave No. 2



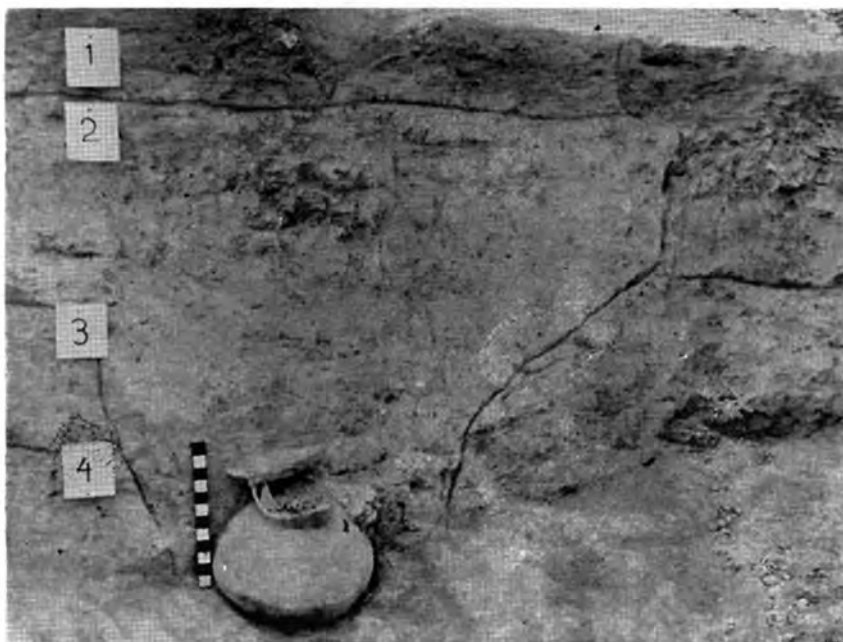
a. Hathala — Mound after clearance of the jungle



b. Hathala — Muslim graves on the top of the mound



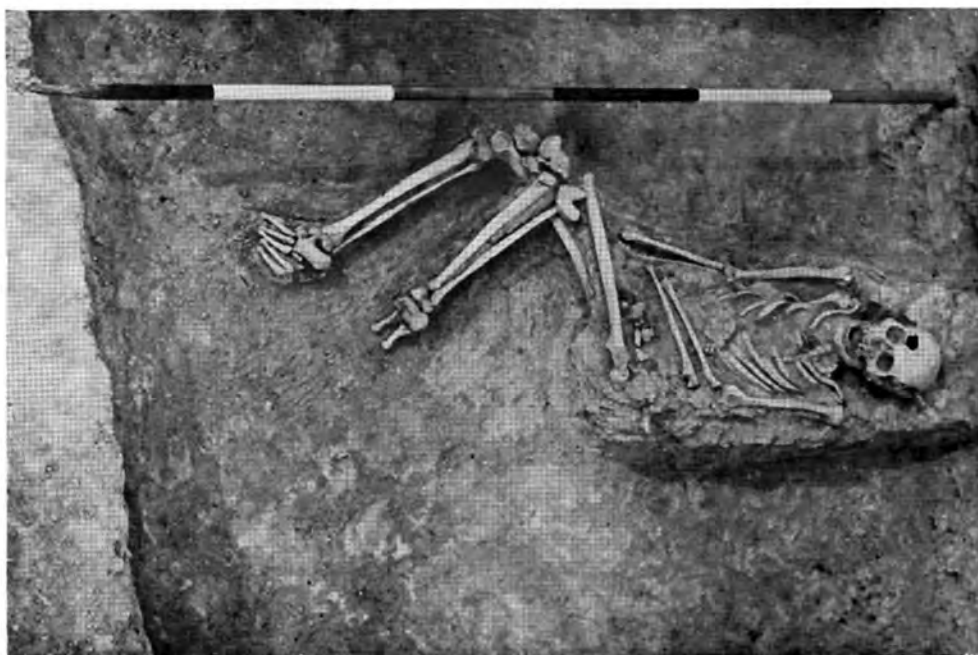
a. Hathala — Burial jar with ash and bone fragments



b. Hathala — Burial jar covered by stone saddle quern.



a. Hathala — Horse-shoe shaped burial pit.



b. Hathala — Flexed burial with open mouth, bull at the hip.



a. Hathala — Flexed burial (damaged)



b. Hathala — Flexed burial with open mouth (Damaged).



a. Gumla — Terracotta human figurines from Period II.



b. Gumla — Terracotta human figurines from Period II.



a. Gumla — Terracotta human figurines No. (4) of Period II;
the remainder of the last period.



b. Gumla — Nos. (1) and (3) of Period III; and Nos. (2) and (4)
of Period IV.



Gumla — Terracotta human figurines — Nos. (1), (2) and (5) of Period IV; No. (3) of Period III; No. (4) of circle grave No. 1.



Gumla — Terracotta human figurines — Nos. (1), (2) and (5)
of the last period; Nos. (3) and (4) from circle grave No. 2.



Gumla — Terracotta human figurines — No. (1) Period III d;
Nos. (2), (3) and (4) Period IV.



Hathala — Terracotta human figurines — all from surface except No. (13) from A O layer (3)



Gumla — Terracotta bulls from Period II.



Gumla — Terracotta bulls from Period IV and V.



Hathala — Terracotta bulls and broken horns. No. (5) found near the hip of a human skeleton.



Gumla — Terracotta broken horns of different periods.



Gumla — (1-3) horses; (4) camel; (5) dog; all of terracotta.



Gumla — Birds and bird whistles of terracotta.



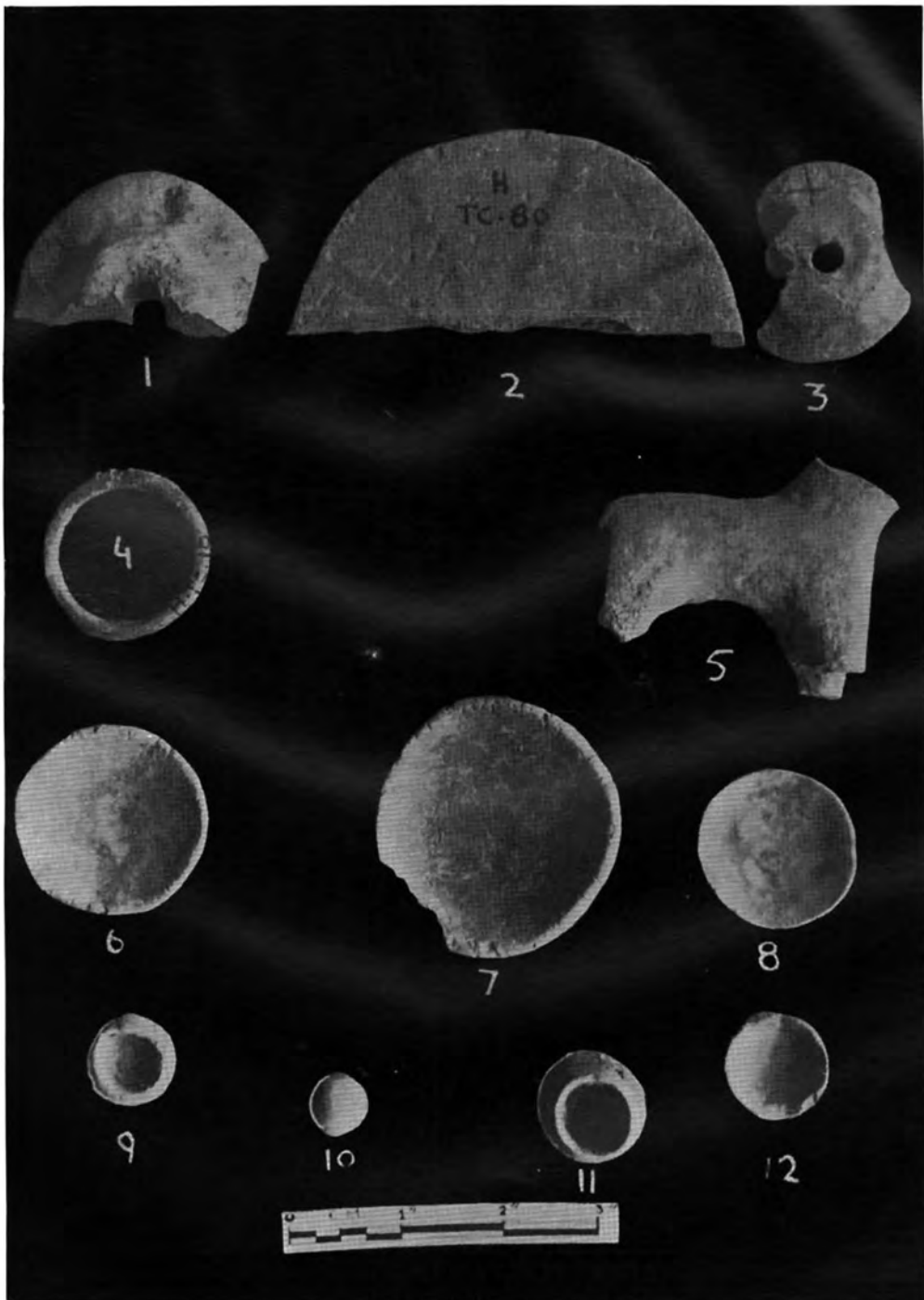
Hathala — (1) Terracotta human figurine; (2) and (5) terracotta birds; (3) bird whistle; (4) bull.



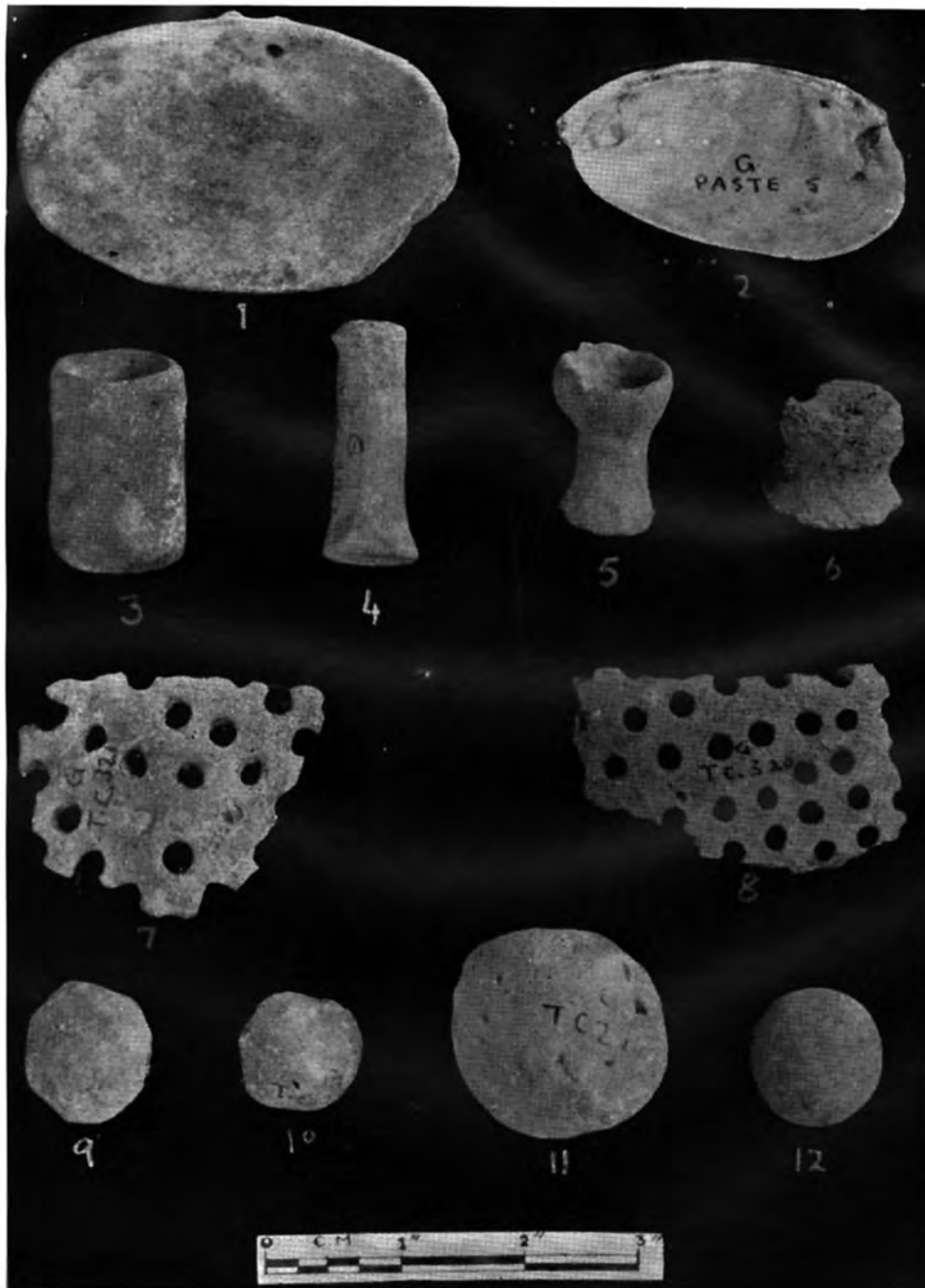
Gumla — Terracotta wheels and carts.



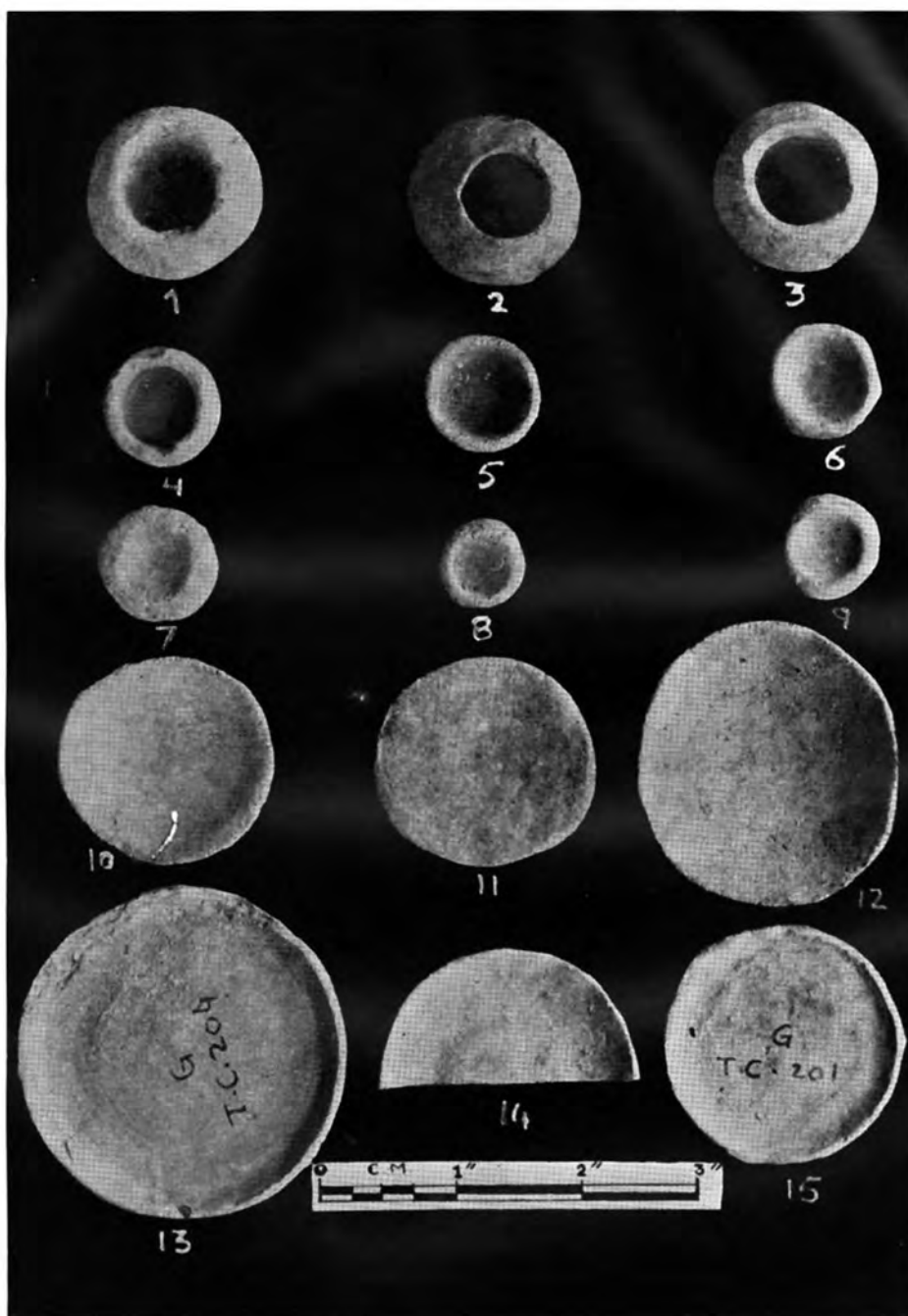
Gumla — Terracotta missiles and triangular cakes.



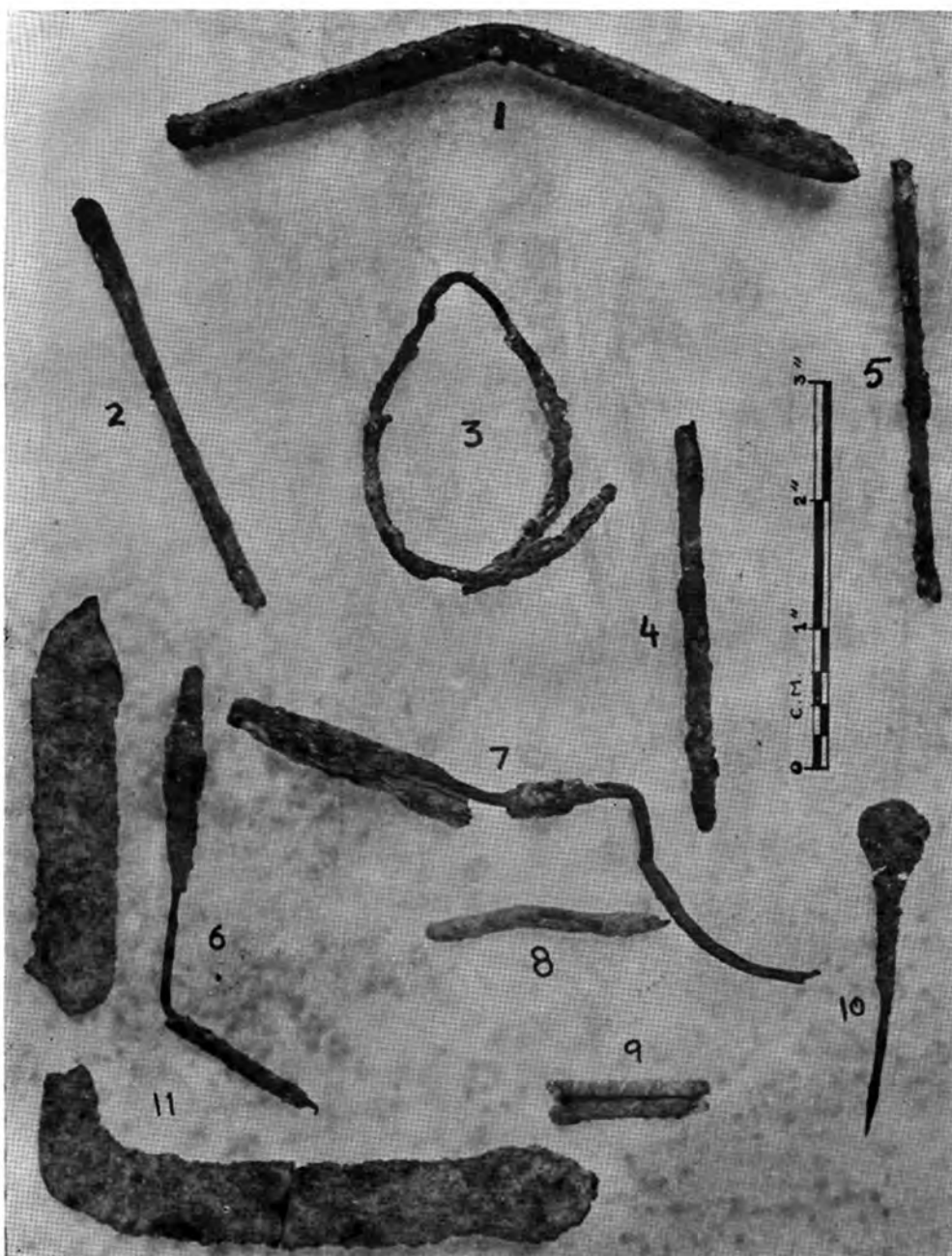
Hathala — (1 — 3) Wheels; (4) bangle; (5) bull; (6, 7, 8) tiny saucers.
 (9,11,12) tiny pots; and (10) ball — all of terracotta.



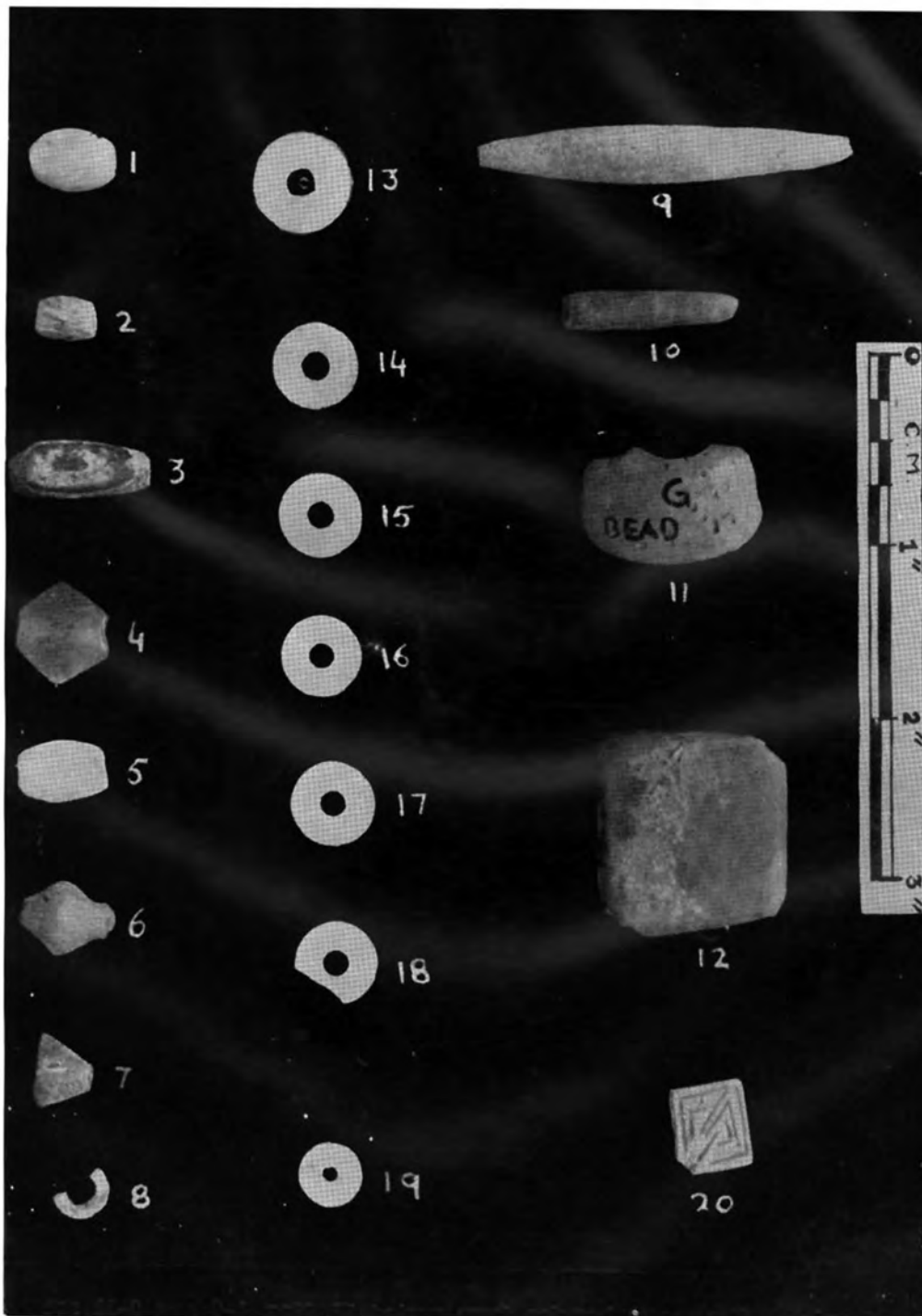
Gumla — (1) Imitation shell in terracotta; (2) Sea-shell (3) dice-thrower (4) Terracotta leg (5) tiny incense burner (6) pottery stand (7 and 8) Perforated vessels (9-12) Terracotta balls



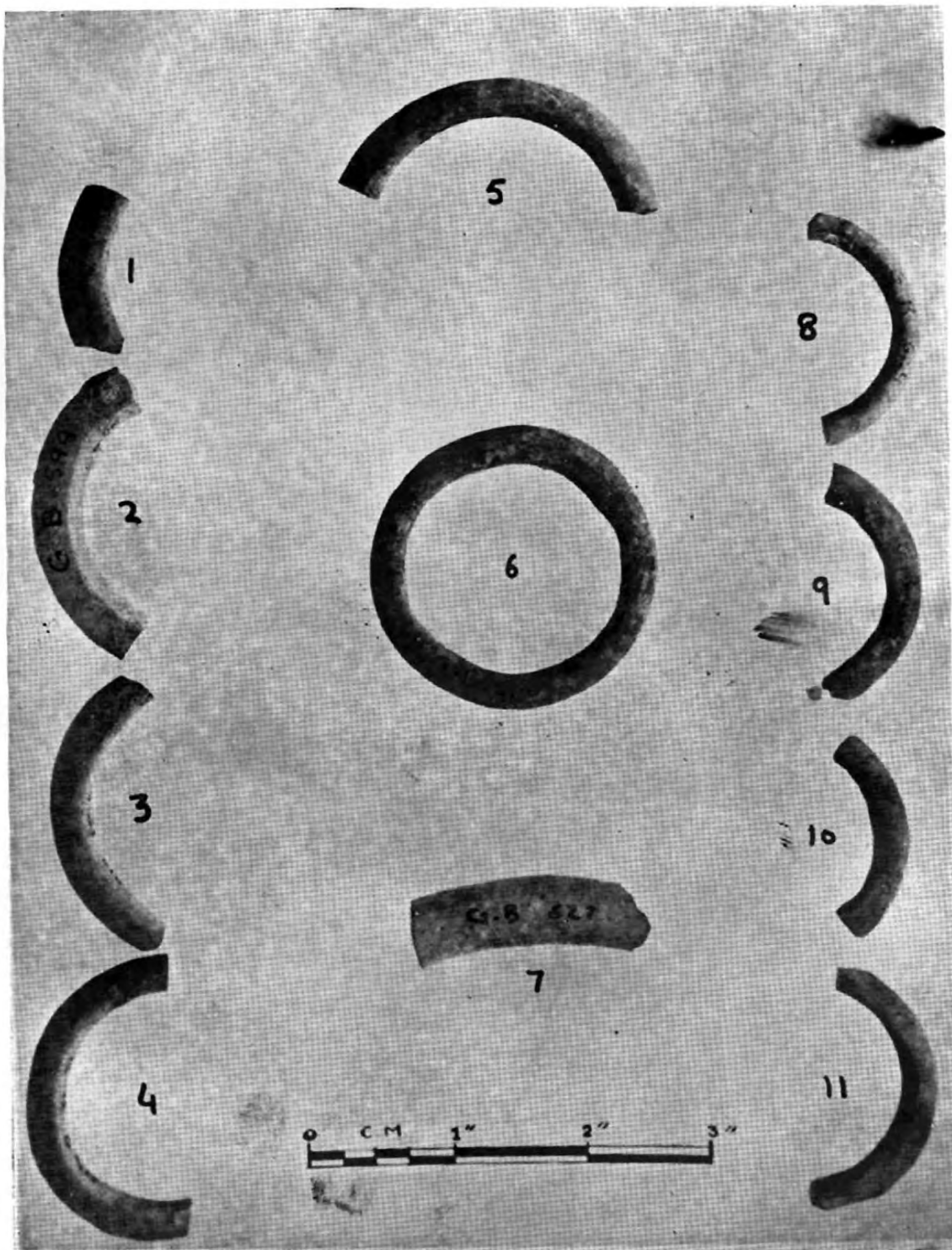
Gumla — (1-9) tiny pots; (10-15) tiny saucers.



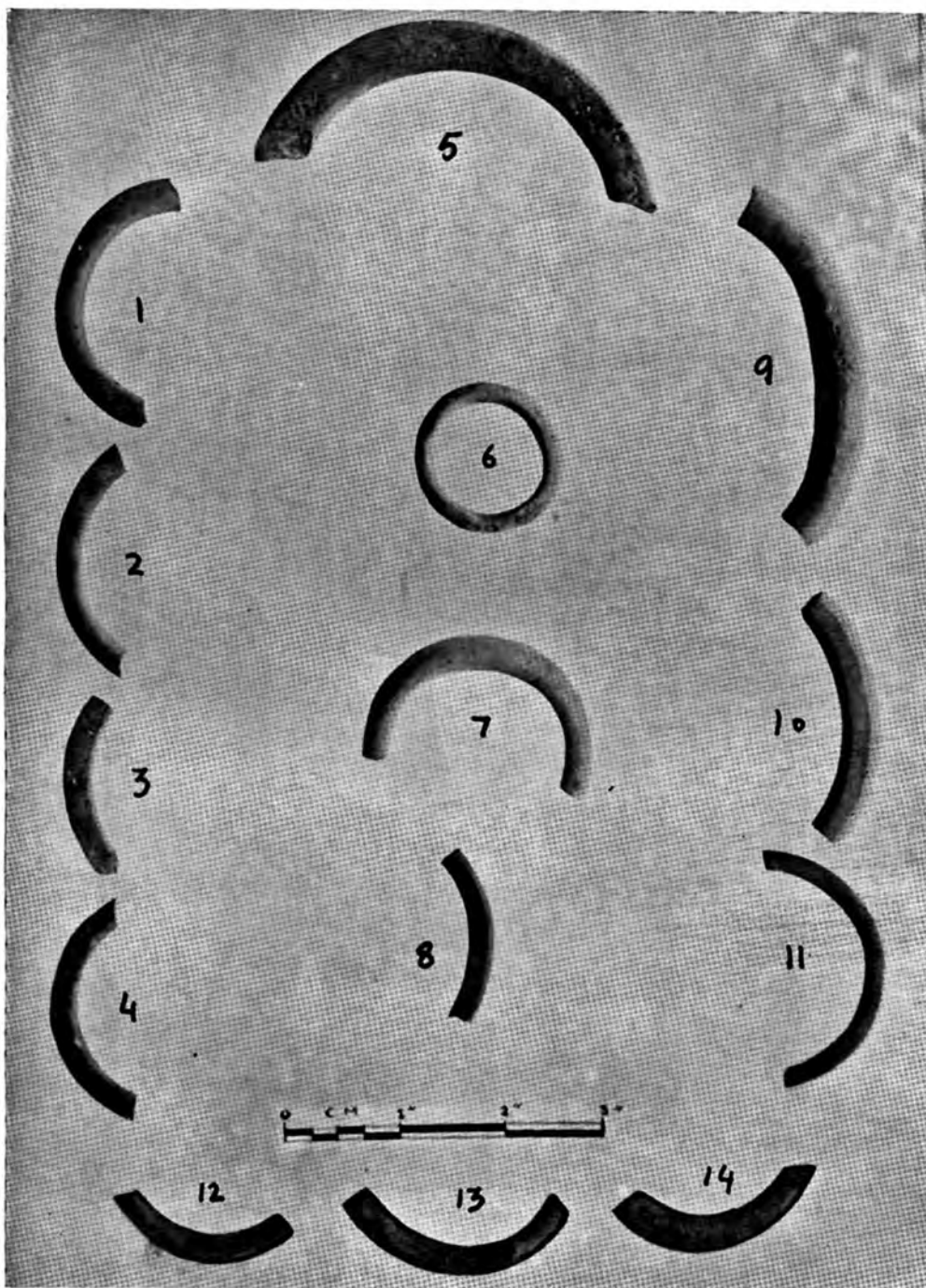
(1) Bronze chisel; (2, 3, 4, 5, 8, 9) antimony rod; (6-7) handled rod; (10) nail parer — all from Gumla. (11) Iron crooked knife from Kot Allahdad.



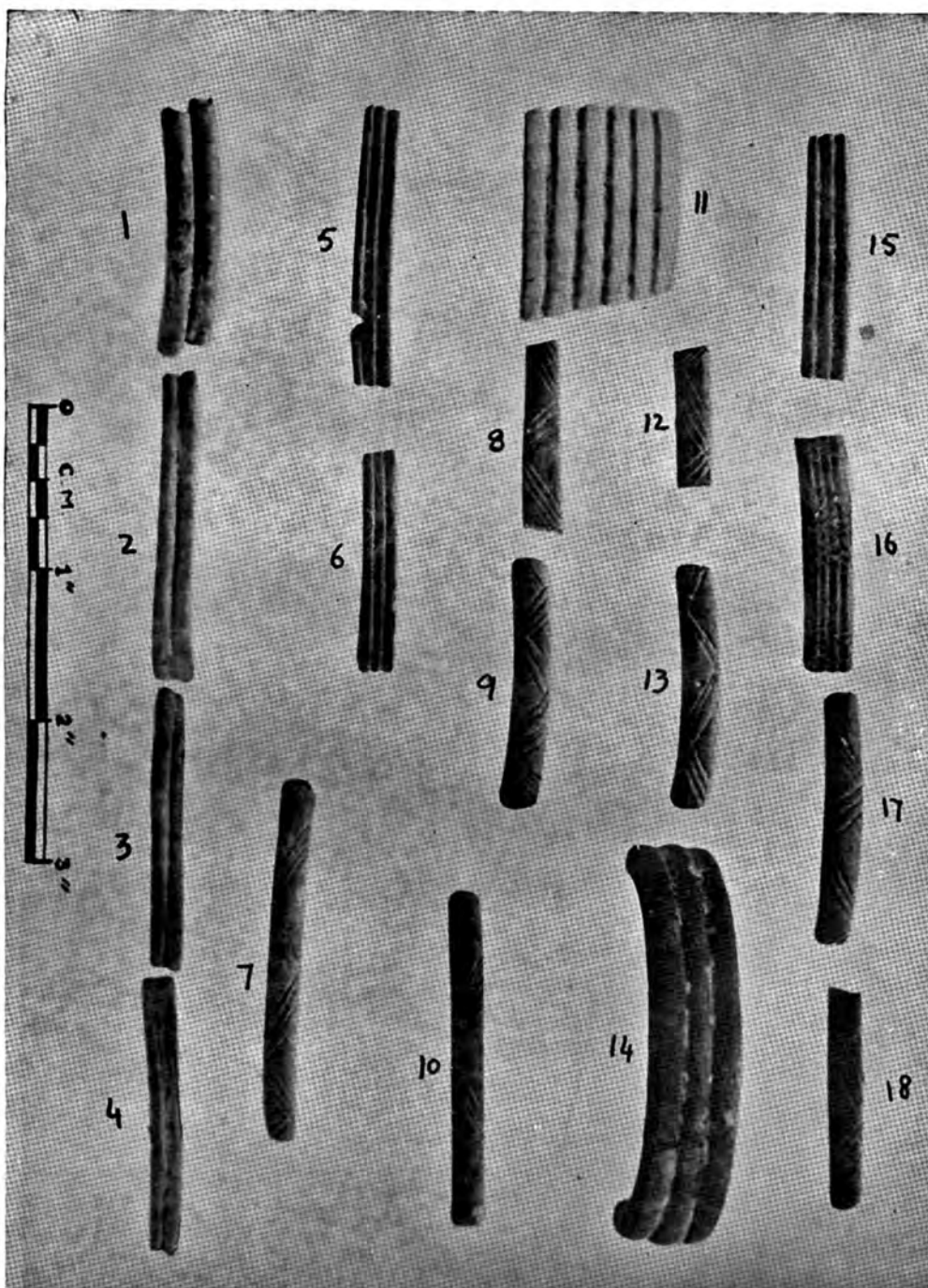
Gumla — (1 — 19) Beads; (20) Button.



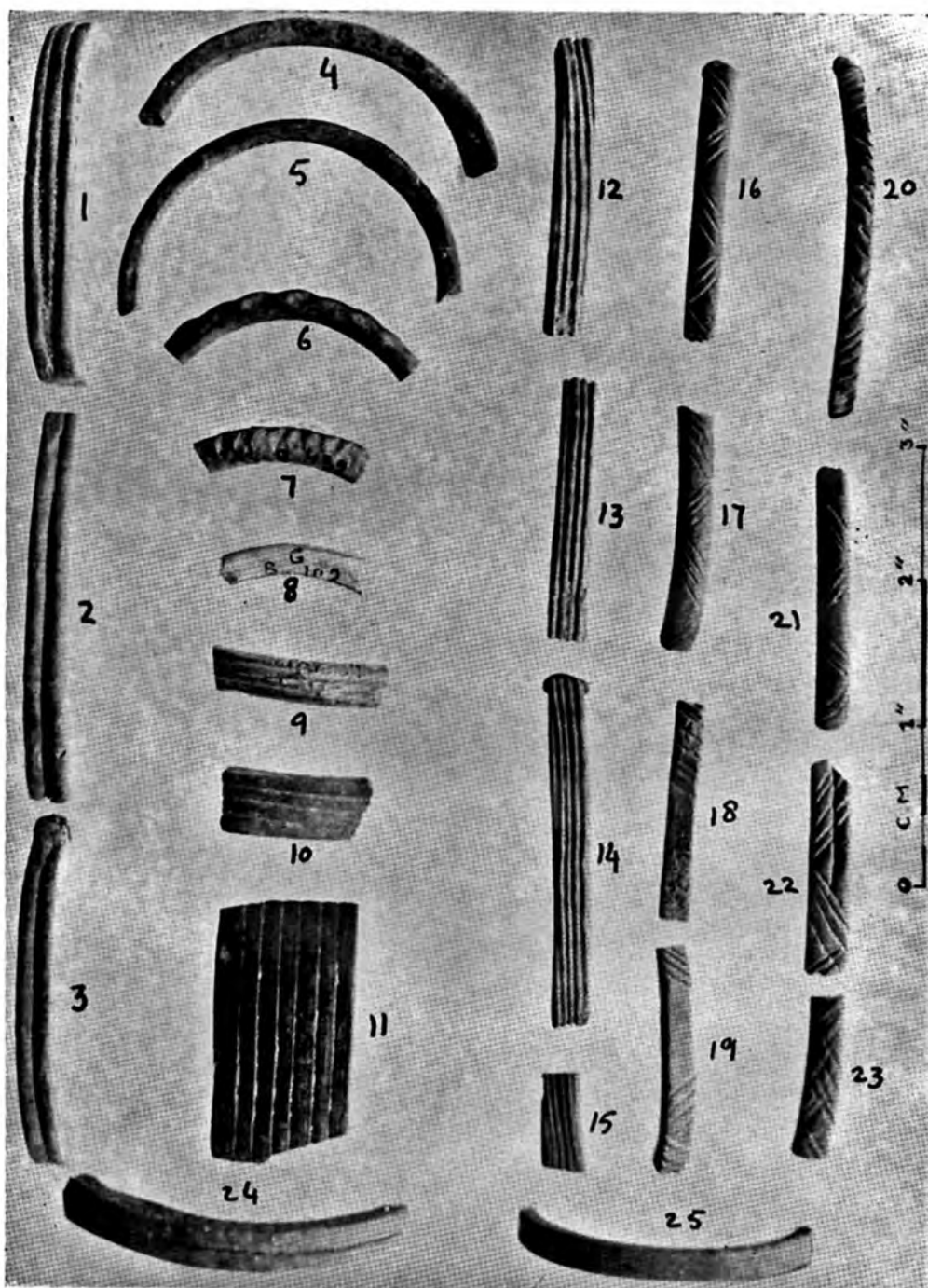
Gumla — Terracotta bangles from period II. Nos. 1-6 and 8-11 are triangular in section and No. 7 is rectangular in section.



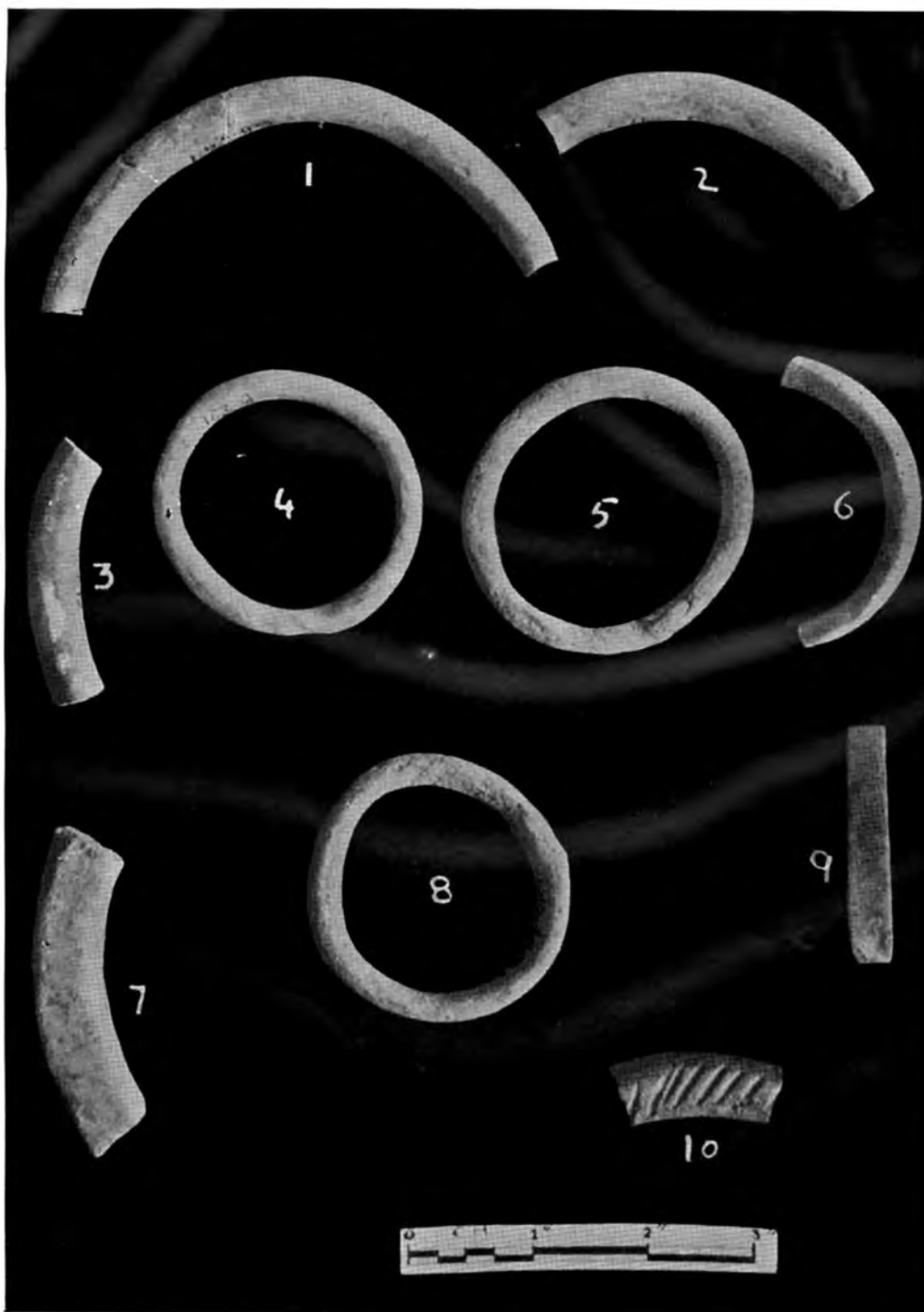
Gumla — Terracotta bangles from period III. Nos. 1-4 and 12-14 are triangular in section; No. 7 flat in section. Nos. 5, 8 and 10 rectangular in section. Nos. 6, 9 and 11 round in section.



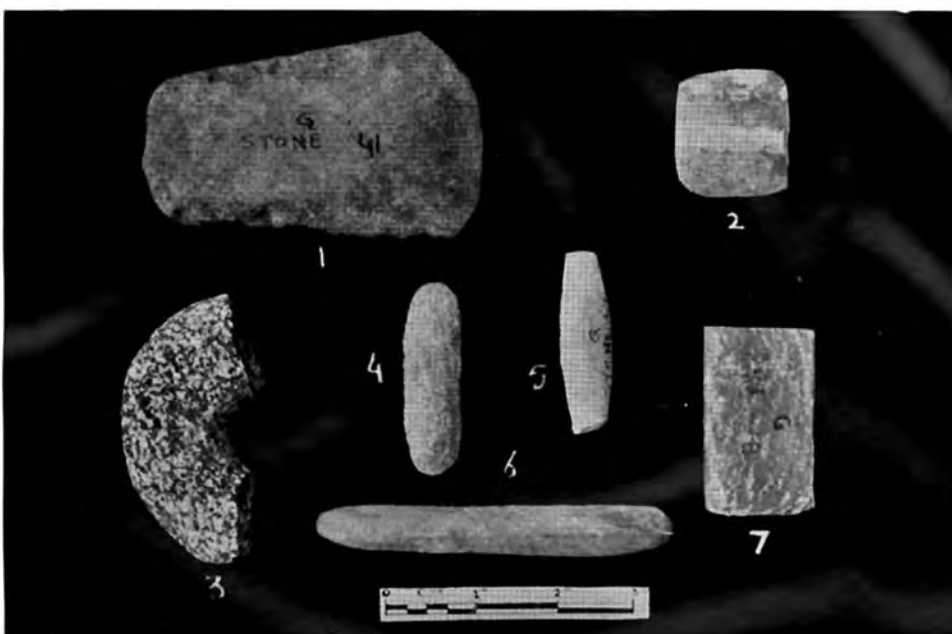
Gumla — No. 11 Conch-shell bangle. The remainder black terracotta bangles. Period III.



Gumla — No. 8 Conch-shell bangle. The rest are black terracotta bangles. Period IV.



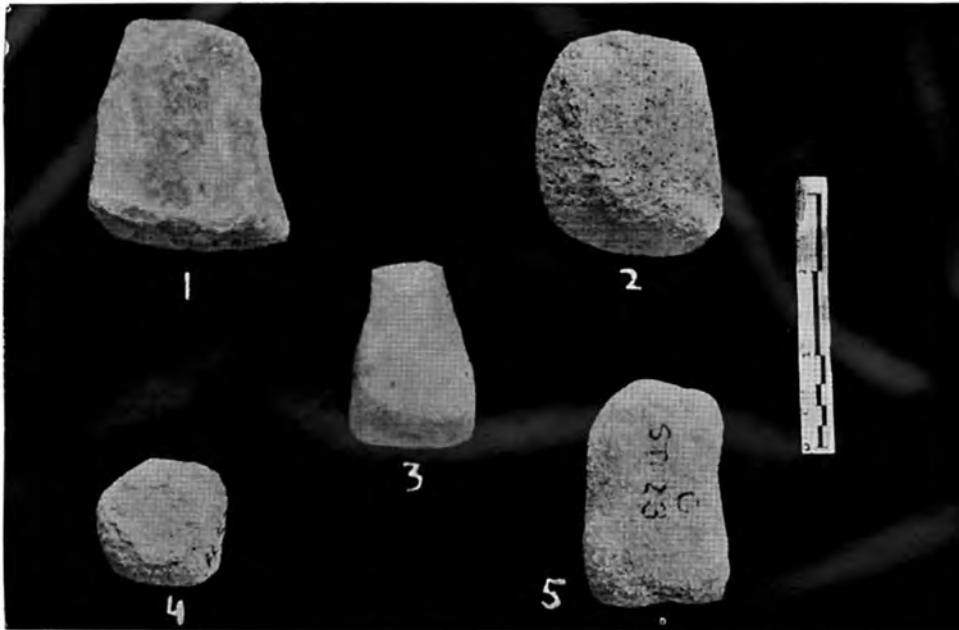
Gumla — Terracotta bangles. Period IV.



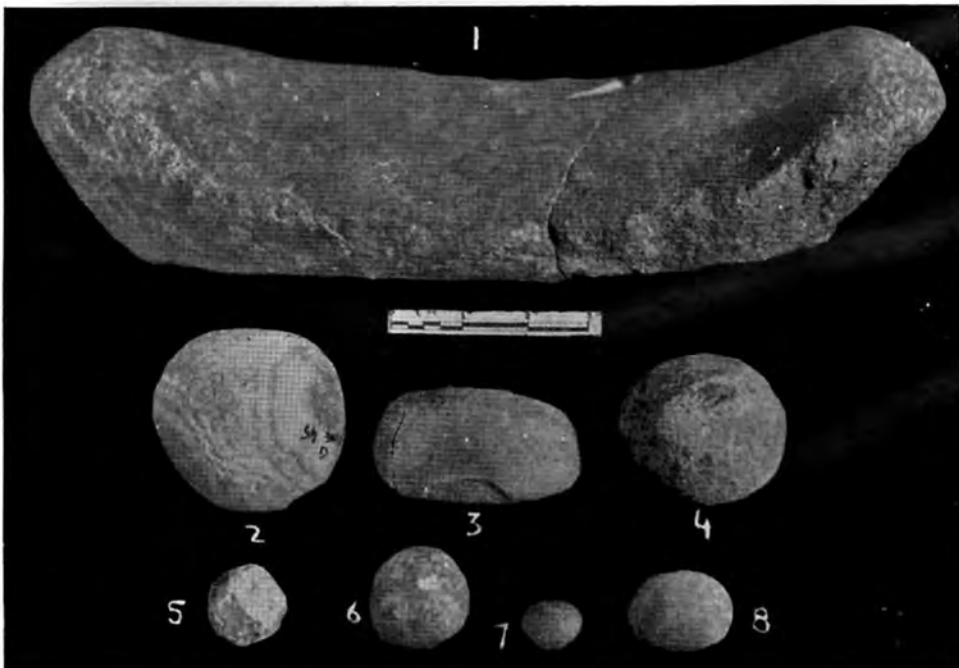
a. Gumla — (1) Ground tool (2) Stone Weight (3) mace-head, (4 and 6) flesh rubber (5) Spindle whorl (?) (7) Sharpener.



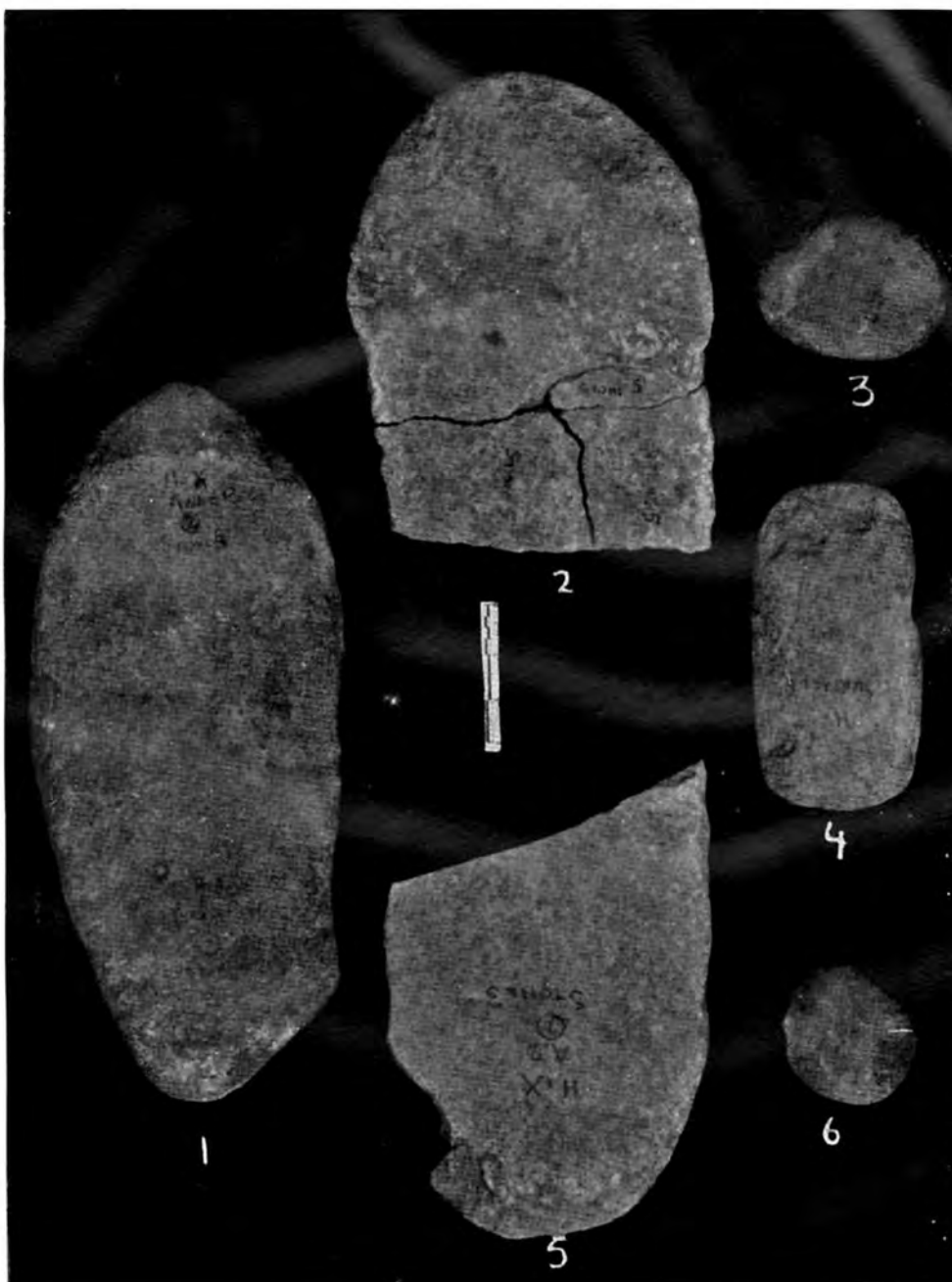
b. Gumla — Bone awls and points (1) Period IV; (2-7) Period II.



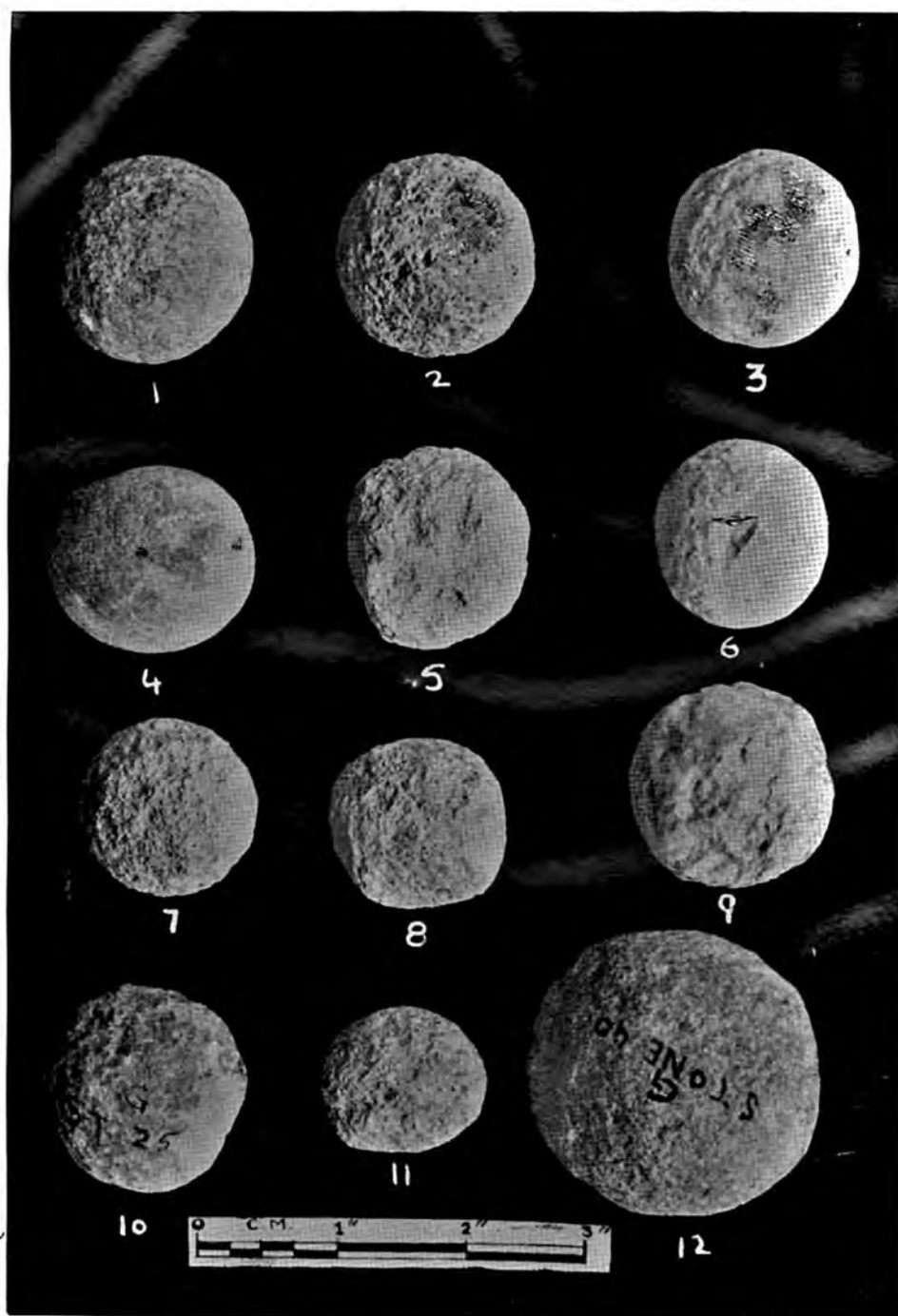
a. — (1, 2 and 5) from Gumla,
(3 and 4) from Hathala. Stone supports (?)



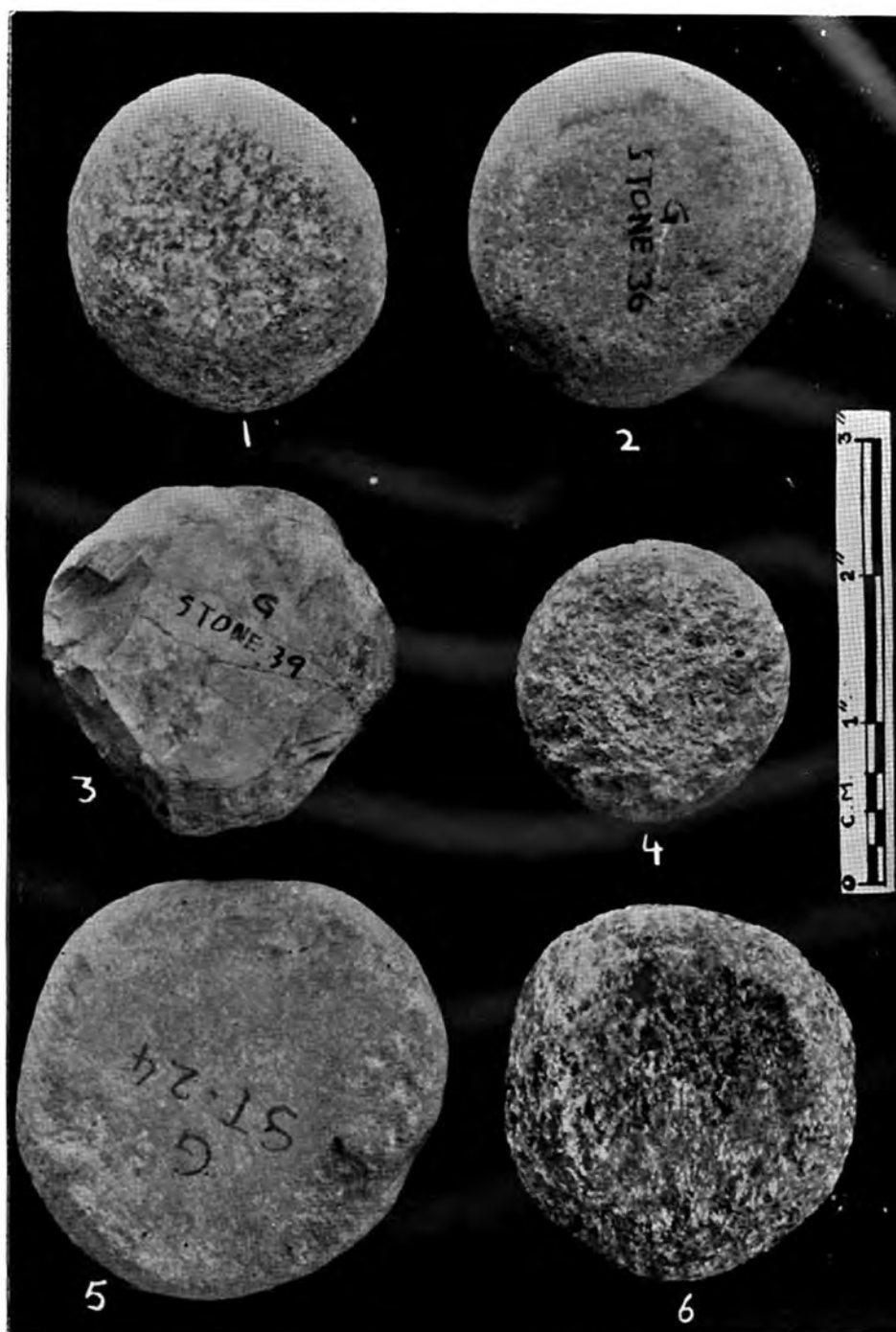
b. Gumla — Period I (1) Saddle quern (3) rubbing stone.
(2 and 4-8) balls.



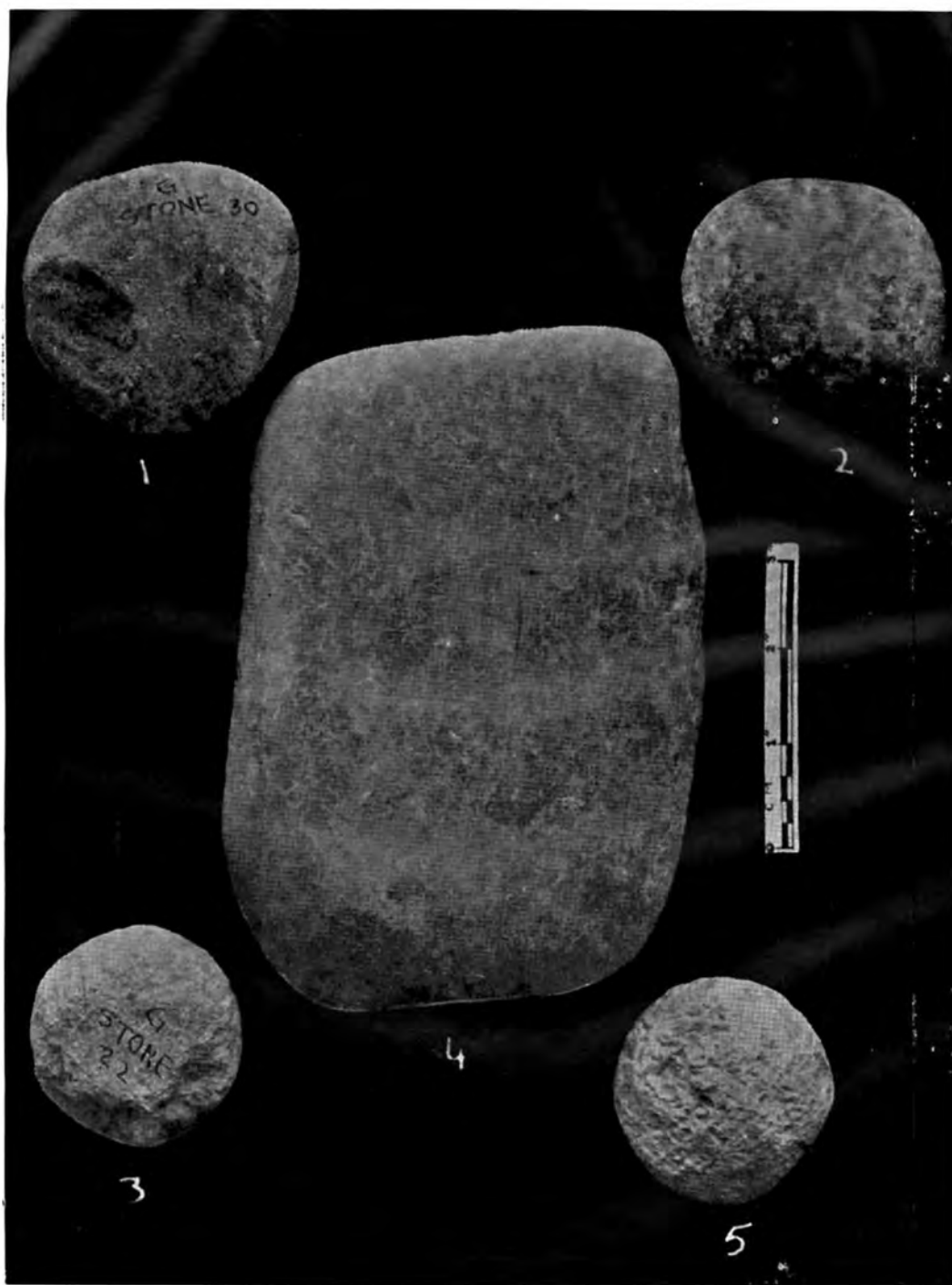
Hathala — Stone objects. (1, 2 and 5) saddle querns; (3 and 4) rubbing stones; and (6) ball.



Gurnla — (1-8 and 10-12) stone balls; (9) clay ball.



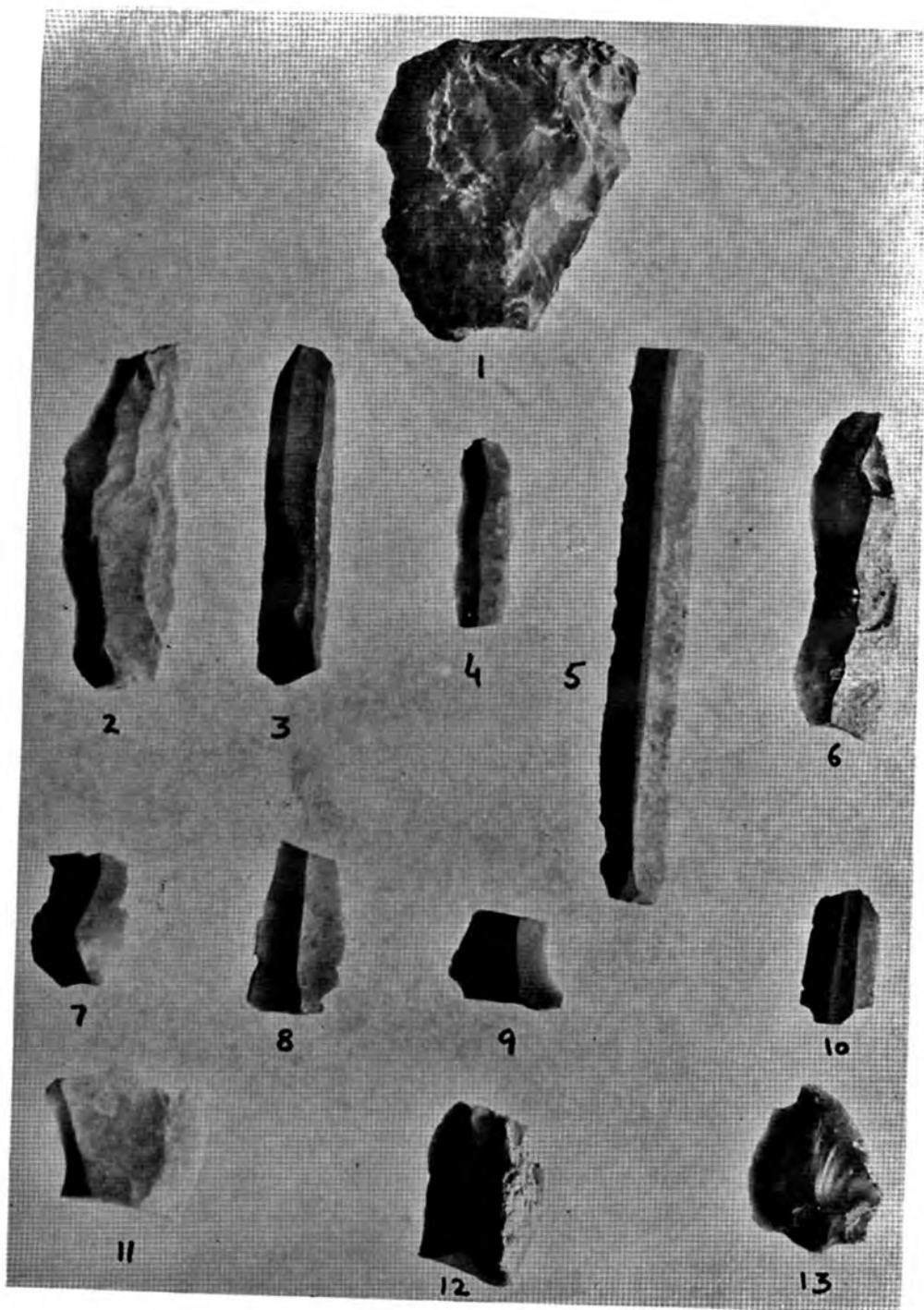
Gumla — Stone balls having two flat faces.



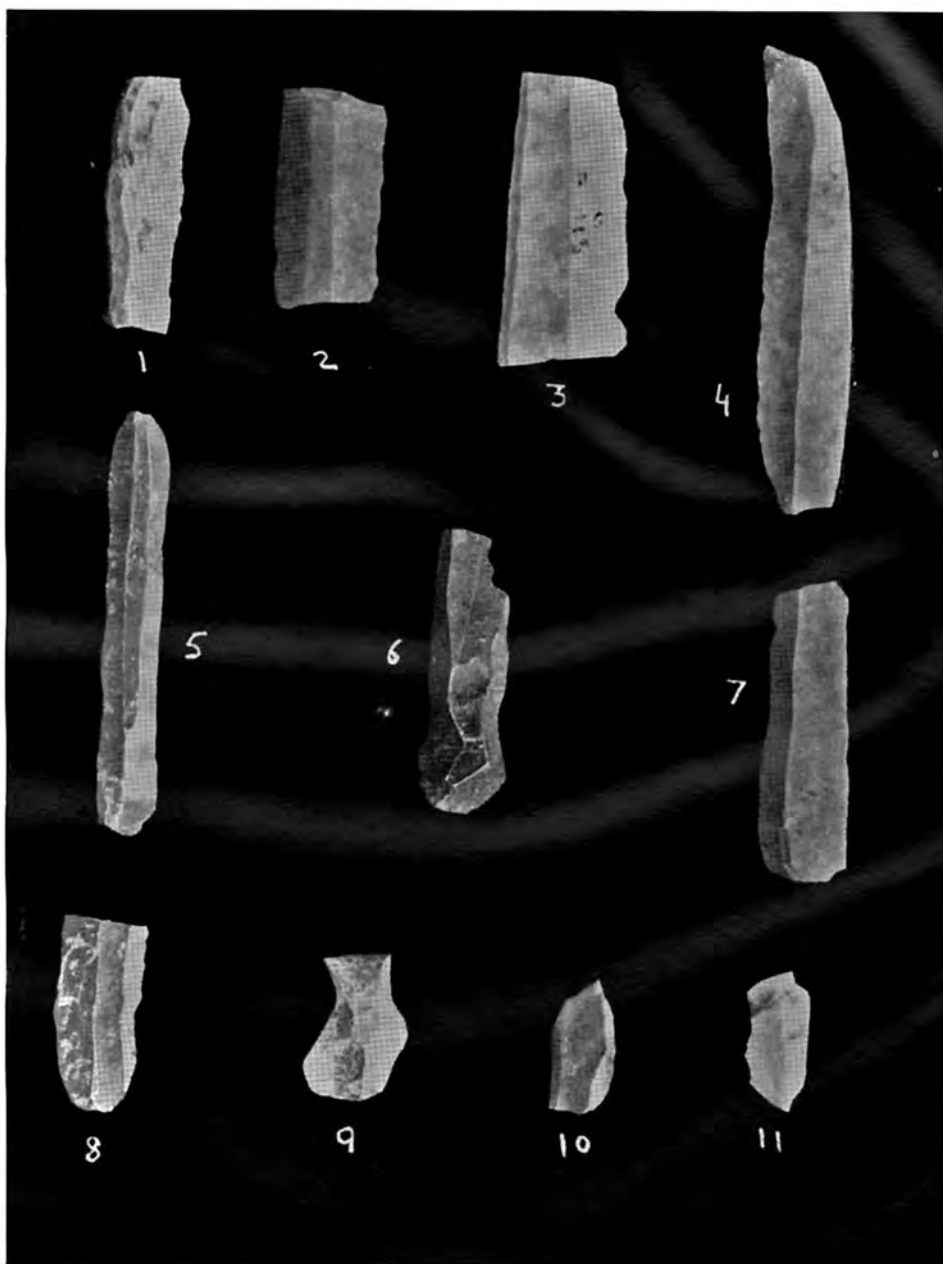
Gumla — Stone balls and stone anvil base.



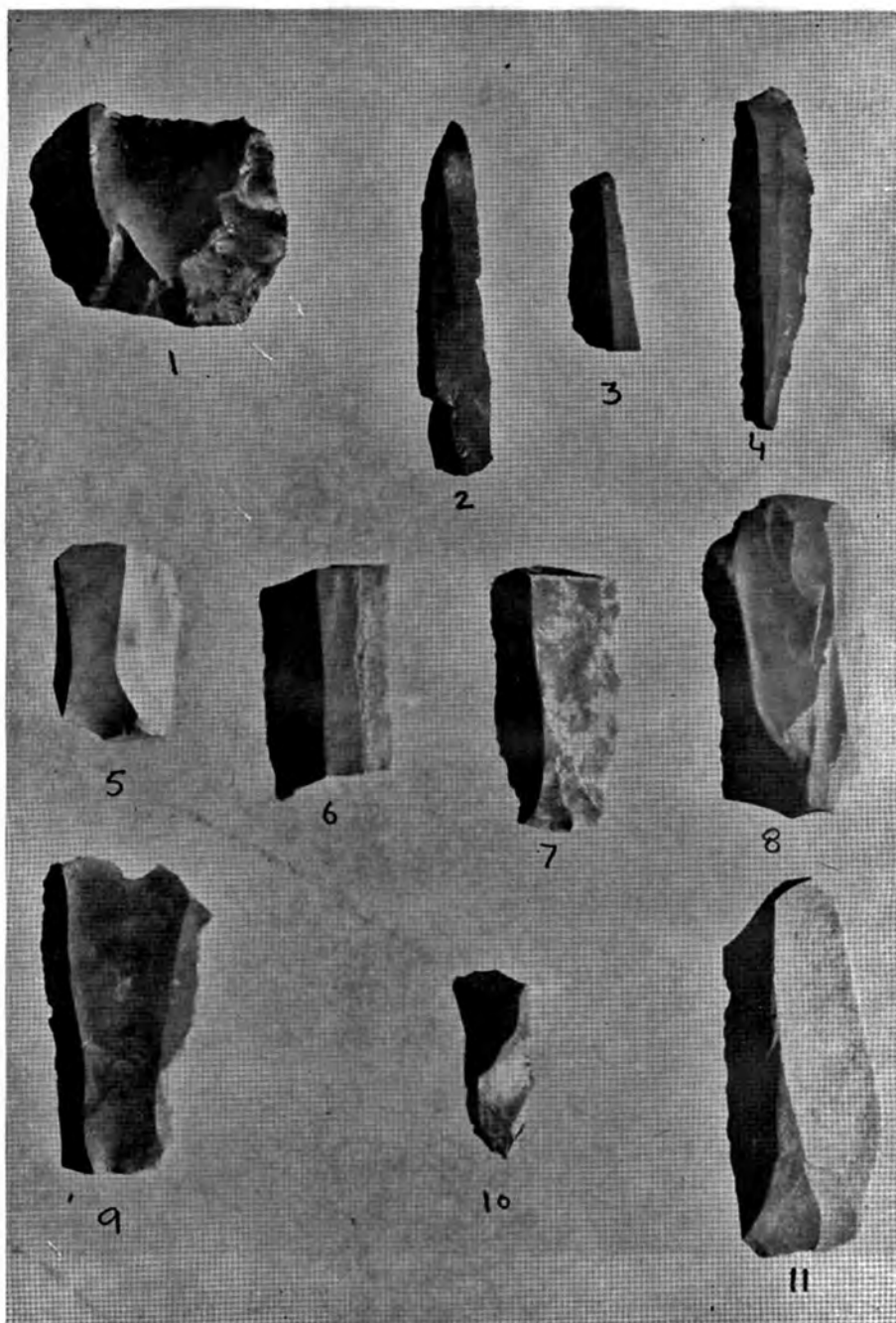
Gumla — Stone grinders, pounders and anvil base.



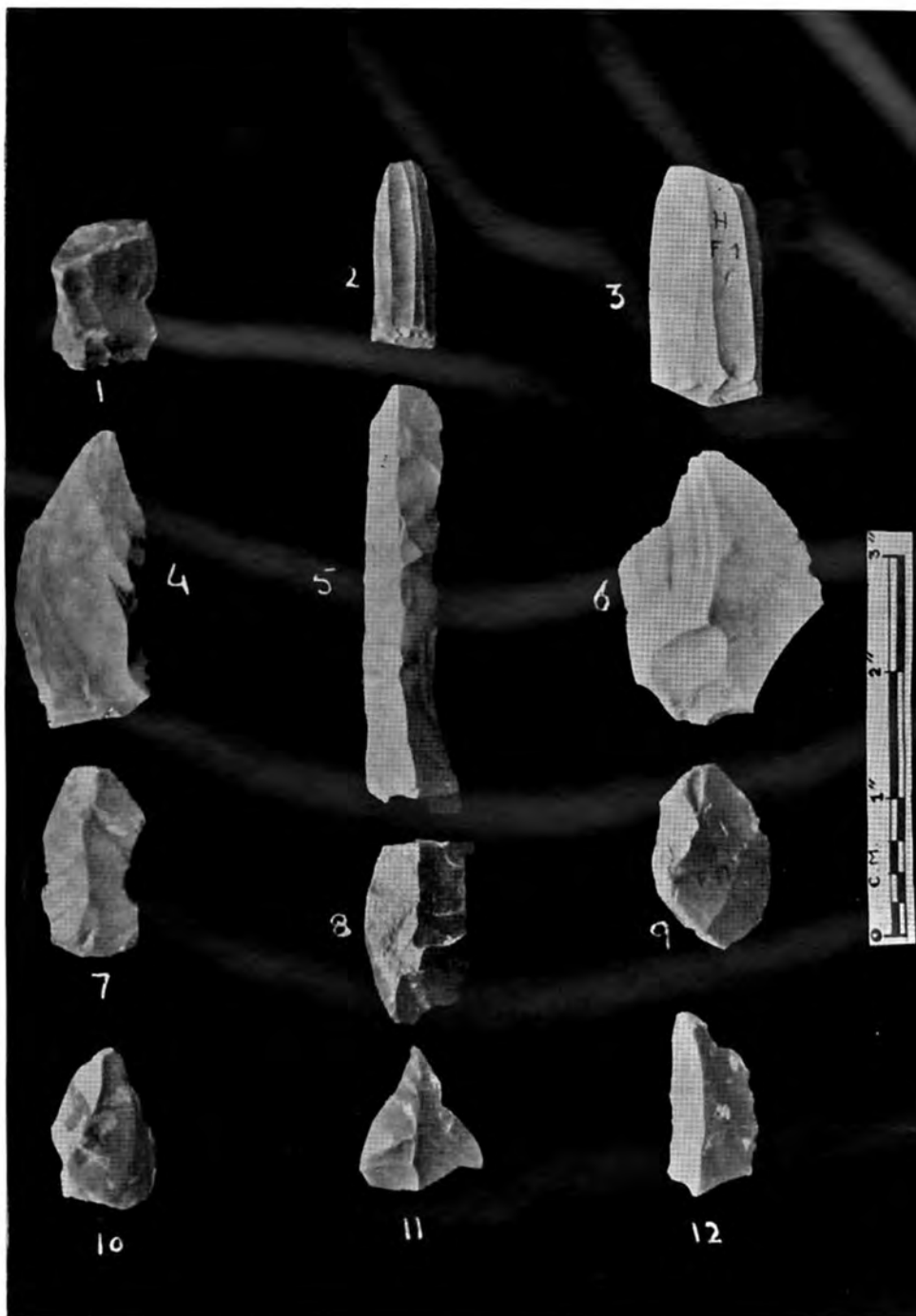
Gumla — Microlithic tools, (1 — 12) Period III; (13) Period IV.



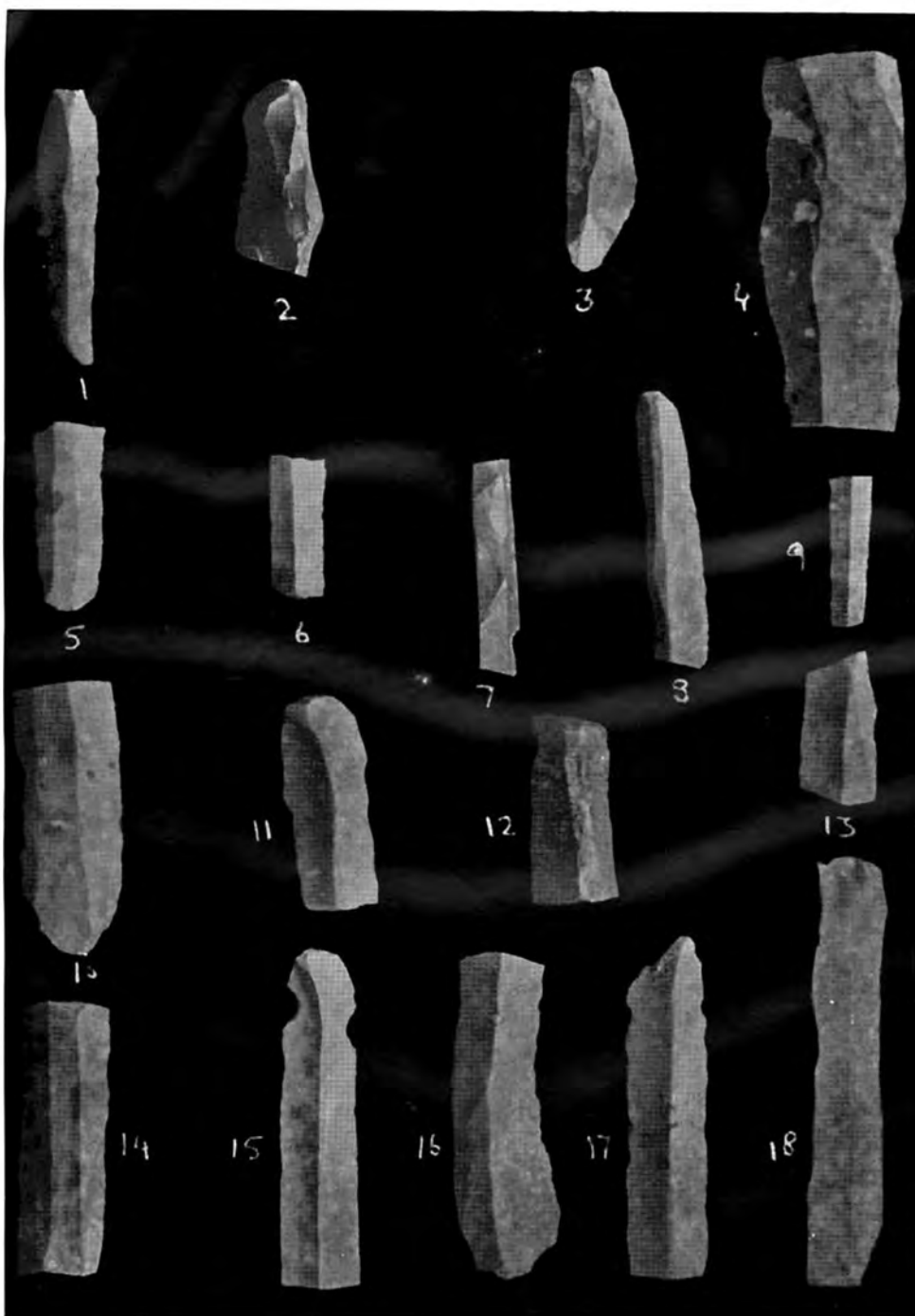
Gumla — Microlithic tools, Period IV.



Gumla — Microlithic tools. (1, 3, 9, 11) surface finds; (2 and 10) from circle graves.



Hathala — Microlithic tools



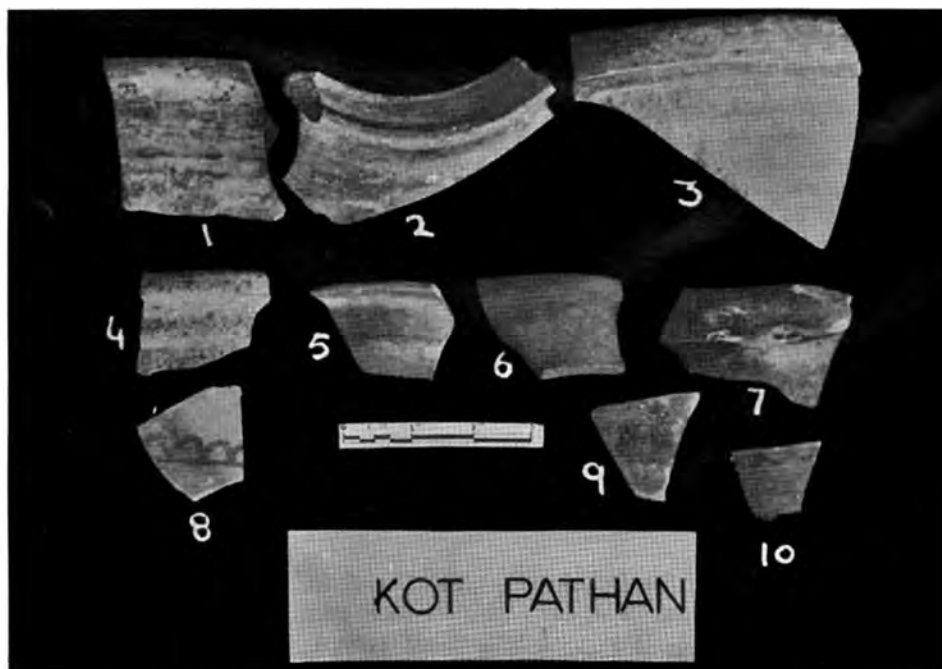
Hathaia — Microlithic tools



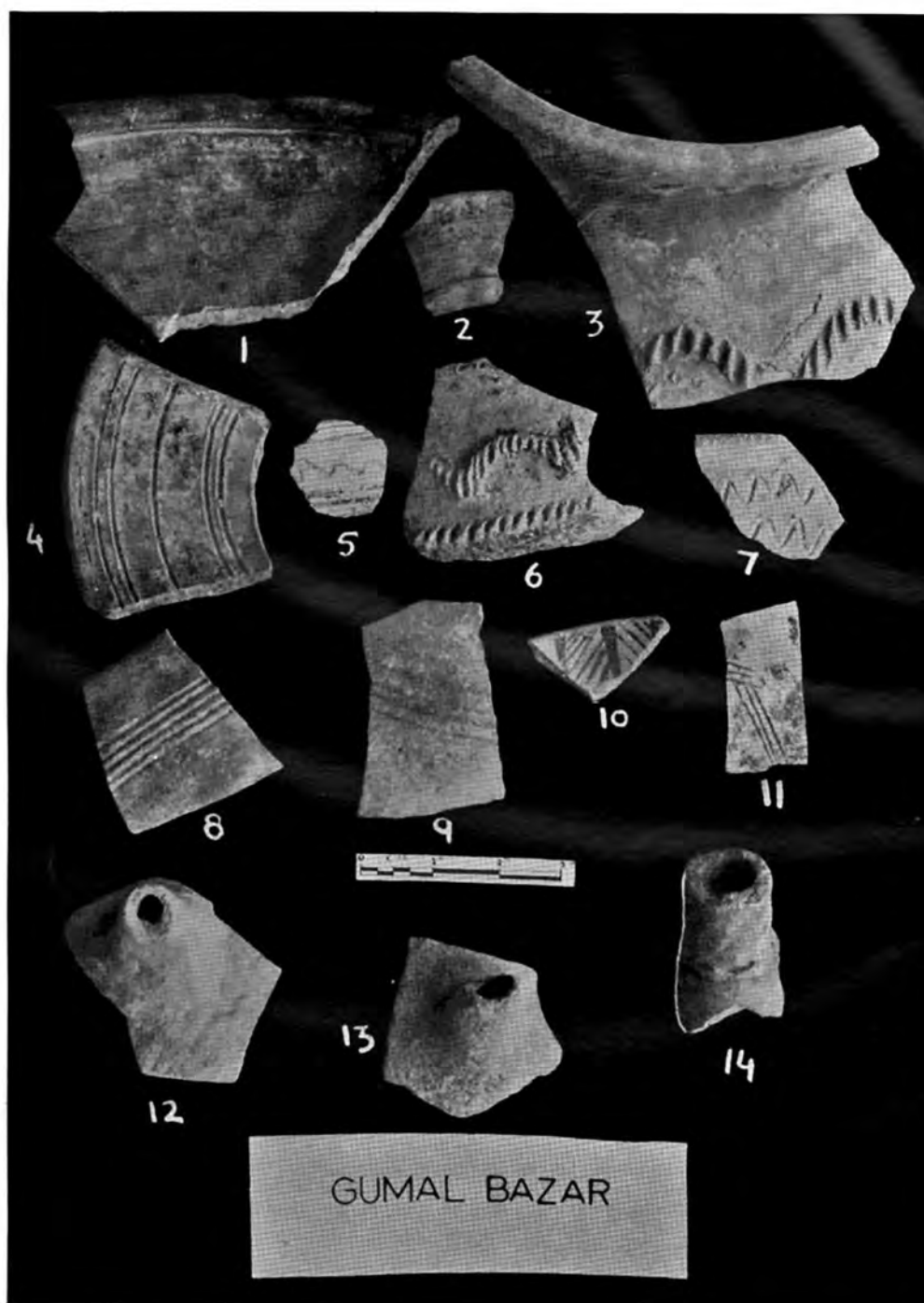
Surkhdheri near Draband, (1 — 11) Pot-sherds; (12) Terracotta humped bull; (13) human face painted on a sherd.
Surface Collection



a. Zarkani (Chicha-dherai) — (1 — 8 and 10 — 11) pot-sherds (9) Iron arrow-head.



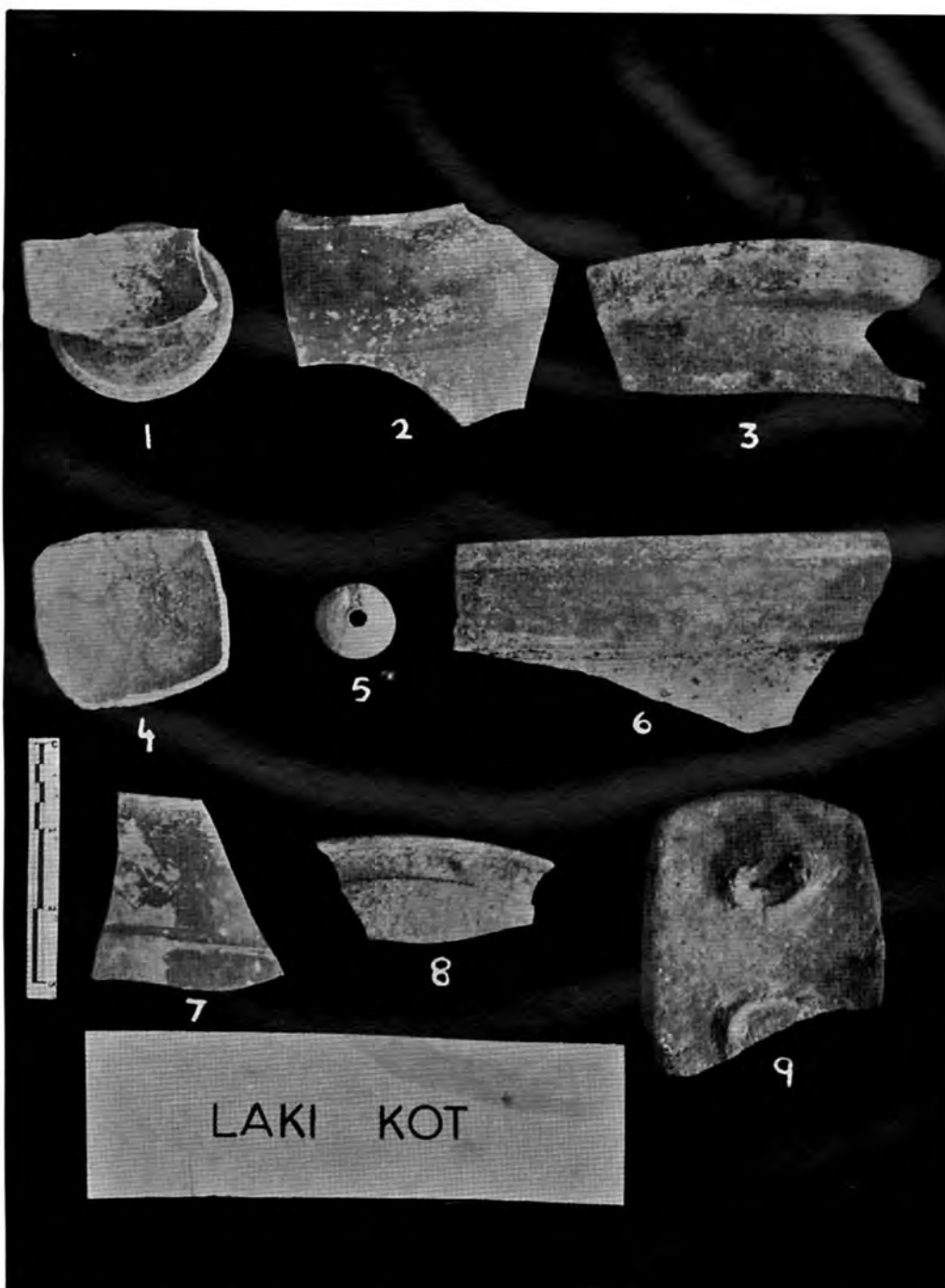
b. Kot Pathan — Pot-sherds (1 — 7) plain, (8 — 10) painted.



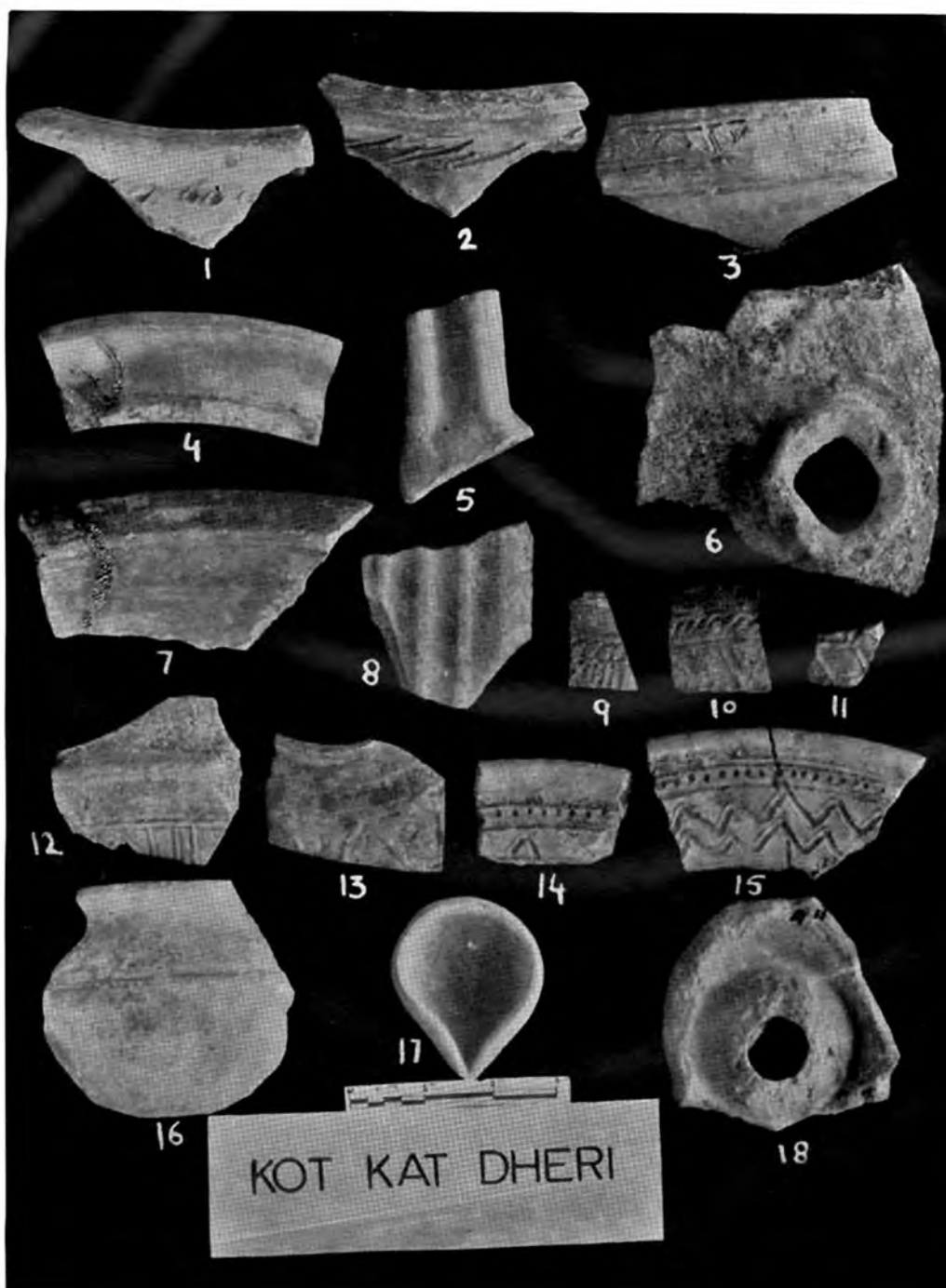
Gumal Bazar — Pot-sherds from surface collection.



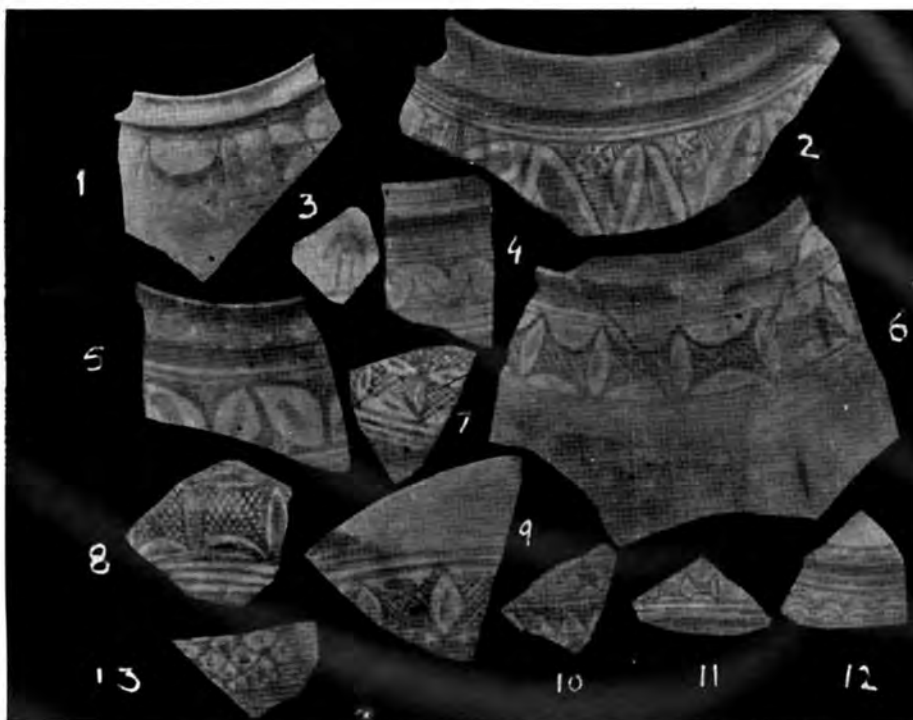
Shah Zaman Dheri — (1-4) incised pottery; (5-13 and 24-26) painted pottery; (14) wheel; (15) spout; (16) male figurine; (17 and 19) bulls; (18) feeder.



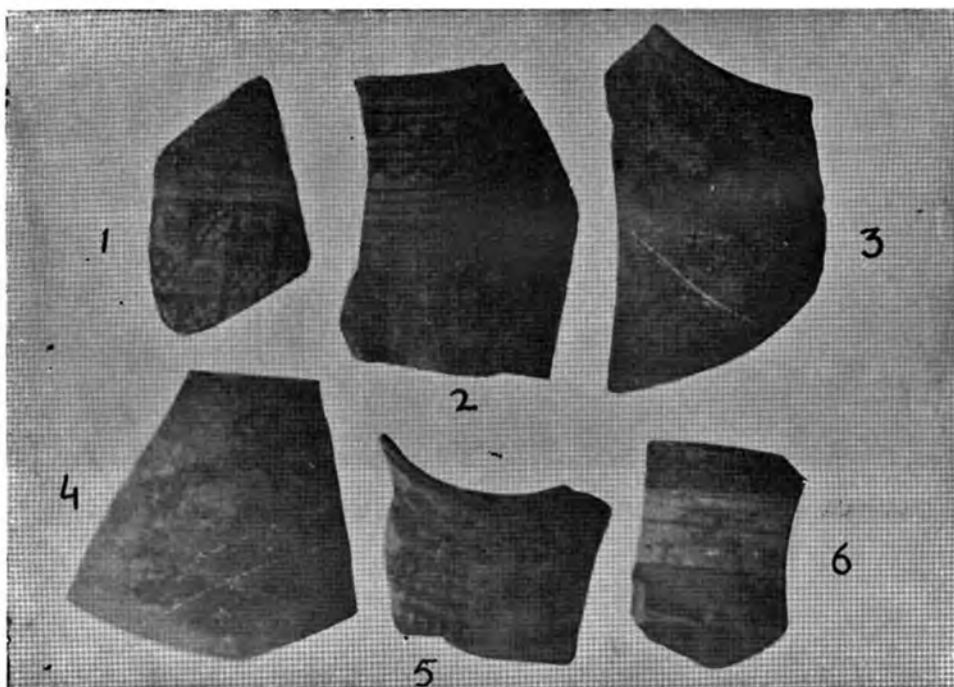
Laki Kot — (5) terracotta bead, (9) flesh rubber; (2 and 4) painted sherds; and (1, 3, 6–8) plain pottery.



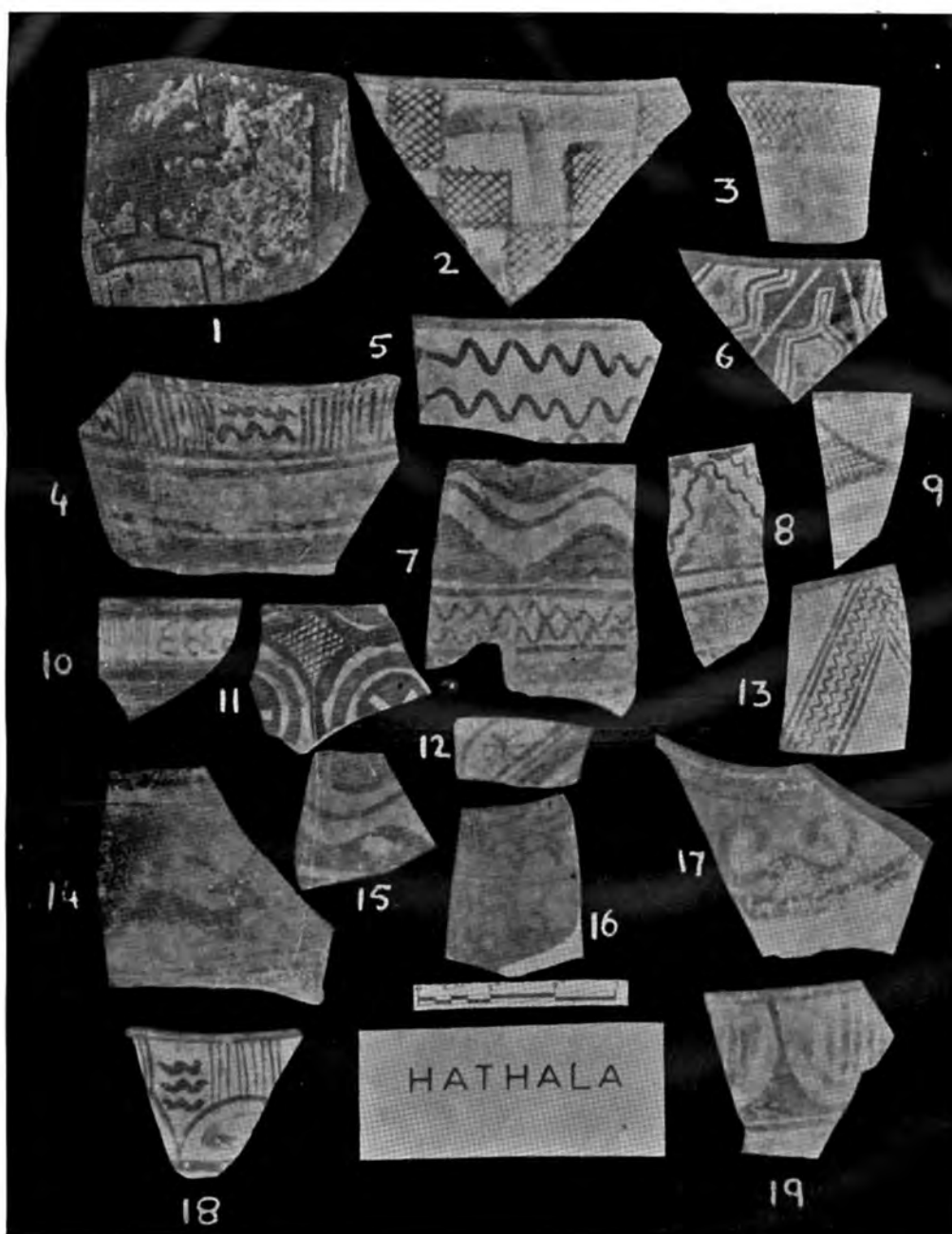
Kot Kat Dheri — Plain and incised pottery.



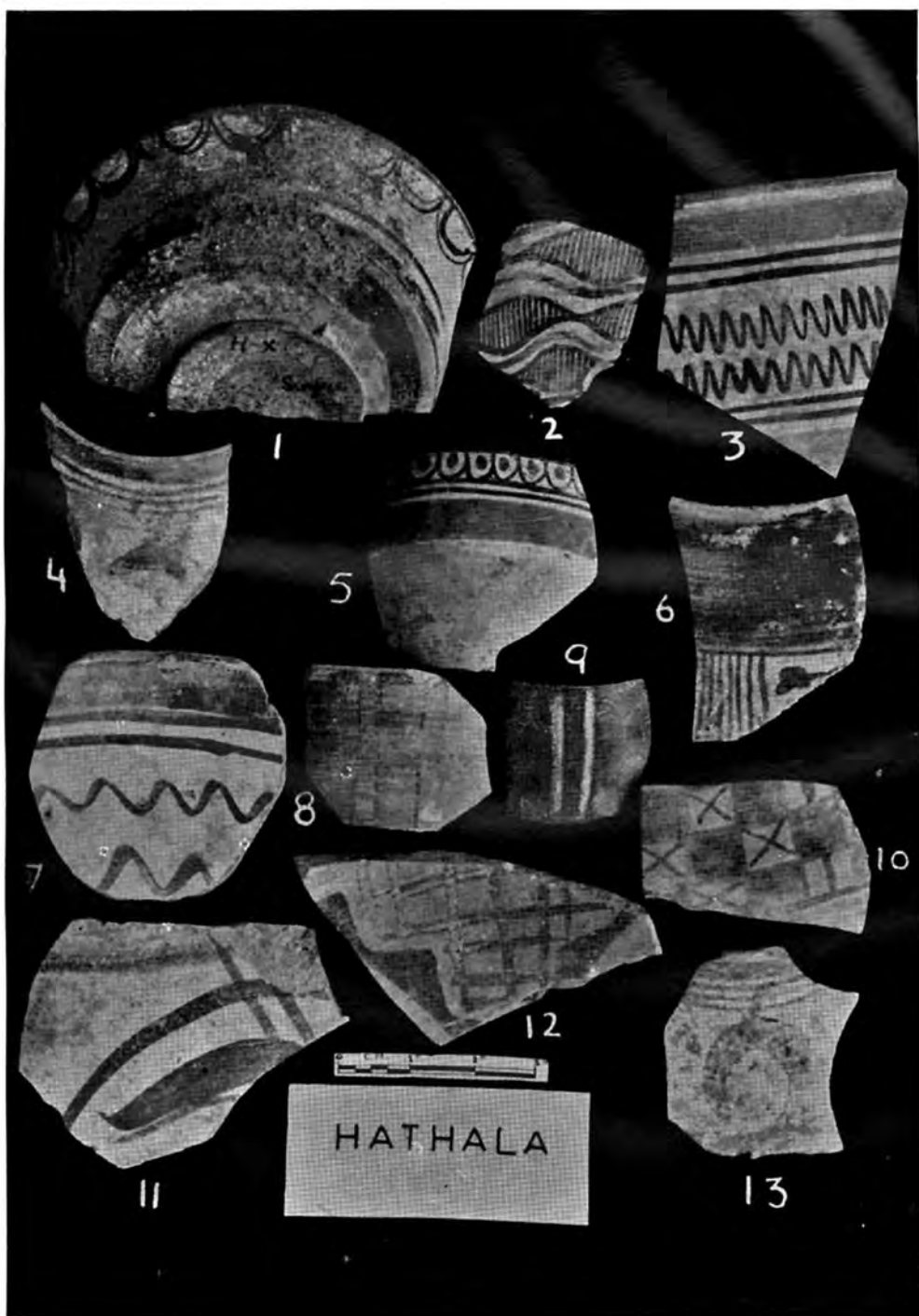
a. Karam Shah — Painted Pottery.



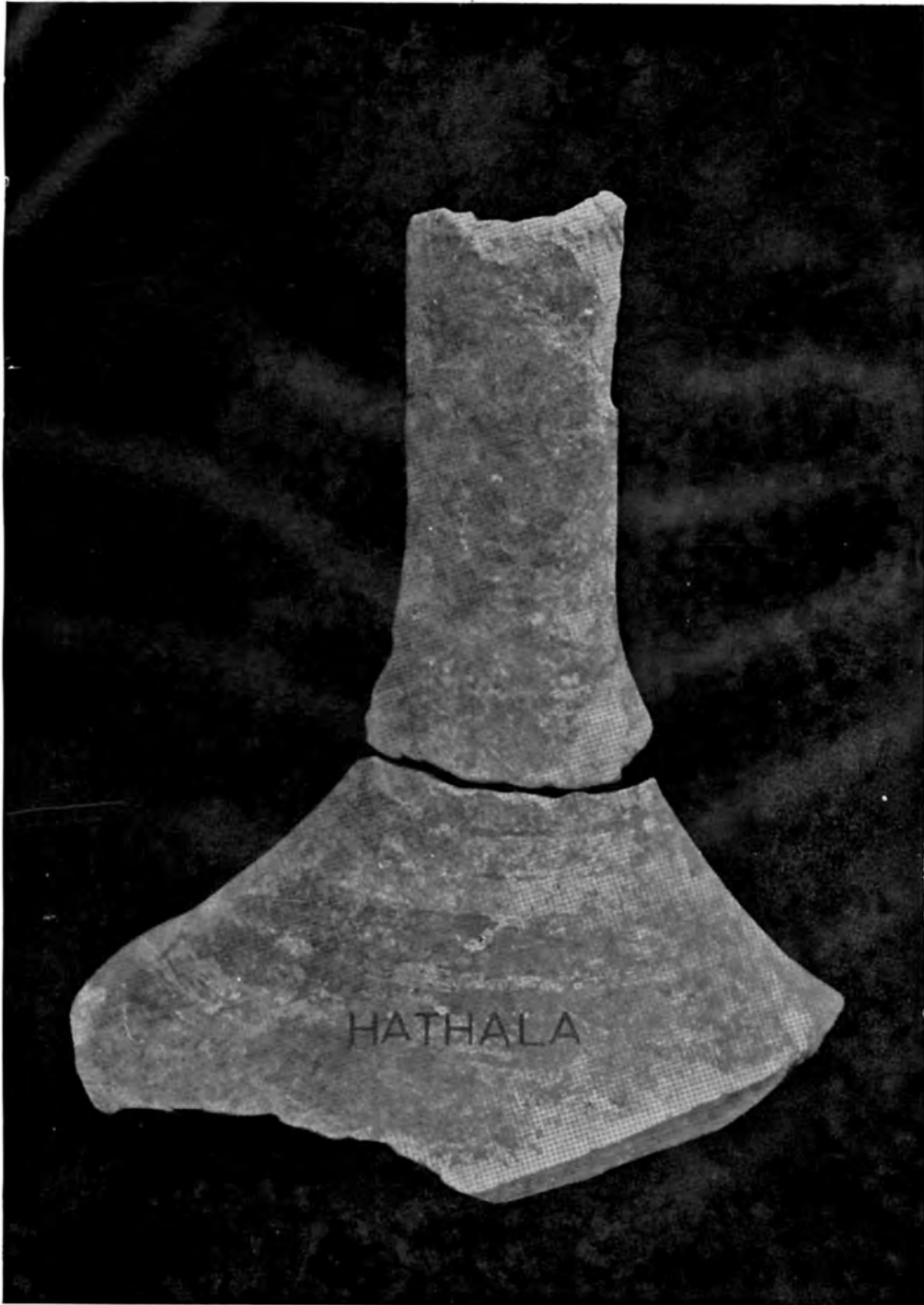
b. Karam Shah — Painted pottery



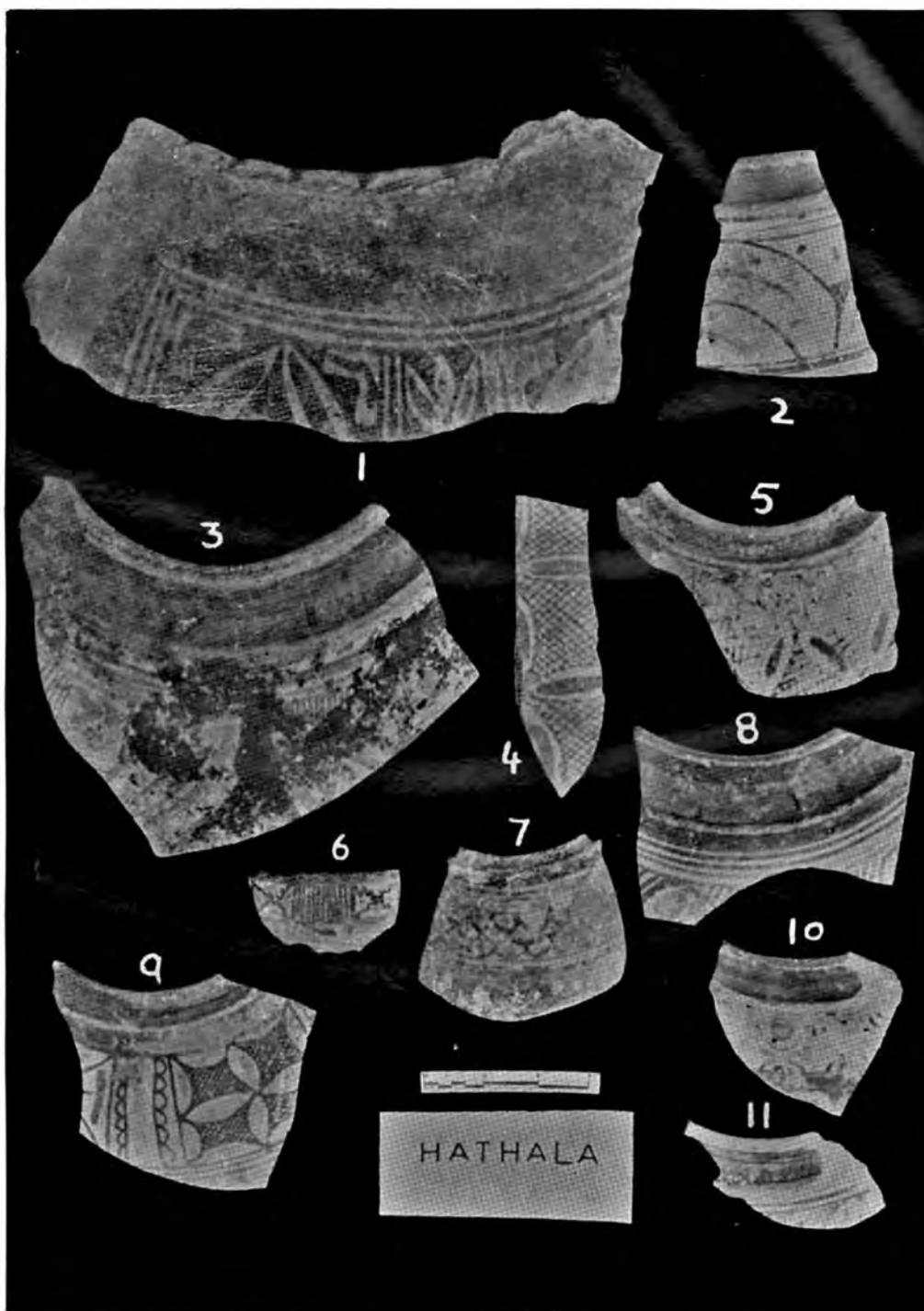
Hathala — Painted Pottery (No. 14) has a deer motif and (No. 17) a horned deity.



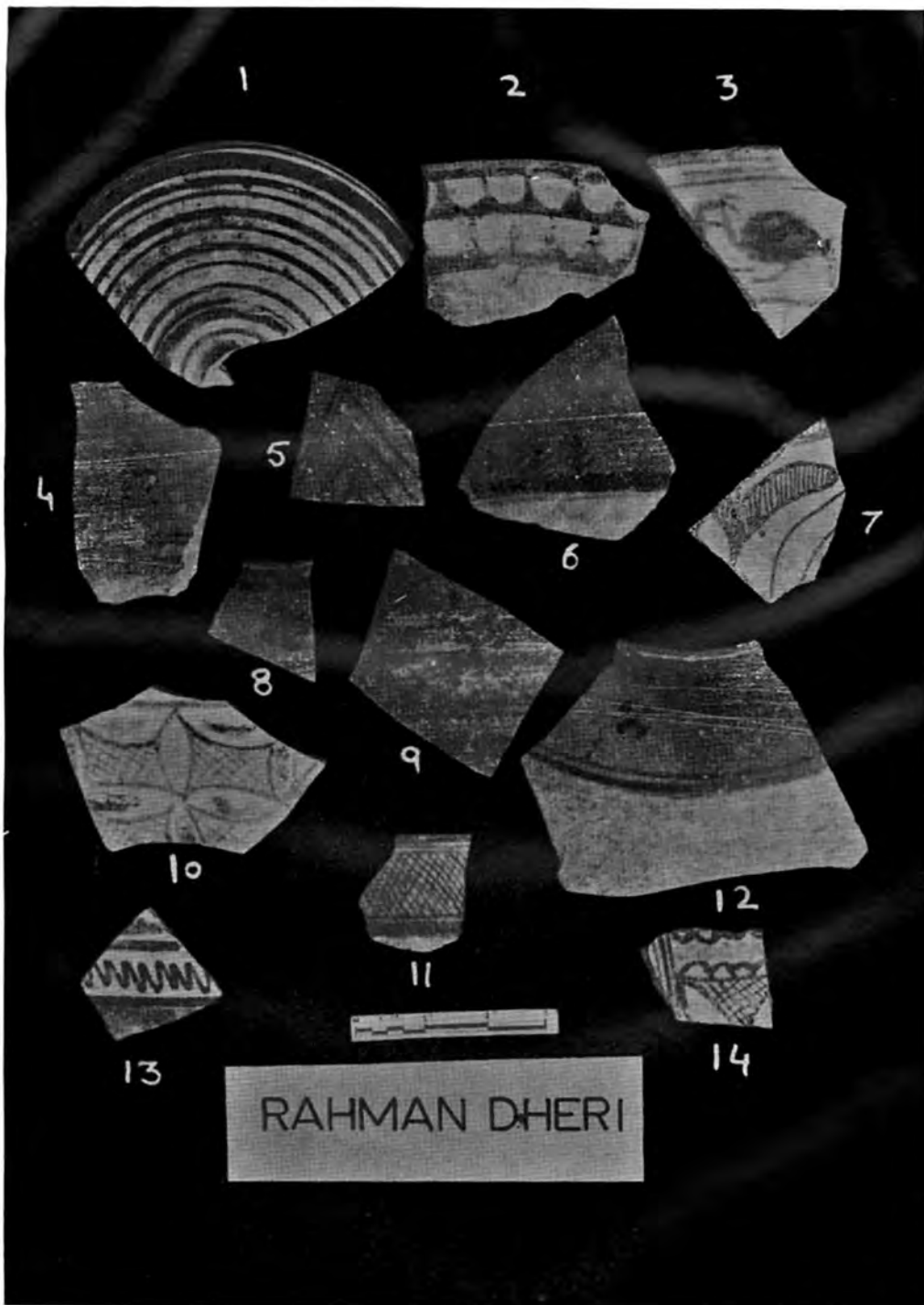
Hathala — Painted pottery.



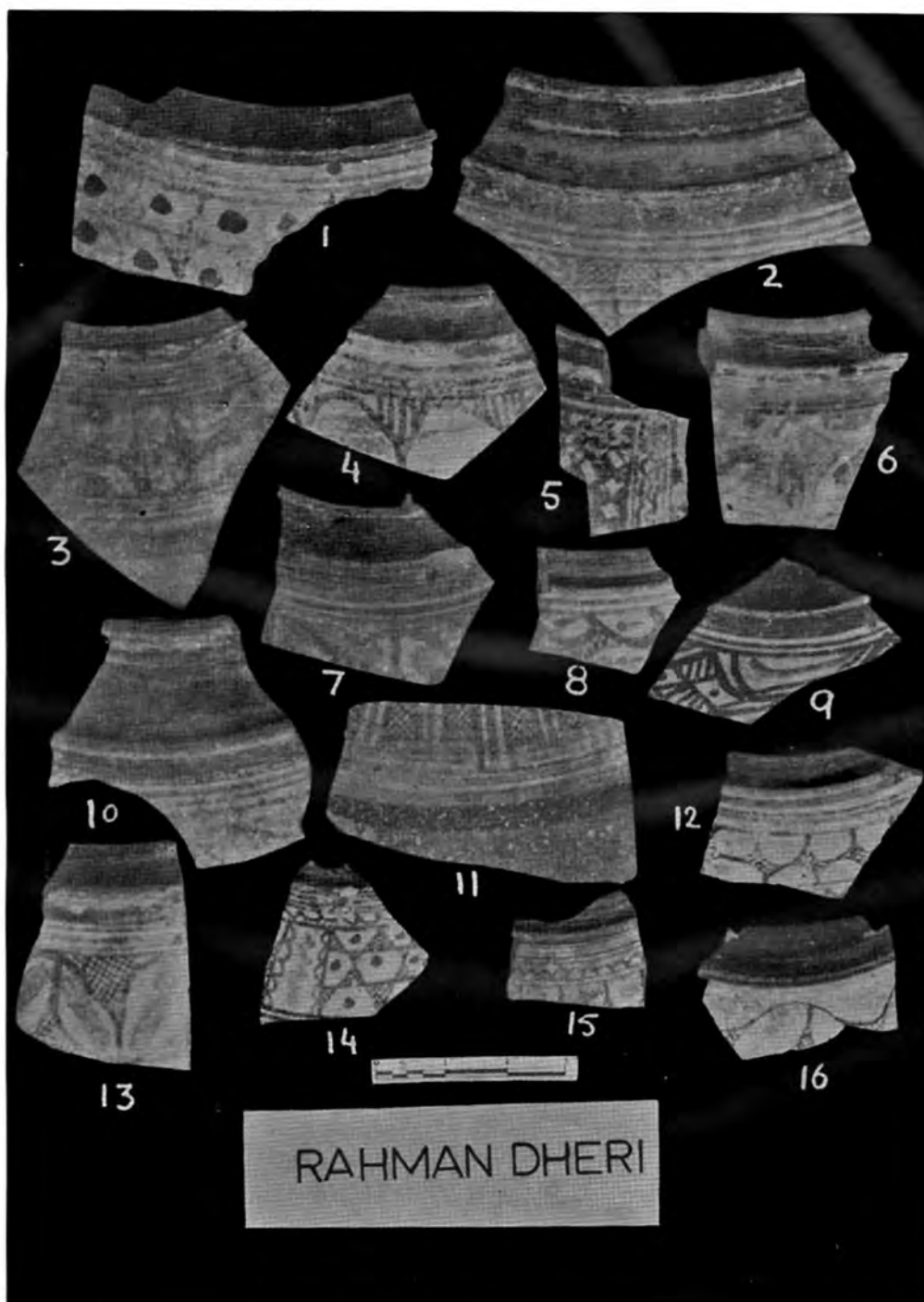
Hathala — A stemmed vessel



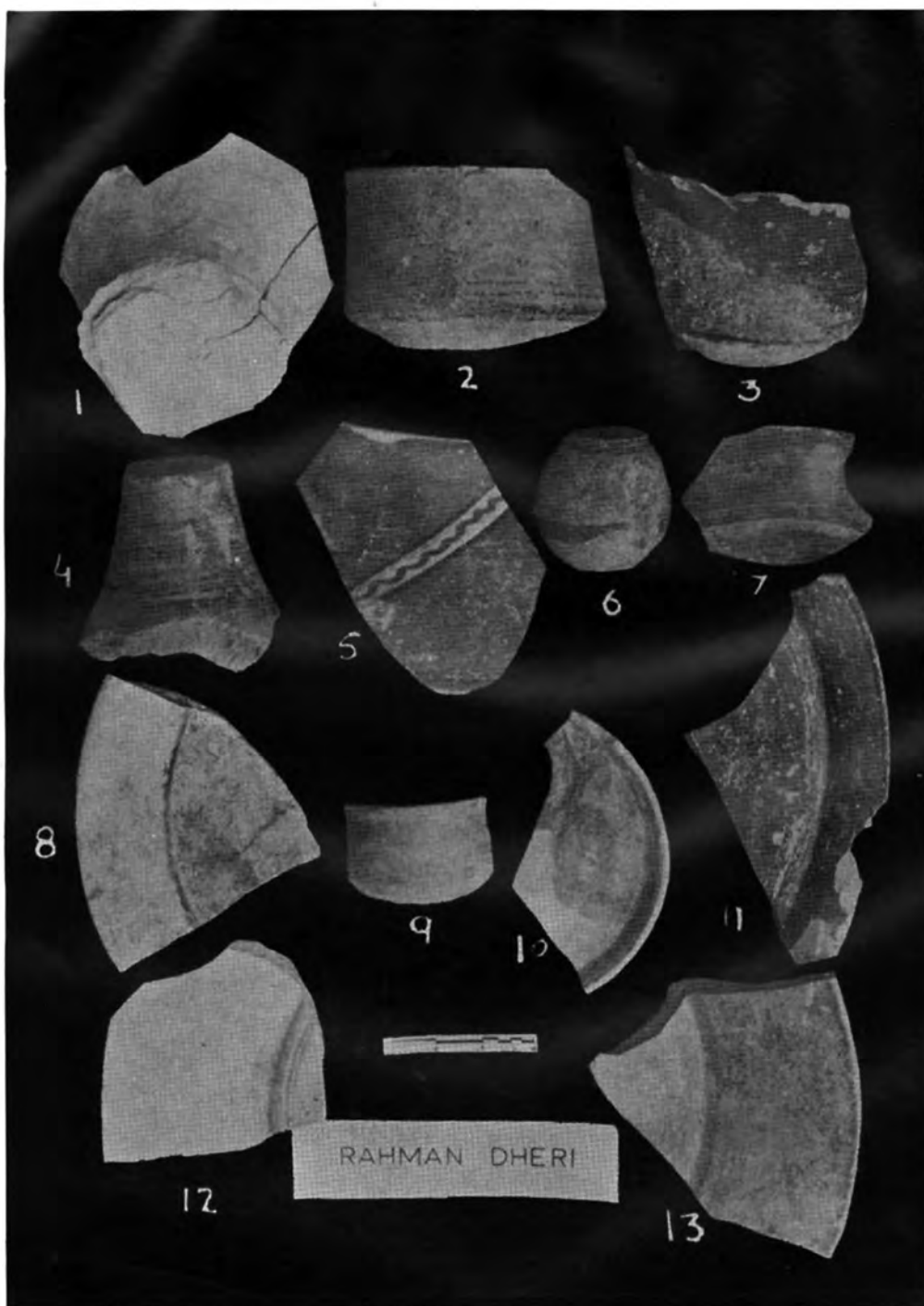
Hathala — Painted pottery



Rahman Dheri — Painted pot-sherds.



Rahman Dheri — Painted pot-sherds



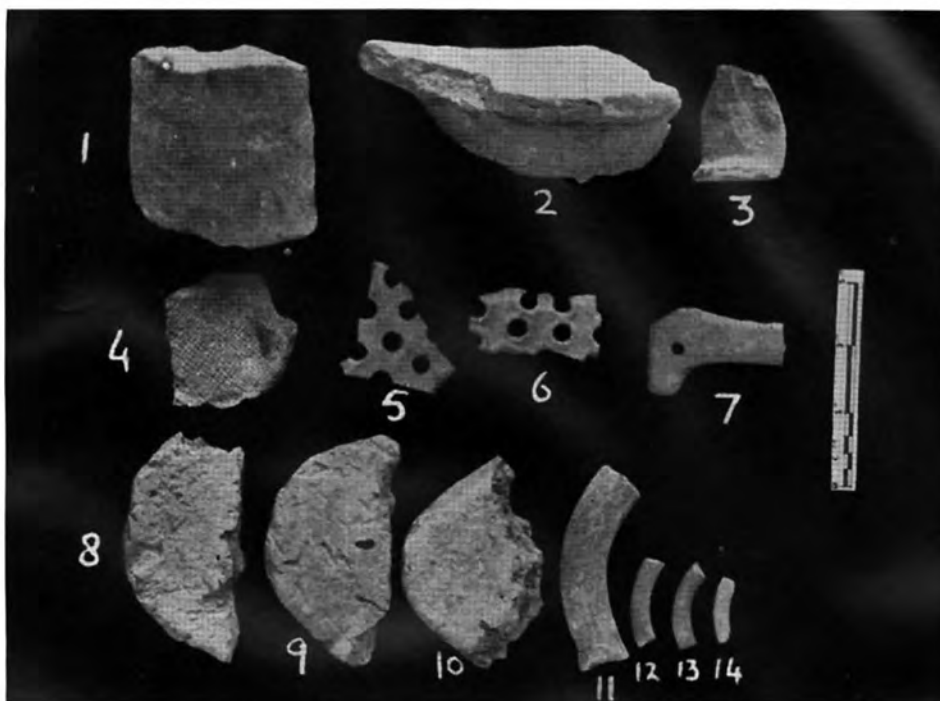
Rahman Dheri — Plain and painted pottery.



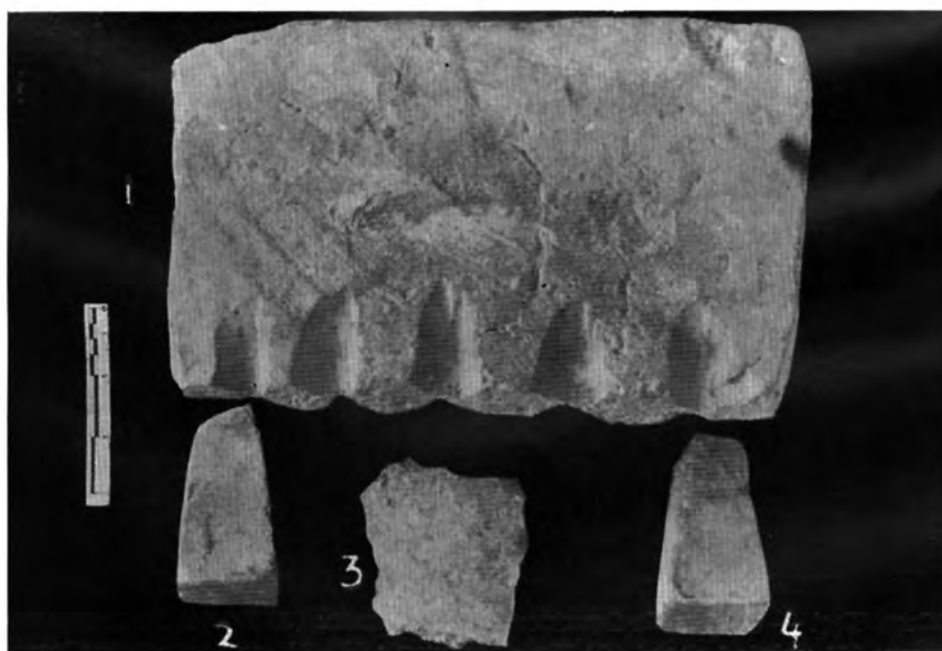
Rahman Dheri (1) Terracotta missile; (2, 5, 8) bulls; (3, 6) terracotta sea-shell; (4, 7) stone cubes; (9) tiny ritual pot; (10, 11) Perforated ware; (12-18) bangles; (19-21) lower part of female figurines; (22) chert waste flake; (23-24) terracotta female heads.



Hisam Dheri — (1, 2, 3, 5) terracotta missiles; (4, 6) triangular cakes;
 (7, 11) Painted pottery; (8, 9) Plain pottery; (10) bangle;
 (12) Perforated ware.



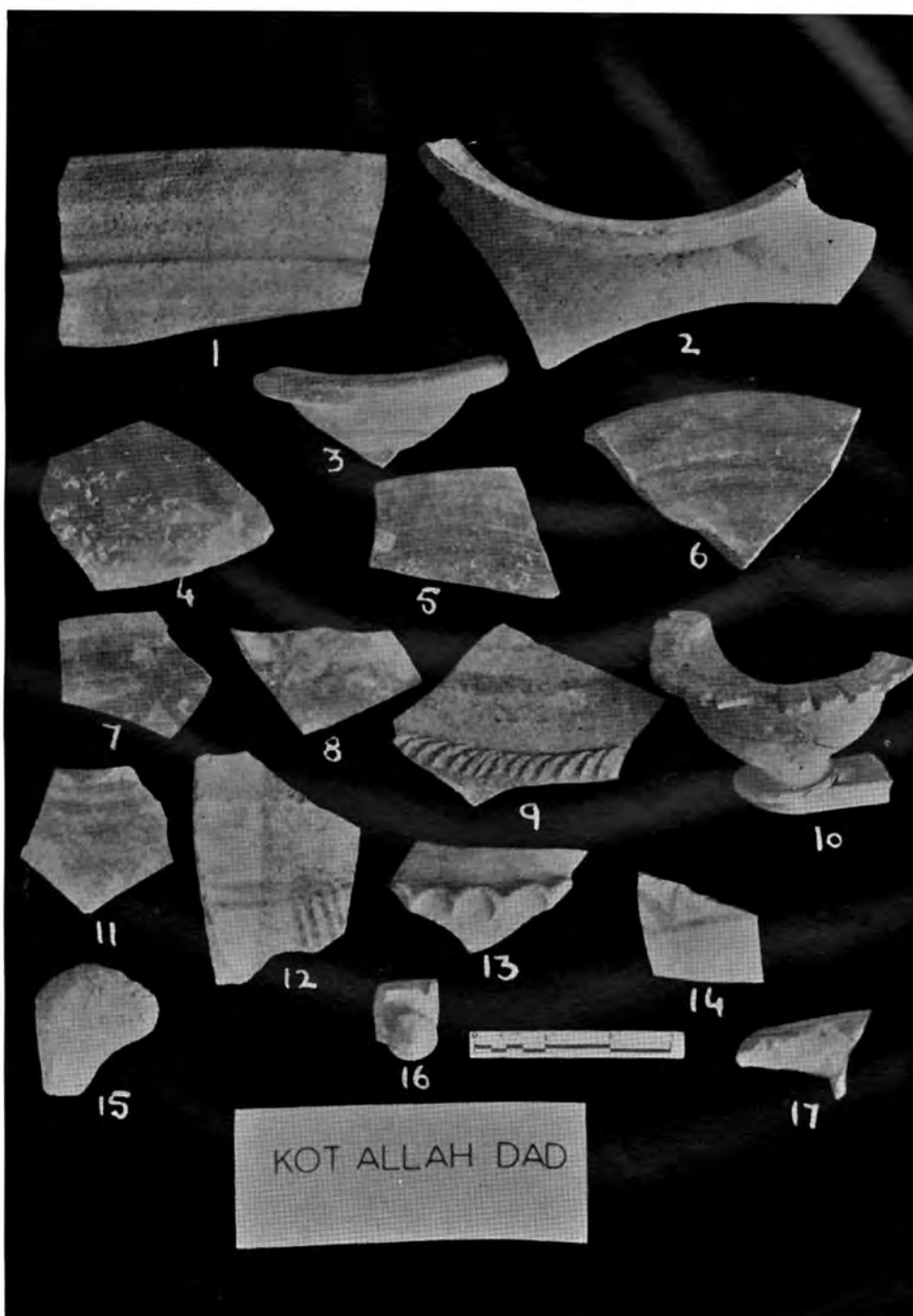
a. Mahra Sharif — (1) stone cube (2) Dish-on-stand, (3) female figurine (4) Pot-sherd, (5, 6) Perforated ware (7) Toy cart, (8 - 10) triangular cakes (11 - 14) terracotta bangles.



b. Mahra Sharif — (1) Decorated brick; (2 - 4) glazed pieces.



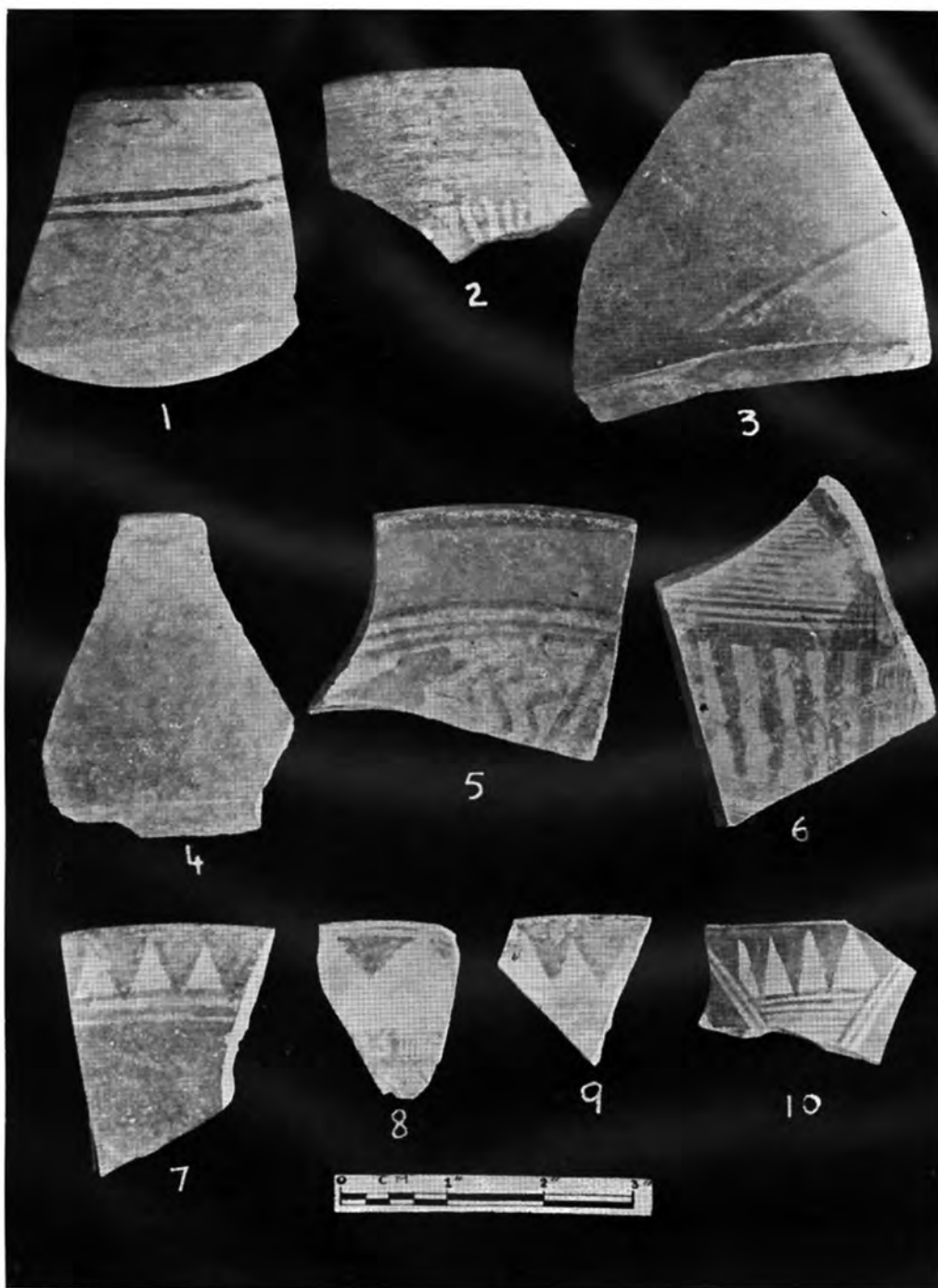
Musa Khel — (1) female figurine; (2) gamesman; (3) lid (4) Perforated ware; (5) painted sherd (6) Plate fragment; (7-9) terracotta missiles; (10) trapezoidal brick.



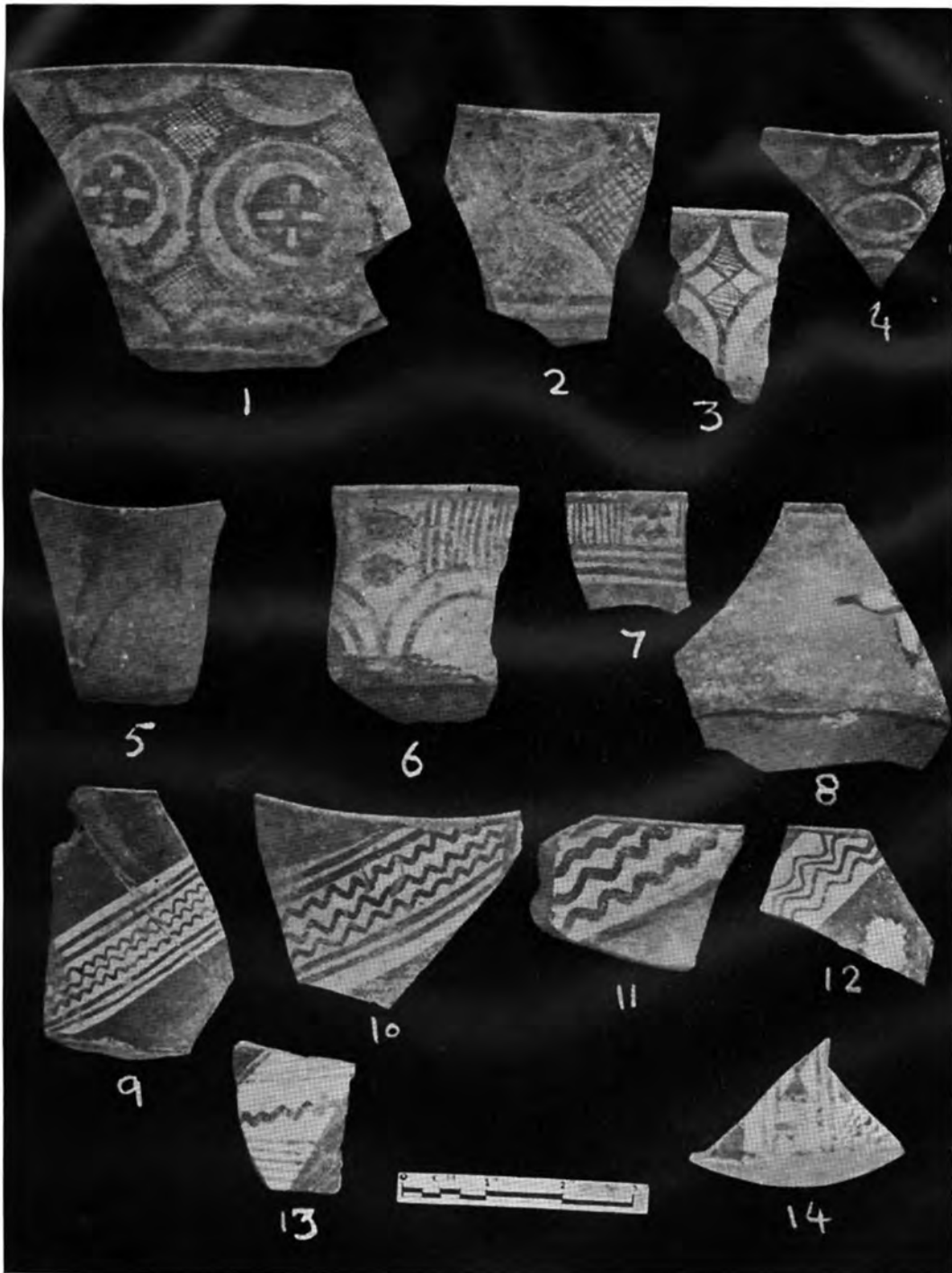
Kot Allah Dad — (1 - 14) Pot-sherds; (15) bull; (16) lid
(17) broken horn.



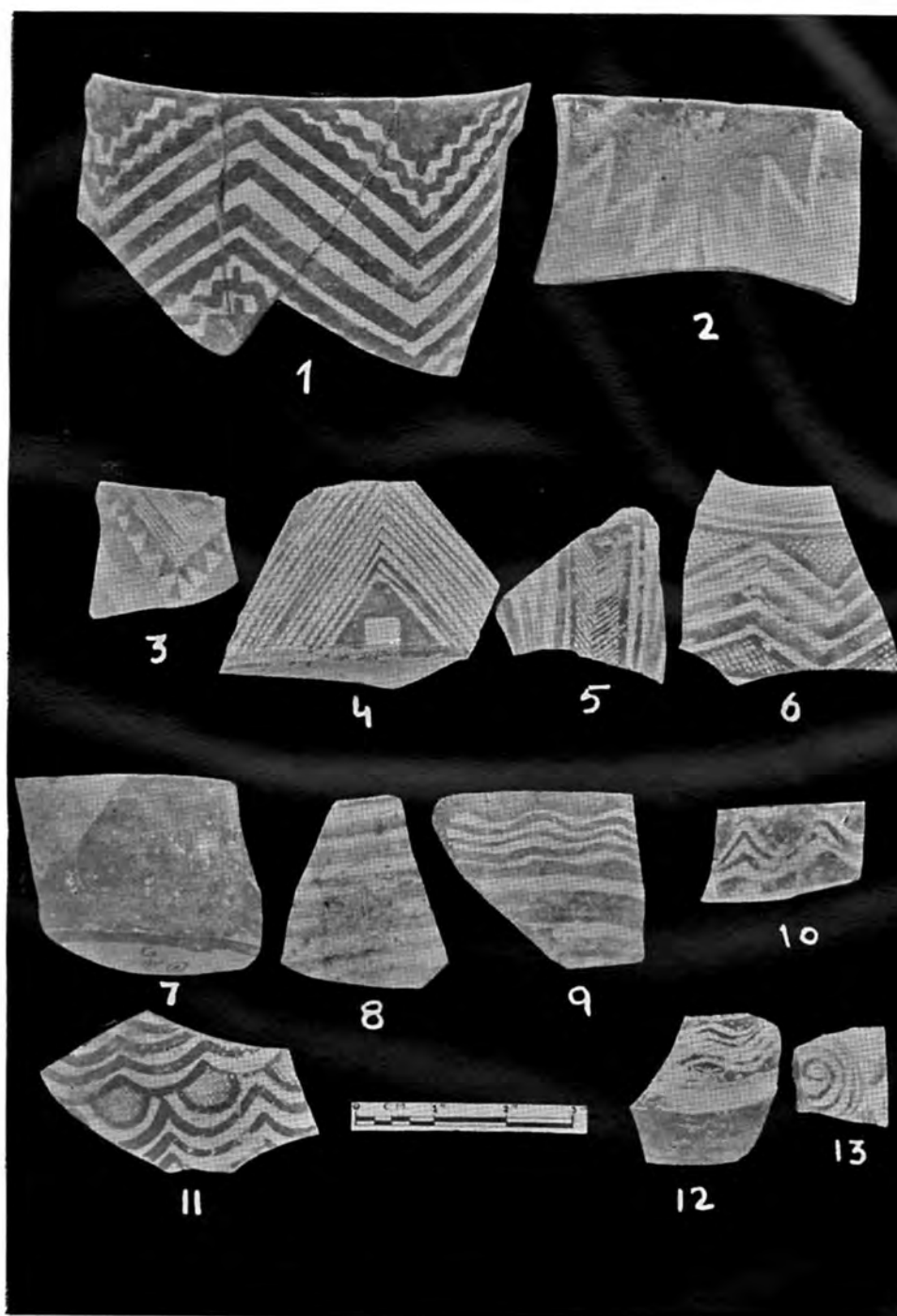
Gumla — Painted pottery from period II. No. 11 from layer (9) and the remainder from layer (11).



Gumla — Painted pottery from period II.



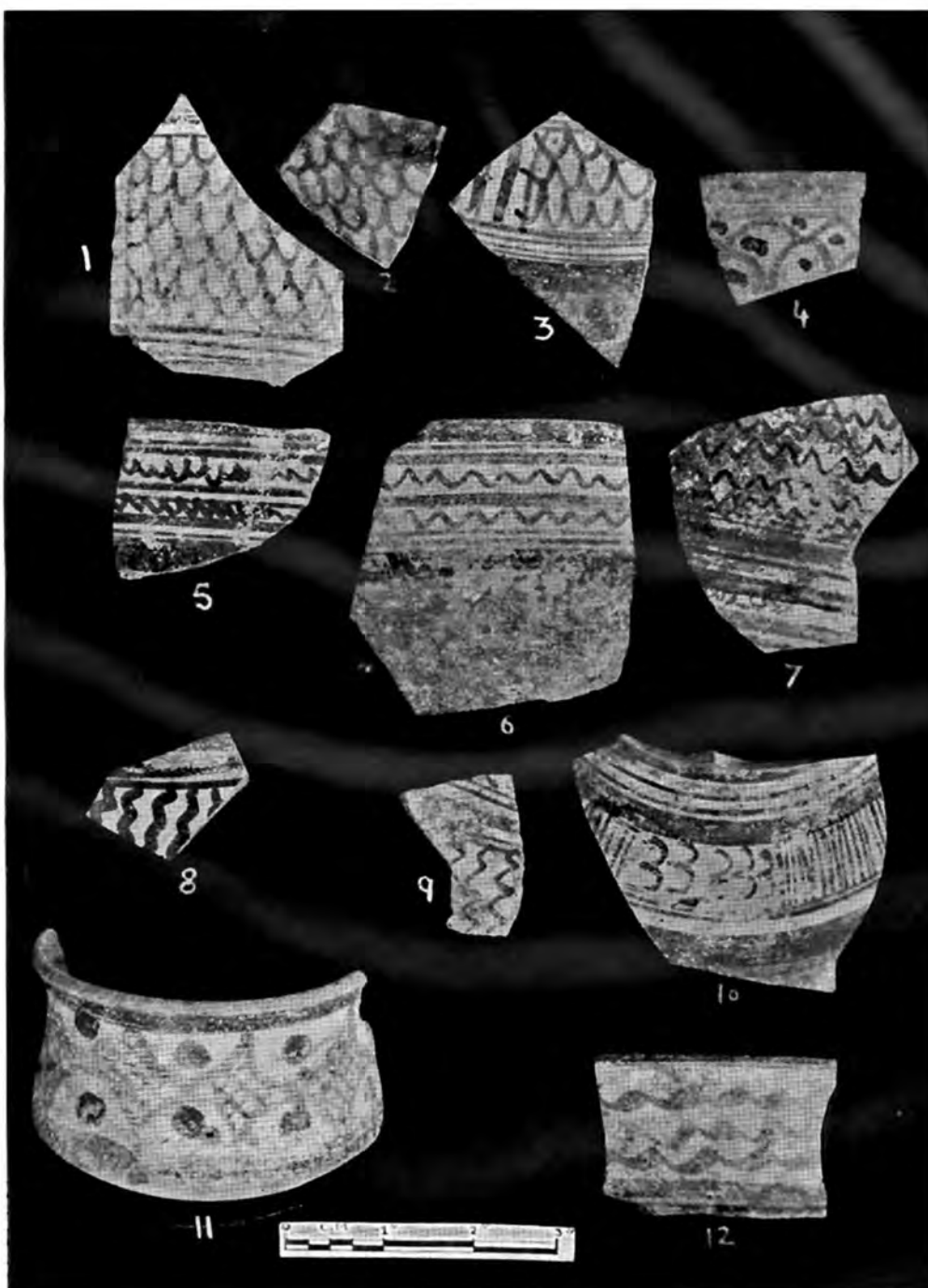
Gumla — Painted pottery from period II, layer (11).



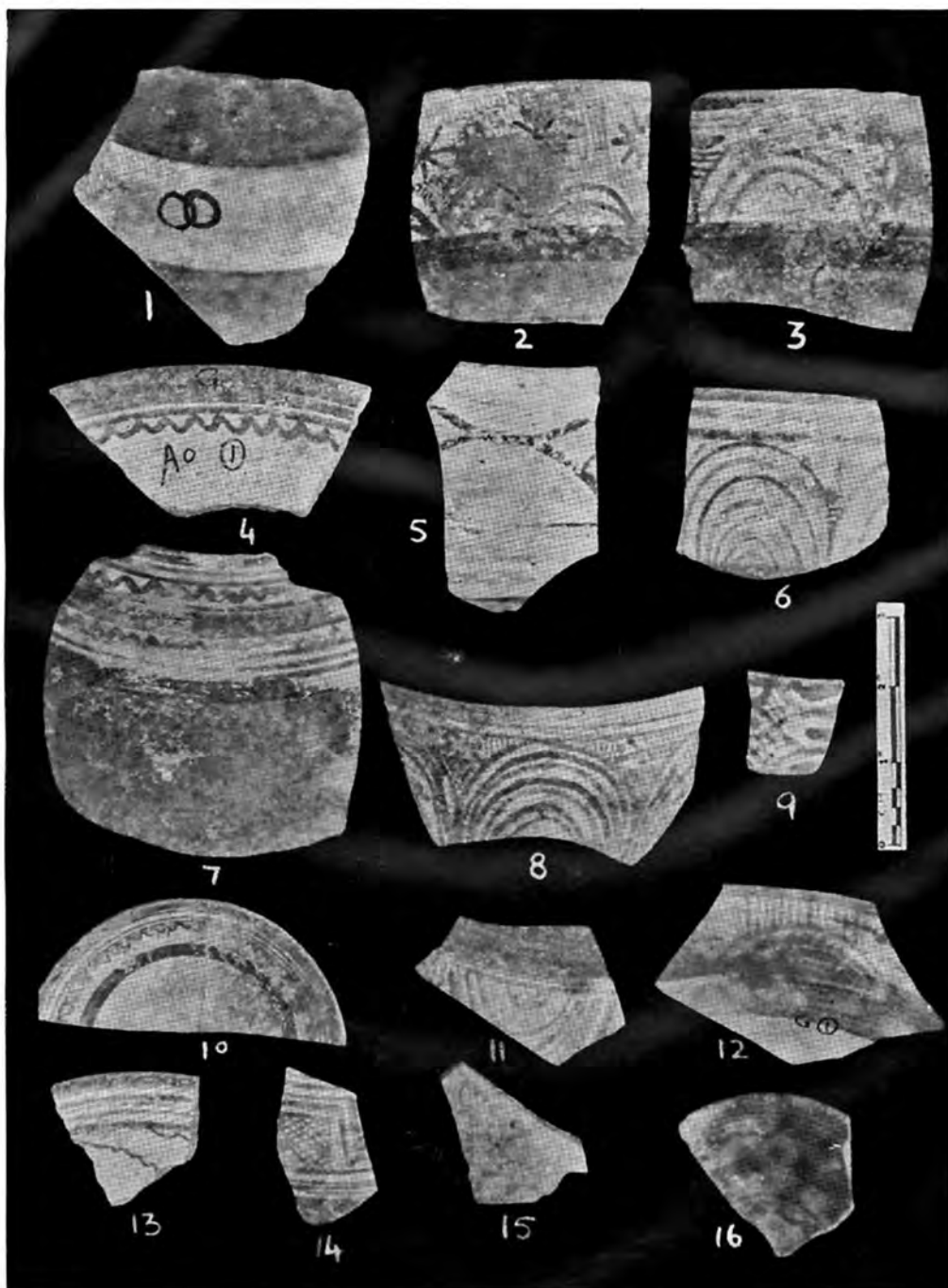
Gumla — Painted pottery from period II, layer (11).



Gumla — Painted pottery from period III_L



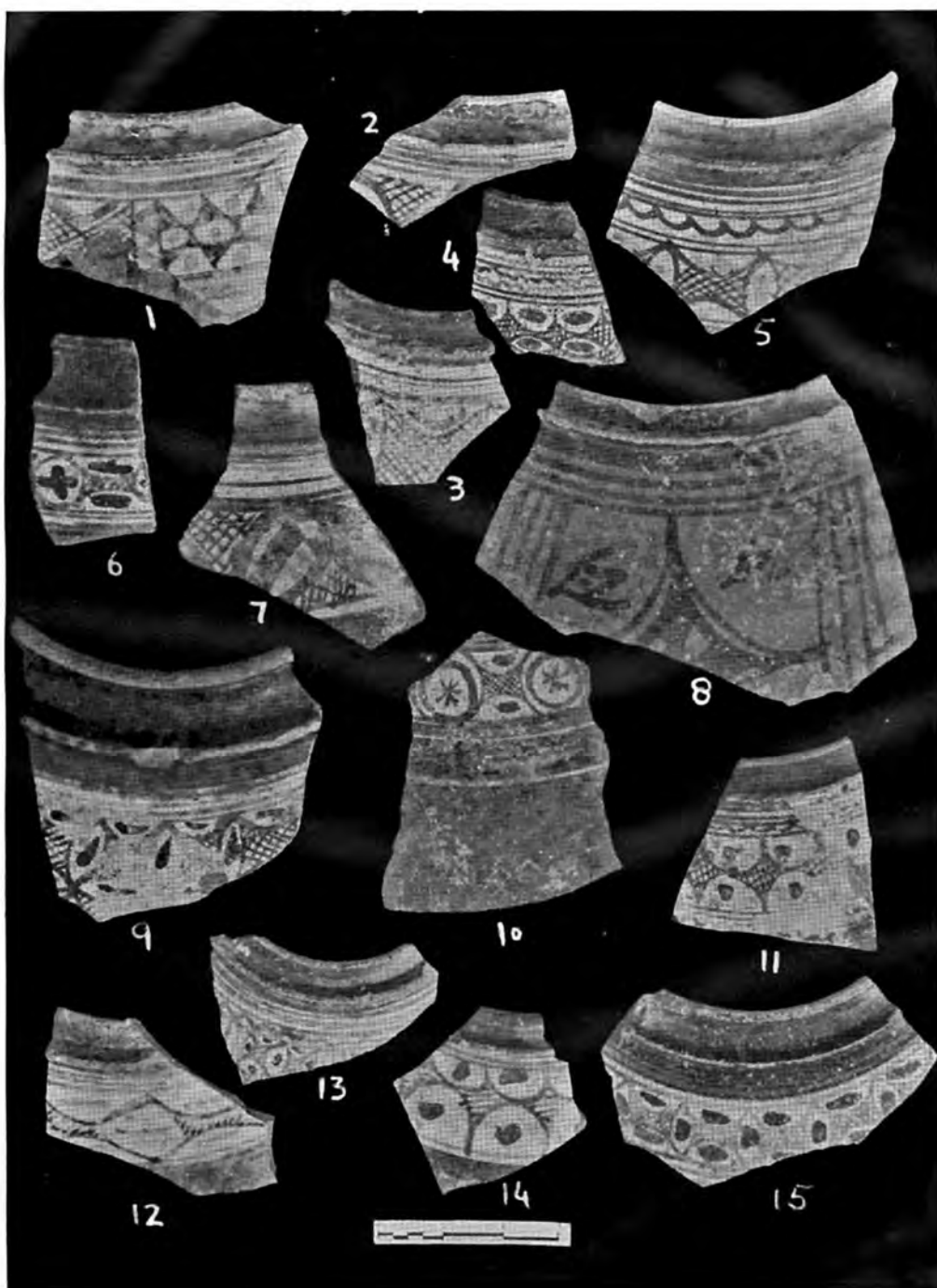
Gumla — Painted sherds of thin bowls. No. 8 from period II. No. 11, from period III. The remainder from period IV.



Gumla — Painted bowls and saucers. Period IV.



Gumla — Black-on-red painted pottery from period IV.



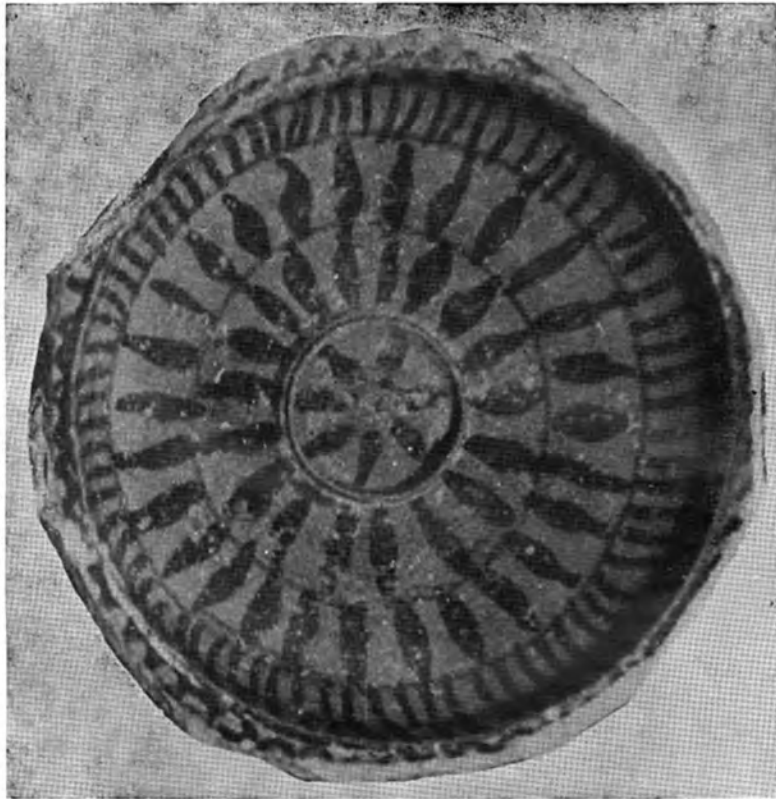
Gumla — Painted flanged rim fragments. Period IV.



Gumla — Painted sherds. Period IV.



Gumla — (Nos. 1, 2, 4) grave pottery; (3) period II; (5) from period IV.



a. Gumla — Decoration of painted bowl. Surface collection.



b. Gumla — A painted bowl. Surface collection.

No. 254. Disc-based plate with extended beaked rim, of red ware, having whitish slip inside and outside with black wavy painted lines. Trench CO, layer (3).

No. 255. A plate with extended lip of red ware having red slip at the lip and black painted lines. Trench EO, layer (1).

No. 256. A plate similar to above but the interior of the plate has concentric lines, the innermost one is enclosing a design consisting of radiating dotted lines moving in clockwise direction. Trench EO, layer (1).

No. 257. A plate similar to above but having white slip inside, and within concentric lines dotted rows radiating from the centre. Trench EO, layer (2).

Type XIX: Pottery Stand

Fig. 29

No. 250. Pottery stand of thick red ware with red slip outside. Trench EO, layer (2).

Type XX: Perforated Ware

Fig. 31

No. 280. Fragment of a jar with flanged rim, red slipped outside, having a wavy line in between black painted lines. Below these lines the preserved portion shows three rows of triangular holes. Trench CO, layer (3). Compare plate 86, No. 6.

No. 281. Rim fragment of a long cylindrical jar, red washed, very common in the Harappan Culture. Trench EO, layer (2).

No. 282. Fragment of a ring based perforated vase having globular body. Trench EO, layer (4).

Nos. 283-289. Pieces of perforated jar

similar to No. 281. No. 283 from trench EO, layer (1); No. 284 from trench EO, layer (3); No. 285 from trench DO, layer (6); No. 286 from trench DO, layer (2); No. 287 from trench EO, layer (2); Nos. 288 and 289 from trench H6, layer (1).

Type XXI: Flat bottom bowls

Fig. 32

No. 290. Plain disc-based bowl of red ware having grooved lines outside. Trench DO, layer (1).

No. 291. Plain disc-based bowl, red dressed. Trench DO, layer (2).

No. 292. Lower part of a flat based bowl, red dressed, plain. Trench DO, layer (4).

No. 296. Lower part of a ring based bowl, red dressed, plain. Trench DO, layer (3).

No. 297. Lower part of a disc-based bowl, red dressed, plain. Trench DO, layer (2).

No. 298. Lower part of a thick disc-based bowl, red dressed, plain. Trench DO, layer (4).

No. 299. Lower part of a flat based bowl, red dressed, plain. Trench DO, layer (3).

Type XXII: Pedestalled Cups

Fig. 32

No. 300. Lower part of a pedestalled cup of red ware, red dressed, with vertical lines outside. Trench EO, layer (3).

No. 301 and No. 302. Variants of the above. No. 301 from trench CO, layer (5) and No. 302 from trench EO, layer (4).

Type XXIII: Knobbed Lids

These are of two varieties. Variety (a) has its knob in the middle of a saucer-like lid and variety (b) has its knob on the top of an inverted saucer.

Fig. 32

No. 312; No. 313, and No. 314. Saucer-shaped lid with conical knob inside the saucer of plain red ware. Variety (a). No. 312 from trench EO, layer (1); No. 313 from trench DO, layer (1); and No. 314 from trench DO, layer (2).

No. 315. A lid with conical knob on the top of an inverted saucer, red slipped, with black painted lines. Variety (b). Trench EO, layer (4).

No. 317. A variant of No 315 but smaller in size. Variety (b). Trench BO, layer (3).

It is possible that the first variety of lids belong to a much later period.

Period V

It is difficult to determine the exact pottery tradition of this period because in the graves we have found large number of pot-sherds of the earlier period. Some of the sherds were deliberately broken and placed underneath the bones, thus suggesting that the older pottery forms continued to be used in period V. However, some new forms of simple variety have been found in the graves. They are described below:

Fig. 37

No. 351. Found inside grave full of ashes and bits of bones. It is a plain red ware drinking vase, disc based, wide girth with carination, incurved sides with flaring thickened rim. It is made of fine clay, medium texture, whitish dressed, and plain. It may be compared with grave pottery from Timargarha, see *Ancient Pakistan*, No. 3, Fig. 23, No. 27.

No. 352. Found inside grave full of ashes. It is a plain red ware drinking goblet of medium size, disc based, bulging body and flaring rim, and is whitish washed. It may be compared with the grave pottery from Timargarha, *Ancient Pakistan*, No. 3, Fig. 23, No. 29.

No. 353. A small red ware complete pot, hand made, disc based, wide girth, incurved sides with flaring thickened rim, whitish dressed. Plain. It is a smaller version of No. 351.

No. 354. It is a small plain red ware pot, probably disc based, bulging body and flaring rim. This is a variant of type 353. Found inside a grave.

No. 355. It is a miniature, drinking base of grey ware, standing on a saucer-shaped pedestal, having wide girth and flaring rim, plain. Found inside grave. Such pots are known from the Iranian sites. See Tepe Giyan, in Claude F.A. Schaeffer, *Statigraphie Comparee et Chronologie de l'Asie Occidentale*, Fig. 243, Nos. 3 and 6.

No. 356. It is a red ware antimony bottle with extremely narrow hole, disc based, wide girth, flaring rim, whitish dressed.

No. 357. It is a flat-based drinking cup of small size, of red ware, carinated, red washed from the carination to the insignificant small rim, having painted black band at the rim and at the carination. The outer surface from the neck to the carination is scored. Found in grave No. 3. This is a type continuing from the earlier period.

No. 358. It is a plain red ware flat based cup with almost straight sides but with a depression in the middle, most probably made in two parts by hand and then joined together. Red dressed. Found inside grave No. 3.

No. 359. It is a plain red ware flat

tray, red dressed, having insignificant rim. It is hand made. Earlier we have got small trays. This is of much bigger size. Found in grave No. 3.

No. 360. A complete flat-topped lid of red ware, red slipped, having black painted concentric lines on the outside. Found in

grave No. 1. This type continues from the earlier period.

No. 361. Lower part of a very thick storage jar of red ware, white slipped outside, disc based. Found inside grave No. 3.

CHAPTER XI

CONCLUSION

In the first chapter we have pointed out the geographic importance of the Gomal plain lying immediately below the towering heights of Takht-i-Sulaiman that separates the settlements in this zone from those of the Helmand and the Arghandab valleys in Afghanistan. The plain commands a route connecting the Indus Zone with southern Afghanistan. Outside Baluchistan and as an alternative to the now famous Khyber Pass, the Gomal route has been the most frequented passage through history. But during the British period its importance receded for political reasons. Hence its archaeology received less attention.

When Sir John Marshall published his materials on *Mohenjodaro and Indus Valley Civilization*, the comparable materials were available only from western Asia. E.J.H. Mackay, with his wide experience in the archaeology of western Asia, provided the needed assistance for building up a comparative chronology of the Bronze Age Civilizations.

Attention was then focussed on the intervening areas of Baluchistan and Iran to trace the connecting link between the civilization of the Indus and those flourishing in western Asia. Years of sporadic explorations and excavations were conducted and the results were best synthesized by Professor Stuart Piggott in 1950. With his unusual insight Professor Piggott made three regional cultural divisions — (i) North Baluchistan, (ii) South Baluchistan and (iii) Sind and Panjab. The cultural materials of these three regions were then examined in the archaeological perspective of Iraq, Iran and Caucasus. These cultural divisions still hold good although the material contents had to be redefined in the light of fresh discoveries.

In the meanwhile the Indian Archaeologists extended the horizon of the Bronze

Age Civilization in their western borderland. Along the dried up bed of the Ghaggar and Hakra and in Gujrat large number of sites were discovered and as a result the extent of the Bronze Age cultural field was much widened and consequently the problem of chronology became all the more vexed.

However, Baluchistan remained the primary concern of the archaeologists for the discovery of the origins of the Indus Valley Civilization. Beatrice de Cardi discovered new ceramic evidence in Central Baluchistan and concentrated her attention on the sites of Anjira and Siah Damb in Kalat. On the other hand Fairervis made a prolonged survey in northern Baluchistan and introduced the new American techniques for determining the chronology of the Bronze Age Cultures in Baluchistan. While his brief survey of the sites in the Zhob Valley did not materially change the chronology previously inferred by Professor Piggott on the basis of Bragadier Ross's work at Rana Ghundai, Fairervis made a useful contribution by excavating at Kili Gul Mohammad and Damb Sadaat in the Quetta valley. Now it was possible for him to view the cultural materials of the two valleys in their proper sequence. Chart No. I, will show how Prof. Piggott arranged the materials on the sequence available at Rana Ghundai.

Chart No. 2 will show how Fairervis is using his own sequence built up in the two sites of Kili Gul Muhammad and Damb Sadaat in the Quetta valley and sees in its perspective the material from Rana Ghundai and other sites in northern and southern Baluchistan including Anjira. We come to Afghanistan later. This chart shows readjustments of some levels at Rana Ghundai. He had the advantage of having excavated materials from stratigraphic sites in the three areas of Baluchistan.

Fairservis has wisely compared his sequence with the one obtained at the important site of Mundigak in southern Afghanistan. The connections sought earlier with distant sites in Western Asia and Iran did not bring about conclusive results. By now it was clear that very little was to be expected from the south-western part of Baluchistan. Hence the only route open was through Northern Baluchistan and this route must lead to Afghanistan. Now all hopes concentrated on the materials from Afghanistan. Of these the work of Fairservis as contained in his *Archaeological Studies in the Seistan Basin of South Western Afghanistan and Eastern Iran* (New York, 1961) is peripheral to our studies. His "prehistoric sites" were too poor to add substantially to the making of chronology. Of a slightly better consequence were the results of Louis Dupree contained in his *Deh Morasi Ghundai: A Chalcolithic Site in South Central Afghanistan* (New York; 1963). There again Dupree views his materials in the light of Mundigak (Chart No. 3).

Mundigak has proved to be the most important site in southern Afghanistan for providing not only a time sequence to judge the evolution of the Bronze Age cultures in Pakistan but also an intermediate station to pass on the material cultures received from further west and north. Casal himself has given his own Chart of comparison (see chart No. 4).

This chart of Casal brought a wider perspective to the study of the cultures. The missing zone of southern Afghanistan has now clearly shed light on the importance of Northern Baluchistan. It is now necessary to see how far this Baluchistan sequence held good in the plains of the Indus. Casal himself has given us the stratigraphic sequence of Amri while Dr. F.A. Khan's excavation at Kot Diji has succeeded in recovering the antecedent of the Harappan culture. The Chart of Casal (No. 5) gives the sequence as seen from the

perspective of Amri.

While this chart gives us a wider base for the study of the cultural sites in the plains of the Indus, the inter-links are not yet properly established. The urban civilization of the Indus plain as well as the culture identified at Kot Diji and further east at Kalibangan in Rajasthan remained unconnected. In the meanwhile a better chronological sequence was worked out by Dales in his study of *A suggested Chronology for Afghanistan, Baluchistan and the Indus Valley* (published in *Chronologies in the Old World Archaeology*, Chicago, 1965). In his Chart (No. 6) one cave site of Ghar-e-Mar in Northern Afghanistan and two West Indian sites have been added. The chart has been prepared on the assumed sequence of six phases numbered from A to F and generalised from a broad study of the idealised cultures. One significant cautionary note has been added by Dales. "The phase descriptions show that many elements of the early assemblages — down to our phase E — appear first in Afghanistan and subsequently spread out through Baluchistan to the Indus Valley. The few available radio carbon dates suggest the same pattern". In the phase description Dales has been rather very brief. Phase A, for example, is not described at all as it falls outside the scope of the Bronze Age Cultures. The phase B, which is labelled "Neolithic" includes far different cultural patterns from Burzahama in Kashmir on the one hand and the lowest non-ceramic material from Kili Gul Muhammad on the other. They have no connection at all either culturally or chronologically. He has slid up Kili Gul Muhammad II phase of Fairservis to phase 'C' on the ground that we get greater number of wheel-made pottery. This phase 'C' is the "period of settled village life". He adds: "It is identifiable from Mundigak in Afghanistan, eastward into Quetta, Zhob and Loralai districts of northern Baluchistan, and southward into the Kalat area of Central Baluchistan. It is not yet evident in southern Baluchistan or in the Indus Plain." His phase 'D' was "a

period of vitality and expansion at Mundigak and in northern Baluchistan." He remarks, "The initial appearance of permanent settlements in southern Baluchistan occurs and is apparently connected with the spread of bichrome-polychrome painted pottery traditions through Afghanistan, Baluchistan and down to the foot-hills bordering the Indus Plain (Amri). Also involved may be the spread of the humped bull into the Indus valley. During this phase we see the first permanent settlements in the Indus plain itself for example at Kot Diji". His phase 'E' was a period of "the establishment of the large urban settlements". For chart of Dales (see No. 6)

Dr. Mohammad Rafique Mughal, who participated in the excavations at Kot Diji, has, in his doctoral dissertation presented at the University of Pennsylvania in 1970 (so far unpublished), put forward a new proposal on *The Early Harappan Period in the Greater Indus Valley and Northern Baluchistan*. According to him "all the material found stratified below the "mature" Harappan remains at Kot Diji, Amri, Kalibangan and in the pre-defence levels of Harappa and related materials discovered at other sites belongs to an early Harappan period". Without challenging, at this stage, his assumption, we give his opinion which is primarily based on his experience of Kot Diji. For Amri he writes "Since the Amrian occupation contains many pottery types related to the early Harappan occupation at Kot Diji, it will also be regarded as Early Harappan". For the study of northern Baluchistan Dr. Mughal makes three regional groups — (a) Quetta Valley, (b) Loralai valley and (c) Zhob Valley. Dr. Mughal has made a pertinent criticism on the work of Fairservis, which is quoted in full:

"Fairservis's "quantitative graph of ceramic chronology" has been the core of the whole of archaeological sequence of the Quetta Valley and the basic form of reference for the Loralai and Zhob Valleys as well. The present re-analysis of this evi-

dence reveals several significant discrepancies with the usual interpretations: (1) Both Kili Gul Muhammad and Damb Sadaat have their own ceramic sequences independent of each other and the relationship between Kili Gul Muhammad IV and Damb Sadaat I as proposed by Fairservis has yet to be demonstrated (2) There is no justification to divide the occupational deposits of Kili Gul Muhammad into four and of Damb Sadaat into three main periods even on the lines suggested by Fairservis. The material from Kili Gul Muhammad seems to represent at best two distinctive periods or cultural phases, namely Kili Gul Muhammad I (Non-ceramic) and Kili Gul Muhammad II through IV, which is actually one major and continuous occupation having homogeneous ceramics. At Damb Sadaat, the division of the occupation into three main 'periods' on the basis of ceramic evidence is not convincing. The differences between the ceramic assemblages, as published, are of minor nature. (3) The quantitative chart of the ceramics is misleading because several of the pottery 'types' actually include 'variants' that may not be genetically related to the main 'types'."

This criticism goes a step forward from the one levelled by Dr. Dales. Dr. Mughal's view is given in Chart No. 7.

This chart enables Dr. Mughal to think in terms of "Pre-early Harappan", "Early Harappan" and "Mature Harappan" periods. He draws further conclusion regarding the changing importance of the different regions. He writes: "The archaeological evidence indicates that northern Baluchistan enjoys a central position in receiving and transmitting cultural influences from and to the regions on north-west and the Greater Indus valley on the east. There are, however, some differences in the role of northern Baluchistan as a centre of cultural diffusion between the pre-early Harappan and early Harappan periods. With the beginning of the third millennium BC (the early Harappan period), northern Baluchis-

tan funneled cultural impulses from the North Western regions — namely the north eastern plateau of Iran, Sistan, Turkmenia and southern Afghanistan — to the Greater Indus Valley and vice-versa. In a large area of cultural interaction, northern Baluchistan provided a vital link throughout the early Harappan period until about 2400 BC or slightly later. During the second half of the third millennium BC northern Baluchistan ceased to be a link The evidence shows that during the Mature Harappan period, there was a major shift in cultural interaction with the Greater Indus valley from the Northern to Southern parts of Baluchistan".

Why did this shift occur, has nowhere been explained. Does this mean that the origin of the mature Harappan phase is connected with southern Baluchistan and that of the "Early Harappan" with northern Baluchistan? The answer is nowhere stated because this is not demonstrable. All the types of cultural material of Dr. Mughal's "Early Harappan" phase in northern Baluchistan are not seen in the Greater Indus valley, although we do have a few pottery types common in both the regions. Similarly the mature Harappan culture of the Greater Indus valley shows only a limited number of typological comparison with southern Baluchistan.

When Dr. Mughal made his analysis in America and built up his theory, little did he realise that soon after his return to Pakistan, he would be digging an important site of Jalilpur of the "Early Harappan" period. This site has now yielded much richer material than what is known from Kot Diji. On the other hand it was only after his return that he could understand the significance of the material unearthed at Saralkhola near Taxila. This vast geographic perspective extending from Taxila to Kot Diji has really given a new meaning to this "Early Harappan Culture". It is wrong to see the impulses from northern Baluchistan coming directly to Kot Diji and then spreading upward to Taxila. The new excavation

at Jalilpur completely falsifies such an assumption as also do the geographic factors.

It is precisely at this point that the importance of the excavations in the Gomal valley grows in significance. It is the Gomal Pass alone that throws open routes northward to Taxila, eastward to Jalilpur, Harappa and Kalibangan and south-eastward to Mohenjo Daro and Kot Diji. The whole of the Gomal plain is littered with sites and they also extend to the east bank of the Indus in the region of Sind Sagar Doab. Everywhere the "Early Harappan" material associated with Kot Diji is dominant. As has been stated in the earlier chapters it is in the Gomal plain that we have the antecedents of the Kot Diji culture. Some parts of this culture spread down the Zhob route into northern Baluchistan, which also had a direct connection with southern Afghanistan. Geographically it is therefore more feasible to accept the Gomal plain as an intermediary channel between the main Indus valley and the sites in southern Afghanistan. Fortunately the discovery of the big site at Rahman Dheri augurs well for the future. The excavation of this site will open up new clues to the understanding of the mature Harappan culture.

Meanwhile we confine to the sequence built up at Gumla. There the "Early Harappan" phase of Dr. Mughal is represented by period III. His "Pre-Early Harappan" phase is attested by period II which is a rich pottery bearing stratum. Period I is a non-ceramic stage that may be linked with Kili Gul Muhammad I. Period IV has two structural sub-periods and shows many cultural traits from the Mature Harappan culture but the latter does not seem to derive from Period III. Actually there is a layer of destruction intervening between the two periods. Similar layer of destruction is also observed at Kot Diji but Dr. Mughal has quietly passed on this evidence. I think from cultural point of view it is very important. In the earlier chapters we have pointed out the difference in the cultural traits of period III and period IV and also given the

reason why the Mature Harappans were bent on destroying the culture of period III. It is on this evidence that the "Early Harappan" term of Dr. Mughal loses its significance. I believe the cultural difference justifies the use of term pre-Harappan for what has been called the Kot Diji culture.

To review once again the different aspects of the cultural life as evidenced by archaeology, it will be in the fitness of things to conceive of the following stages.

I. The first non-ceramic stage has been vaguely guessed at Kili Gul Muhammad. This guess now receives confirmation in period I at Gumla. But the cultural equipment defines it as appertaining to Neolithic period. It is possible that this was a widespread culture before the introduction of metal and its character need not be the same as is known today from Kili Gul Muhammad and Gumla. In the new excavations carried out at Saraikhola the lowest level is associated with burnished bowls having diverging sides (also known from Gumla) and with ground stone tools. Its contemporaneity with Gumla I is doubtful as it lay immediately underneath a stratum which is coeval with Gumla III. At Jalilpur the lowest level has produced hand-made pottery but its flake tool types are more advanced than what is seen at Gumla and Kili Gul Muhammad. Such differences are understandable and there is also a possibility of time variation.

II. In this stage metal and rich painted pottery along with hand-made pottery are attested. Finest painted designs are seen now. Animals, birds and geometric designs are common motifs. The same story is known from Mundigak which received influences from further west and north. It is now abundantly clear that southern Afghanistan occupied a key position in the dissemination of this period cultural material towards the Indus. In this eastward extension variations are seen in the different valleys. The hill zones of northern Baluchistan could obviously not develop a full fledg-

ed rich cultural tradition as was possible in the Gomal plain. The evidence from Gumla is more varied and is now repeated at Jalilpur. In fact the white painting tradition known from Gumla spreads down in the Zhob and far to the east at Kalibangan. It is in this period that typical longish flake type in black chert is met with. We have earlier called it as category (ii) type. This altogether vanished in the later periods. Similarly painted cups of carinated variety are the most typical representative of this period. We find this culture crossing the Indus and making itself planted in the Indus plain.

III. As the second stage culture was typical of the Gomal plain, the third stage is seen on the surface of almost all the sites in this region and also across the Indus in the Sind Sagar Doab. It was first recognised at Kot Diji and then traced in the site of Saraikhola near Taxila. In the southern Punjab a number of sites have been explored by Dr. Mughal. In our chapter on pottery we have shown the similarities and the differences between this stage and the earlier one. There is no doubt that this stage is derived from period II but the cultural disparity is clear enough and also instructive. In this period we witness the first urbanised culture. Earlier we have proposed that it should be called Serpent Worshiper's culture because of the worship of the serpent is too dominant to be missed. We do not get worship of the trees nor the tree deities nor the male god so well known from the "Mature Harappan Culture". Dr. Mughal has traced the spread of some of its cultural traits in the hill zones of Zhob and Loralai valleys. But its real home is in the plains of the Indus — from D.I. Khan to Kalibangan and from Saraikhola to Kot Diji. So far written documents have not been traced in this stage.

IV. This is the stage of the Mature Harappan Culture. Strangely enough Mohenjodaro on the right bank of the Indus and Kot Diji on the left bank hold two distinctive cultural complexes. It is possible that

the lower portion of Mohenjodaro was contemporary with the Kot Dijian culture but how all of a sudden a literate society came into being with emphasis on the worship of trees, tree deities and a male god at Mohenjodaro is not explained today. Direct contact with Mesopotamia in the Mature Harappan phase has been pointed out by several archaeologists but whatever new impulses led to the evolution of the Mature Harappan Culture, do not seem to have travelled all the way through either northern Baluchistan or southern Baluchistan. The earlier culture of stage III was obviously the main base, on which new seeds of impulses were planted and this led to a sudden outburst, the Harappan culture sending back its influences into the Gomal plain as well as into Baluchistan and also spreading eastward to the West Indian borderland. Fairervis has traced a number of sites of this period towards the coastal plain of Sind, suggesting that the sea-borne contact played a dominant role in the richness of this phase of culture. The find of sites, like Lothal in Gujrat, with their own varying cultural traditions also suggest that coastal shipping must have led to wider contacts in this period. All the evidences converge on the point that the earlier bronze age culture of period III received some substantial fertilizing impulse from western Asia that gave birth to the literate civilization of the Indus valley. In this civilization the local elements certainly played a major role in naturalising whatever source inspi-

ration came from outside. At present we are unable to give the reason why and how we find such a sudden outburst.

V. This is the stage of decline and is quite naturally not uniform through all the regions. While in Sind the Jhukar culture has been identified, in Gandhara we have earlier talked of the Gandhara Grave culture. The evidence from Gumla and Saraikhola presents another cremated grave complex associated with the use of horse and probably also animal sacrifice. At Gumla and Hathala these people brought ruin to the sites and destruction of the entire settlement. It seems that it is these people who later spread down into the main plain of the Indus. The variation in their cultural equipment suggests that they were not all united. Their poor equipment and their adoption of the local cultural features further suggest that they soon fell a prey to an earlier higher civilization. Who were these people is difficult to say.

VI. In the sixth stage with the introduction of iron we again witness another type of burial widely spread from D.I. Khan to Saraikhola. This type of burial is also met with in the Sind Sagar Doab. Obviously the end of the Mature Harappan Culture opened up a scene of new tribal movements from the west. It was in age of the barbar settling in the desolate land of the already destroyed civilization. That was an end of a phase of life so well characterised by the geographic pattern of the Indus valley.

CHART NO. I

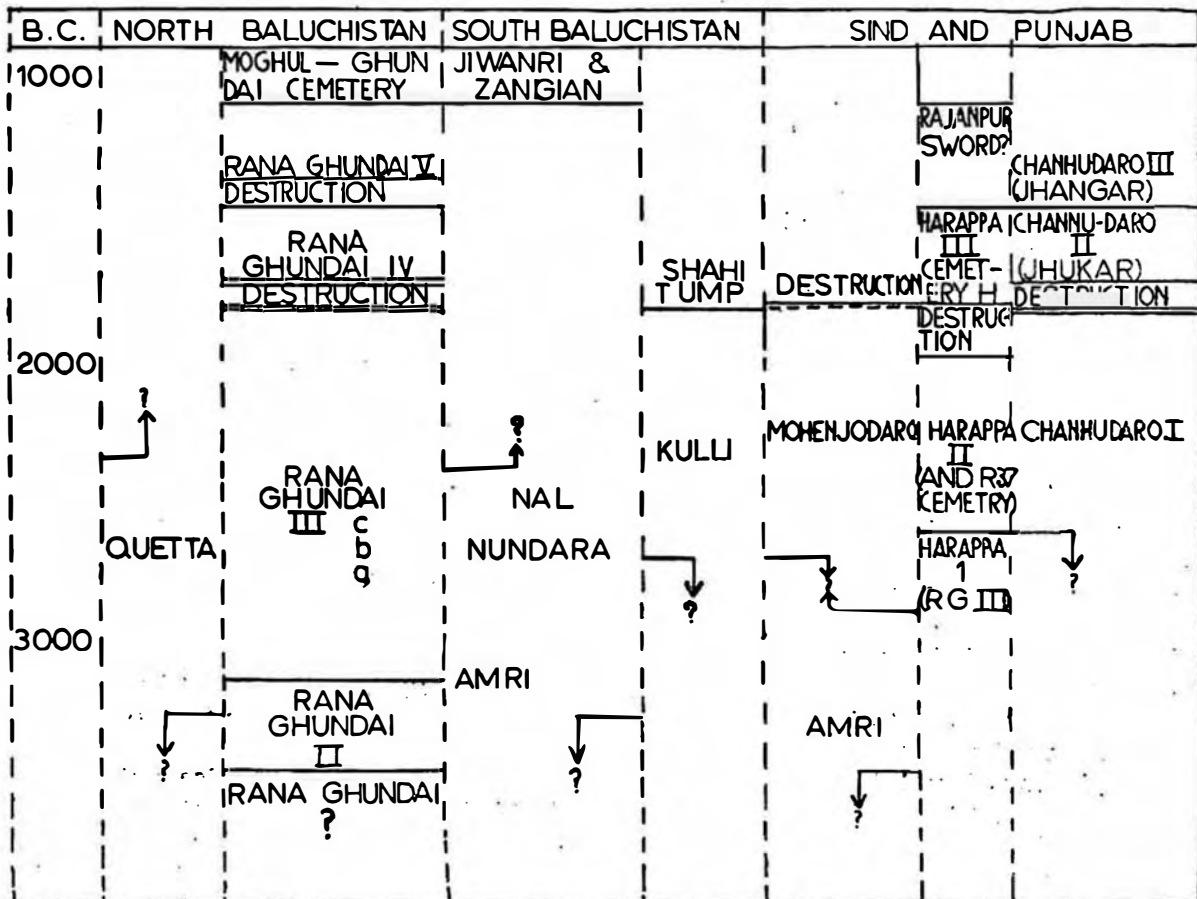


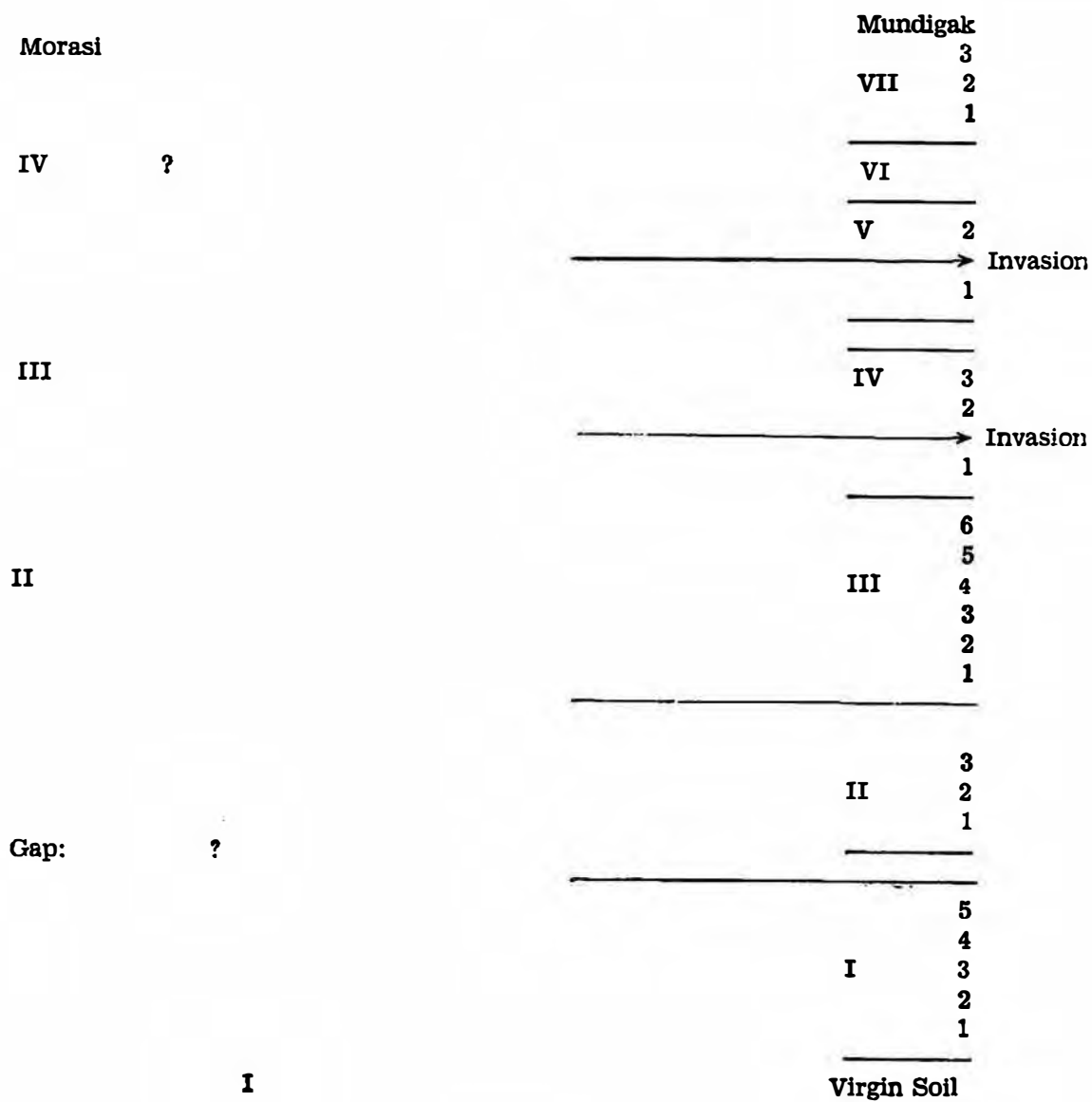
CHART NO. 2

SUMMARY OF THE STAGES AS GIVEN BY FAIRSERVIS

(From American Museum Novitates, No. 2302, Oct. 1967)

	Northern Baluchistan	Central Baluchistan	Southern Baluchistan	Afghanistan	Sind and Punjab
	Quetta Valley	Loralai and Zhob Valleys			
IV.	Damb Sadaat III	Rana-Ghundai III-IV, Dabar Kot, Periano-Ghundai	Kulli Sites (Kulli, Mehi, Nindowari, Edith Shahr)	Mundigak IV	Mohenjo-daro, Chanhudaro, Harappa, Kot Diji, Amri.
III.	Damb Sadaat II.	Rana Ghundai III, Sur Jangal III, Periano Ghundai, Moghul Ghundai	Anjira IV	Kolwa (Kulli, Mehi) Nal, Ornach Wadh, Drakola, Las Bela.	Mundigak III, Deh Morasi Ghundai
II.	Kili Gul Muhammad III-IV. Damb Sadaat I	Rana Ghundai Ib-II, Sur Jangal I-II Dabarkot, Periano Ghundai, Moghul Ghundai	Anjira II-III	Nal (Surkh Damb) Drakola, Kolwa, Ornach, Wadh Las Bela	Mundigak III and Mundigak I (late phases)
I.	Kili Gul Muhammad I-II	Rana Ghundai Ia, Sur Jangal I, Dabar Kot, Periano Ghundai	Anjira I.	Flake-blade tools from several surface collections.	Mundigak I. (early phases)

CHART NO. 3



[illegible][illegible]

CHART NO. 6

CULTURAL PHASES	AFGHANISTAN				BALUCHISTAN	
	NORTH	KANDAHAR	SEISTAN	QUETTA AREA	REVISED SEQUENCE	PAIRS/ST/IS SEQUENCE
	WAKHAN SHARAF SHARAF	SHINDIGARH SHINDIGARH	SHINDIGARH SHINDIGARH	SHINDIGARH SHINDIGARH		
F		?	?	?	?	
Late E		3	III	DS III	PERIOD G3	
Early		IV 2	IIc	DS II	PERIOD G2	
		1	IId	DS II	PERIOD G1	
D		III	?	DS I	PERIOD H2	
		II		KGM IV		
C		I		KGM III	PERIOD H1	
				KGM II	PERIOD I	
B				KGM I	PERIOD J	
A						

BALUCHISTAN			INDUS VALLEY		W. INDIA	
NORTH	CENTRAL	SOUTH	SOUTH	RAJASTHAN	GURAT	LOTHAL
SHARAF	SHARAF	SHARAF	SHARAF	SHARAF	SHARAF	SHARAF
?	?	?	HARAPPAN	MATURE	HARAPPAN	A
RG II	SURFACE	LATE	INTER	EARLY?	OVERLAPED	
SJ II	LE	VEE	MEDIATE	?	ANTECEDENT	
?	?	?	?	?	?	
RAHA	?	?	?	?	?	
SHUEN	?	?	?	?	?	
SUR	?	?	?	?	?	
JAGALI	?	?	?	?	?	
I	?	?	?	?	?	

CHART NO. 7

EARLY LEVELS	MOHEN JO-DARO
LEVELS 16 to 4	AMRI
KLB 14 or 5 LEVELS	KOT DIJI
TWO METERS DEPOSIT	KALBANGAN
EARLY LEVELS 26 & 26A	SANDHANAWALA
	HARAPPA
	SARAI KHOLA
MIDDLE STRATA	PERIANO-GHUNDA
UPPER STRATA	SUR-JANGAL
	RANA-GHUNDAL
	KLE GUL
	MOHAMMED
	DAMB SADAAT
	ANJIRA
	SHAH-DAMB
	DEH MORASI
	GHUNDAL
	MUNDIGAK
	SHAH-I-SOKHTA
	NAMAZGA

_____ c. 2400 B.C.

_____ c. 3000 B.C.

_____ c. 3500 B.C.

MATURE HARAPPAN

EARLY HARAPPAN

PRE-EARLY HARAPPAN

APPENDIX

I am giving below the results of the radio-carbon tests as I received them from Miss. Elizabeth K. Ralph. I am obliged to Mr. Robert Edwards, former Representative of Ford Foundation in Pakistan, for his kind help which enabled the author to send the samples for tests. Part of the samples was kept in the British Museum, the result of which is still awaited. Only the results received from the University of Pennsylvania are given here without comments. However, the readers may note that there is a great discrepancy between the sequence built up in the earlier pages and

the dates received now. In the main text period I is the earliest level and then follows in sequence II, III, IV and V. In the following table period V gets the earliest date and period II is found to be later. It is difficult to say where the mistake occurred in the case of sample testing.

One more charcoal sample of period II has now been sent for test to the University of Pennsylvania through the courtesy of Dr. George F. Dales. When fresh results are received from Pennsylvania and the British Museum, they will be duly announced.

March 13, 1972

University of Pennsylvania C¹⁴ Dates for Samples
from Dera Ismail Khan District, W. Pakistan
Submitted by Prof. A. H. Dani, University of Peshawar

Sample No.	Pennsylvania Lab No.		Description	5568 H Half-Life		5730 Half-Life	
				B.P. 1950	A.D./B.C.	Uncorrec- ted	MASCA cor- rected
1	P-1810	NaOH	Gumla, from circle grave No. 1 Period V found along with human bones	4339 ± 61	2389 B.C.	2520 ± 63 B.C.	3070 B.C.
2	P-1811		Gumla, from trench BO Layer (9), Period II	Sample lost in C ¹⁴ laboratory accident			
3	P-1812	NaOH	Gumla, from trench BO Layer (11), Period II	4076 ± 72	2126 B.C.	2248 ± 74 B.C.	2798 B.C.
4	Uncharred bones		Gumla, from trench BO Layer (12), Period I	Sample too small to date, only 56 grams. (For uncharred bones, we need 1000 grams)			
5	P-1813 No. NaOH		Hathala in trench Y Layer (2)	4043 ± 60	2093 B.C.	2214 ± 62 B.C.	2714 B.C.

Conclusion