



EXCAVATION AT MITATHAL (1968) AND OTHER EXPLORATIONS
IN THE
SUTLEJ-YAMUNA DIVIDE

EXPLANATION OF THE RESULTS OF THE INVESTIGATION

IN THE

SOUTHERN DIVISION

EXCAVATION AT MITATHAL (1968) AND OTHER EXPLORATIONS

in the

SUTLEJ-YAMUNA DIVIDE

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BY

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FOREWORD

Ever since its first recognition in 1921, the Indus Civilization has aroused both interest and speculation among scholars of various academic disciplines or specialities, including archaeology, anthropology, hydrology, linguistics, etc. The widespread concern in this Civilization has been sustained by the shift in emphasis from one problem to the other : while at one time it was the *form* of the evolved urban culture which was required to be fully understood at the other it was its *dynamics* including beginning and development which attracted the attention (until then being considered a civilization with a sudden and uniform efflorescence devoid, alike of genesis and decay'). In the years following the partition of the subcontinent when the main area of its then known distribution fell within the political borders of Pakistan, extension of this Civilization through intensive surveys, southwards into Gujarat and eastwards into the valleys of Ghaggar (ancient Sarasvati), Chautang (ancient Drishadvati) and Yamuna became of immediate concern. As a result thereof over 150 sites belonging to this Civilization were located in Gujarat, Rajasthan, Haryana, Punjab and Uttar Pradesh, of which over a dozen (Rangpur, Prabhas Patan (Somnath), Rojdi, Desalpur, Lothal, Surkotada, Kalibangan, Mitathal, Siswal, Banawali, Chandigarh, Sanghol, Rupar, Bara and Alamgirpur) have been excavated in varying scale of work. These excavations have posed new problems amongst which that relating to the decline and fall of this far-flung Civilization, though contentious, is of some relevance, especially in the light of the identification of other chalcolithic cultures including the Copper Hoards and the Ochre Colour Pottery (dated to the first half of the second millennium B.C.) in areas which are peripheral to the spread of the Indus Civilization. New dimensions have, therefore, been added to the field of enquiry. Another problem, equally tangled relates to the spatial and temporal extent of the so-called antecedent (pre-Harappan) culture eastwards of Kalibangan. The problem and questions that we are attempting to resolve are more complex in structure and more comparative in nature than ever before.

The present report is an account of the excavations conducted at Mitathal, District Bhiwani in Haryana, by Dr. Suraj Bhan, who with singular devotion has also explored the region and brought to light many sites of Harappan or Pre-Harappan affiliation (below pp. 122-26). The site, which has yielded a sequence of two cultures Pre-Harappan and Harappan (including the late phase)—lends itself to significance because of the reported find (through ploughing and digging a channel) of two harpoons and thirteen bangles of the Copper Hoard class. The results of this investigation are admittedly out of proportion to the amount of work done by him and have helped to show where discovery is most needed.

And here one of the primary problems is to study the diffusionary process of the Pre-Harappan and Harappan cultures. It is not to be assumed that the Pre-Harappan occupation at all sites on which it has been identified in this region would be co-extensive in time range. In fact, it is likely that at some sites which were not affected by the initial spread of the Indus Civilization, it may have continued almost upto the collapse of the latter. An attempt at the 'transformation' of the Harappa Culture has been attempted by the author. These observations admittedly require confirmation from further excavations but are provisionally important.

Lastly, I may add my good wishes to Dr. Suraj Bhan for a continuing and useful study of this Civilization and my deep appreciation of the interest taken by the University of Kurukshetra in the publication of the report.

New Delhi,
February, 1975.

B.K. Thapar

PREFACE

Despite the fact that most of the known Harappan sites had passed over to Pakistan consequent upon the partition of the country in 1947, the Harappan culture aroused great interest among Indian archaeologists. Fortunately, the field researches carried out along the dried up Sarasvati bed in North Rajasthan, Upper Sutlej Valley in Panjab and in the Ganga-Yamuna *Doab* in Uttar Pradesh, laid bare new evidence on the expansion and decline of the Harappa culture and revealed the existence of an antecedent culture. However, the emergence of the composite Bara culture-complex continued to be shrouded in mystery. Moreover, the relationships between the Kalibangan I (Sothi) and the Harappan culture needed to be more precisely defined particularly after the advent of the latter.

The excavation at Mitathal in Haryana revealed a gradual decline and transformation of the Harappa culture in North India. It further demonstrated the survival of Kalibangan I culture (here called Late Siswal Culture) contemporaneously with the Harappan in our region.

Subsequent trial excavations at Siswal and other explorations in lower Haryana have borne out a binomial growth of the Late Siswal and the Harappa cultures in the subsequent phases. These have further evinced the stages of their expansion, decay and transformation.

The discovery of Rakhi Shahpur (Rakhigarhi), a classical Harappan twin-mound, perhaps smaller only than Harappa in North India, and 190 Kms. east of Kalibangan, dominating the strategic fertile plains of the Indo-Gangetic Divide, highlighted another aspect of the culture. It could be reasonably claimed to be the easternmost Provincial Capital of the "Harappan Empire".

The present report is a modest account of the Mitathal excavation and also contains a brief survey of other explorations carried out in the region before and after. The material is, however, not abundant for want of extensive excavations. This bars a full evaluation of the prehistoric cultures in all aspects. The insufficient archaeological evidence only emphasises the need of laying bare the remains of a few of these prehistoric sites on a horizontal scale. In the meanwhile the present report will serve to highlight the necessity of further work in the field and laboratory.

I would have very much liked to include a report on bones, carbon 14 dates and qualitative metallurgical analysis of copper objects, and drawings of the painted pottery and the detailed distribution maps of the various cultures, but this could not be done due to the paucity of resources and inadequacy of facilities at my disposal.

I am extremely obliged to Prof. B.B. Lal, Prof. R.N. Mehta and Dr Raymond Allchin for their valuable suggestions which I have incorporated in the report. My sincere thanks are also due to Mr B.K. Thapar, Joint Director General, Archaeological Survey of India, New Delhi and Mr. S.S. Talwar, Dept. of Archaeology and Museums Panjab, Patiala, for getting some of the illustrations prepared. Swami Omanand, Jhajjar Gurukul, Mr. Chandan Singh, my friend, Conservator Forests, Haryana, Mr G.B. Sharma and Mr. Mange Ram, my students at the Kurukshetra University, Mr. Amir Singh, Dept. of Psychology, Kurukshetra University, Kurukshetra helped me variously in the field work. I am beholden to them all.

Nor should I fail to record my indebtedness to the Haryana Government, the Panjab University and the U.G.C. which made it possible for me to carry on the field work. Finally, I express my gratitude to the Kurukshetra University for making possible the publication of this report.

Dept. of Ancient Indian History,
Culture and Archaeology,
Kurukshetra University,
Kurukshetra.
March, 1974.

Suraj Bhan

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ABBREVIATIONS

AI	Ancient India, Bulletin of the Archaeological Survey of India, New Delhi
Am. Mu. Novitates	American Museum Novitates, New York
ARASI	Annual Report of the Archaeological Survey of India, Delhi
Arch. Cong. and Seminar Papers	Archaeological Congress and Seminar Papers, Nagpur
Bull. Am. Inst. In. Art Arch.	Bulletin of American Institute for Indian Art and Archaeology
IA	Indian Archaeology, A Review, New Delhi
Jour. Ind. Soc. Or. Art	Journal of Indian Society of Oriental Art, Calcutta/Baroda
PA	Pakistan Archaeology, Karachi
<i>Puratattva</i>	<i>Puratattva</i> , Bulletin of the Indian Archaeological Society, New Delhi
RBPU (Arts)	Research Bulletin of the Panjab University (Arts), Chandigarh
VIJ	Vishveshvaranand Indological Journal, Hoshiarpur

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ABSTRACTS

1. The first part of the paper is devoted to a discussion of the general theory of the problem. The second part is devoted to a discussion of the special case of the problem. The third part is devoted to a discussion of the numerical solution of the problem. The fourth part is devoted to a discussion of the results of the numerical solution. The fifth part is devoted to a discussion of the conclusions of the paper.
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1. INTRODUCTORY

A. The general problem and objectives of the work

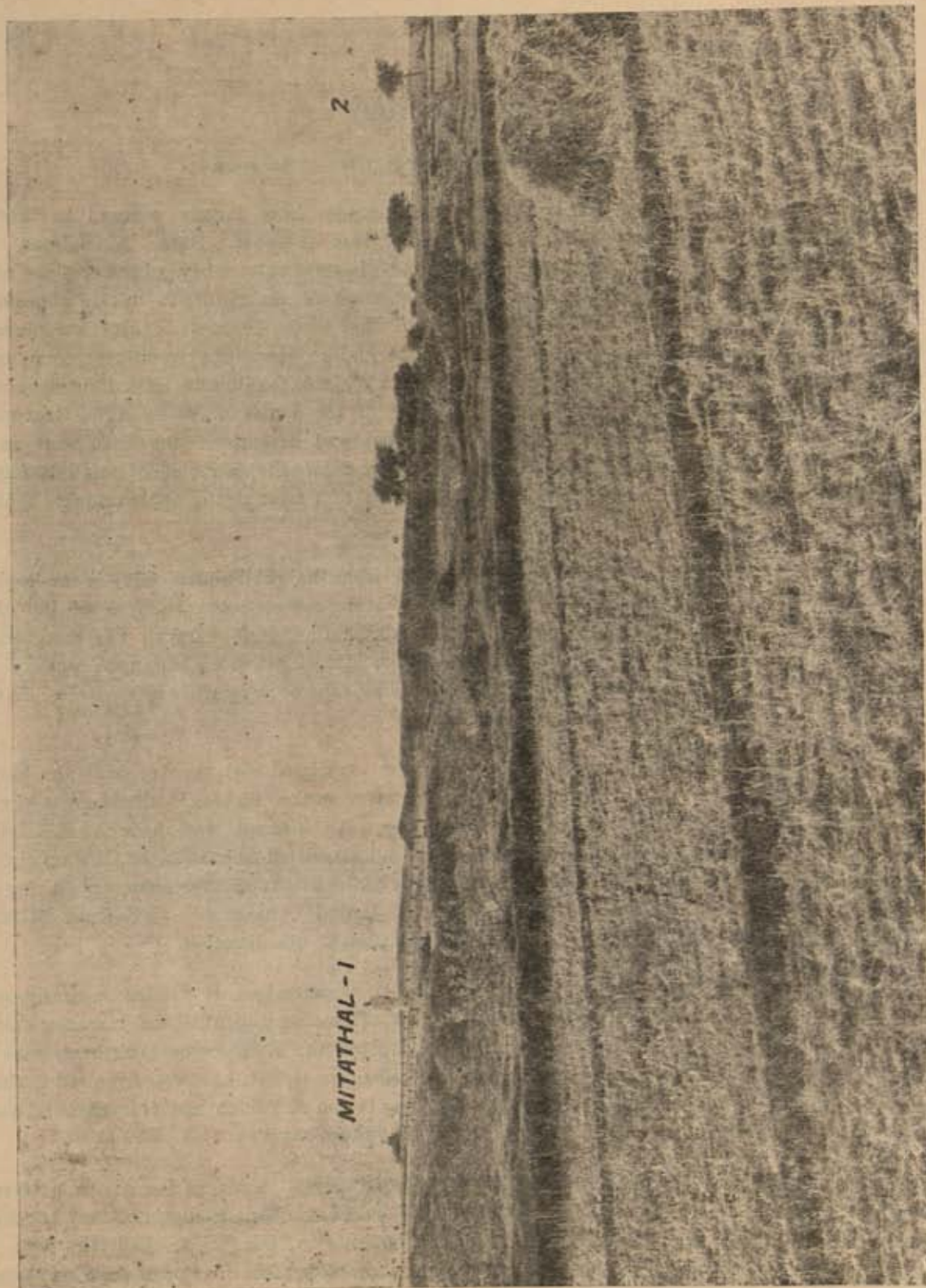
Archaeological investigations during the last two decades have largely widened our horizon of the late prehistoric cultures in the country. The excavations at Ropar, Bara, Alamgirpur, and Bargaon provided an evidence for the expansion of the Harappa culture beyond the confines of the Indus basin to the east,¹ and revealed a late-degenerate² stage of the culture in this outer province. But a preliminary study of the material remains indicated that all the elements of this 'Late' phase³ of the Harappa culture could not be possibly derived from the mature Harappan traditions alone, and it represented a composite character comprising several strands.⁴ While Y.D. Sharma pointed out an akinness of the incised designs of non-Harappan ceramic elements of the Sarasvati Valley in the Bara ware,⁵ D.H. Gordon⁶ and others⁷ drew parallels to certain shapes and designs of the Bara ware in the Cemetery 'H' and the Jhukar wares. Yet the evolution of the composite character of this late-degenerate Harappan culture remained unexplained in the absence of a clear stratigraphic evidence showing its emergence.

The discovery of the ochre coloured pottery (OCP) from the pre-Painted Grey Ware levels at Hastinpur also posed a problem of its origin and authorship.⁸ The subsequent excavations at Bahadabad, Ambkheri, and Atranjikhhera threw more light on the nature and character of this ceramic industry. An apparent similarity of the ware with the late-degenerate Harappan pottery was pointed out by some scholars.⁹ But M.N. Deshpande and others suggested it to be a distinct ware only marginally influenced by the Harappan tradition.¹⁰

The 'Copper Hoards' of the Gangetic valley, variously associated with the Aryans,¹¹ the Harappan refugees,¹² the aborigines referred to in the Vedic literature as the *Niṣādas*,¹³ the Mundas¹⁴ or the itinerant craftsmen,¹⁵ baffled the archaeologists since long. An attempt was made by B.B. Lal to determine their cultural context at Rajpur Parsu and Bisauli and associated these with the OCP on circumstantial evidence.¹⁶ But the discovery of certain 'Hoard' type tools such as an anthropomorph, a ring and a harpoon respectively from the late Harappan levels of Lothal¹⁷ Bargaon¹⁸ and from Mitathal (unstratified levels)¹⁹ emphasized the need for further investigations in this direction.

A new vista of enquiry was opened by the excavation of Kalibangan. It yielded a stratigraphic context for the Sothi ware²⁰ and evinced the existence of a phase antecedent to the Harappa culture in North India.²¹ The excavation also revealed the survival of the Kalibangan I elements side by side with the Harappa culture almost up to the middle of Kalibangan II.²² It, however, remained to determine its relationship with the Harappa culture in the adjoining region of Panjab and Haryana, and assess its contribution towards the emergence of the Late Harappan culture complex.

The discovery of Mitathal raised the hopes for providing a clue to some of the above problems. The occurrence of the characteristic Harappan pottery, beads and faience bangles suggested beyond doubt the Harappan affinity of the site. A few more evolved shapes, however, bore close similarities with the ceramic industry of Bara, Alamgirpur, Bargaon, etc; and the worn off surface of some of these made them hardly distinguishable in appearance from the ochre coloured ware of Ambkheri and other sites in the *Doab*. The earlier discovery of a copper harpoon, a typical tool of the Copper Hoards at Mitathal, the site of Harappan affiliation west of the Gangetic *Doab*, was also quite significant.²³ Mitathal thus seemed to be a promising key site which could throw light on some of the above problems of Indian



Mitathal : General view of the mound

archaeology. It was with these considerations in view that a limited excavation was undertaken at Mitathal during 1968 between January and April.

Nor did the excavation disprove the expectations. It revealed the existence of a non-Harappan culture²⁴ related to the Kalibangan I and the 'pre-defence' culture of Harappa, which has been called the Late Siswal culture²⁵ after the site where its stratigraphic relationship with the Kalibangan I culture was first recognized. It also provided a continuous sequence from Late Siswal to Late Harappan cultures and evidenced the survival and co-existence of the Late Siswal elements in the Harappan and Late Harappan phases.²⁶ Thus the excavation partly corroborated and supplemented the sequences at Kalibangan and Ropar. The recovery of a celt, a *parasu* and a ring made of copper from the upper levels of Mitathal IIB (Late Harappan Phase) near the spot where the copper harpoons had been found earlier while ploughing, perhaps suggested the context of the Copper Hoards at the site.²⁷ Thus the composite character²⁸ of the Late Harappan culture complex with its various strands first noticed at Bara was reasonably explained by the Mitathal excavations for the first time. It also pointed to the transformation of the Harappa culture into the OCP (Ambikheri)²⁹ and hinted at the probable genesis of the OCP (Atranjikhera-Bahadarabad-Saipai) in the Siswal ceramic tradition.³⁰

B. Acknowledgements :

The excavation was conducted by the author under the general direction of Dr. B. Ch. Chhabra, then Professor and Head of the Department of Ancient Indian History, Culture and Archaeology of the Panjab University, Chandigarh. The author is very much thankful to Dr. Chhabra for providing all necessary help in conducting the excavation. We are also grateful to the Haryana Govt. for providing a liberal grant of Rs. 4000 for the work. I am particularly beholden to Sd. Sarnagat Singh, Under Secretary, Education Department of the Haryana Government for his keen personal interest in the work and for exerting his influence in obtaining the aforesaid grant in time but for which the project could not have been completed. The author was assisted in the field by Shri Lalman, Technical Assistant Shri G.S. Saini, Photographer-cum—Draftsman and the students of archaeology of the Department. Our thanks are due to all of them. We are no less grateful to Shri Dalip Singh, Surveyor-cum-Draftsman and Shri S.P. Bali, Photographer of the Kurukshetra University for preparing some of the illustrations included in the report. I am extremely obliged to my friend Dr. Amir Singh of Mitathal, then Research Fellow in the Department of Psychology, Panjab University, for helping us in various manners in the camp arrangements and the excavation. Dr. K.T.M. Hegde of the M.S. University, Baroda carried out the chemical analysis of the metal objects from the site and I am grateful to Dr. R.N. Mehta Head of the Deptt. of A.I.H.C. & Archaeology, M.S. University, Baroda and Dr. K.T.M. Hegde for this.

Lastly I must also express my gratitude to (late) Dr. Buddha Prakash, Prof. & Head of the Deptt. of A.I.H.C. & Archaeology of the Kurukshetra University and Dr. V.C. Pandey of the Panjab University for permitting me to prepare and publish the report of the excavations.

2. THE SITE AND ITS ENVIRONS

Mitathal (28°.50 N. Lat. 76°.10 E. Long.) lies at a distance of ten kilometers to the north-west of Bhiwani, a district headquarters in Haryana State and 118 Kms. to the north-west of Delhi. It is approached by road from Bhiwani, also a railway station on Rewari-Fazilka section of the Northern Railway.

The ancient site is located about 1½ kms. to the west of the village and is approached by a cart track. It consists of twin mounds (Pl. I), the higher and more prominent being in the east while the lower one to the west. Some thin deposits of outlying habitations are also noticed on the periphery of the main mounds. These two mounds, termed Mitathal 1 and Mitathal 2 respectively, are separated by

a distance of nearly 20 meters. The oval shaped mound of Mitathal 1 measures approximately 150x130 meters and rises to a height of 5 meters. It is cultivated all over except on the top and the western slopes and there are hardly any other prominent features. Mitathal 2 is a rather low mound, oblong in shape, with its longer axis being north-south. It covers an area approximately 300x175 meters and is about 3 meter high from the general ground level. The western periphery of the mound is truncated by the Dang Minor beyond which the site has been levelled for cultivation. Mitathal 2 is divided into two parts by a 10 meter wide depression running east-west which might suggest it to be an ancient thoroughfare. But for the limited top portion where the *kankars* lie accumulated the mound is under cultivation all over.

To the east of the site on way to the village there is about 200 meter wide depression extending from north to south with an elevated ground on either side and marked by the darker colour of the crop growing on the clayey soil. The depression was traced running in a zig-zag course from Indri in the north of Karnal to Tigrana in the west and beyond, and was identified with the dried up old course of Yamuna.³¹

The site was for the first time placed on the map of archæology in 1915-16 when a hoard of Gupta coins was reported from here.³² In 1965 two copper harpoons were found at this mound by Shri Mewa Singh while ploughing the fields of Shri Tek Ram on the eastern slopes of Mitathal 1.³³ One of these harpoons is now housed in the Haryana Archæological Museum, Gurukul Jhajjar which was salvaged only by the efforts of Acharya Bhagwan Deva of the Gurukul. The other harpoon has been lost. The same year while digging a water channel between the two mounds the villagers discovered thirteen copper rings which were sold at Bhiwani and are no more traceable. The discovery of these unique tools aroused the curiosity of the village people. Dr. Amir Singh, Research Scholar in the Psychology Department of the Panjab University, and Shri Umed Singh, my student in the Panjab University, brought these facts to my notice in 1967 and also showed me a few Harappan pot-sherds and beads recovered from the site. Consequently the author examined the copper harpoon in the Jhajjar Museum and visited the site to assess its potentiality for excavation.

3. CULTURE SEQUENCE AND CHIEF CHARACTERISTICS OF DIFFERENT PERIODS

In order to ascertain the cultural sequence at the site two vertical trenches were sunk, one each on the twin mounds. One of the trenches called MTL-1, measuring 25x6 meters from south-east to north-west, was sunk on the eastern slopes of Mitathal 1, covering the spot where the copper harpoons were found in course of ploughing. The other trench called MTL-2, measuring 10x6 meters, was cut on the flat top of Mitathal 2, the western mound. MTL-1 was dug to a maximum depth of 5 meters in which the maximum thickness of the cultural deposit above the natural soil was 4.30 meters. In MTL-2, excavated to a depth of 4.50 meters, the natural soil was reached at a depth of 3.60 meters. The excavation revealed a continuous sequence of two cultural Periods numbered I and II from bottom upwards. Period II was further sub-divided into two phases termed IIA and IIB. Both the periods alongwith the sub-divisions were encountered in MTL-1 (Fig. 1), while MTL-2 yielded the remains of Periods IIA and IIB only (Fig. 2). The chief characteristics of each period are :—

Period I

The average thickness of cultural debris of Period I was one meter and it immediately lay above the natural soil. It was characterised by the occurrence of the Late Siswal ware (Fig. 5). The ware is mainly represented by Fabrics A and C though it contained a sprinkling of other fabrics of the Kalibangan I ceramic tradition. The sturdy troughs or basins grooved on the interior, so typical of Fabric D, are absent in the stratified levels of Mitathal. But their presence is attested by a few sherds picked up from the surface.

MITATHAL, HISSAR DISTRICT, 1968 CUTTING MTL-1

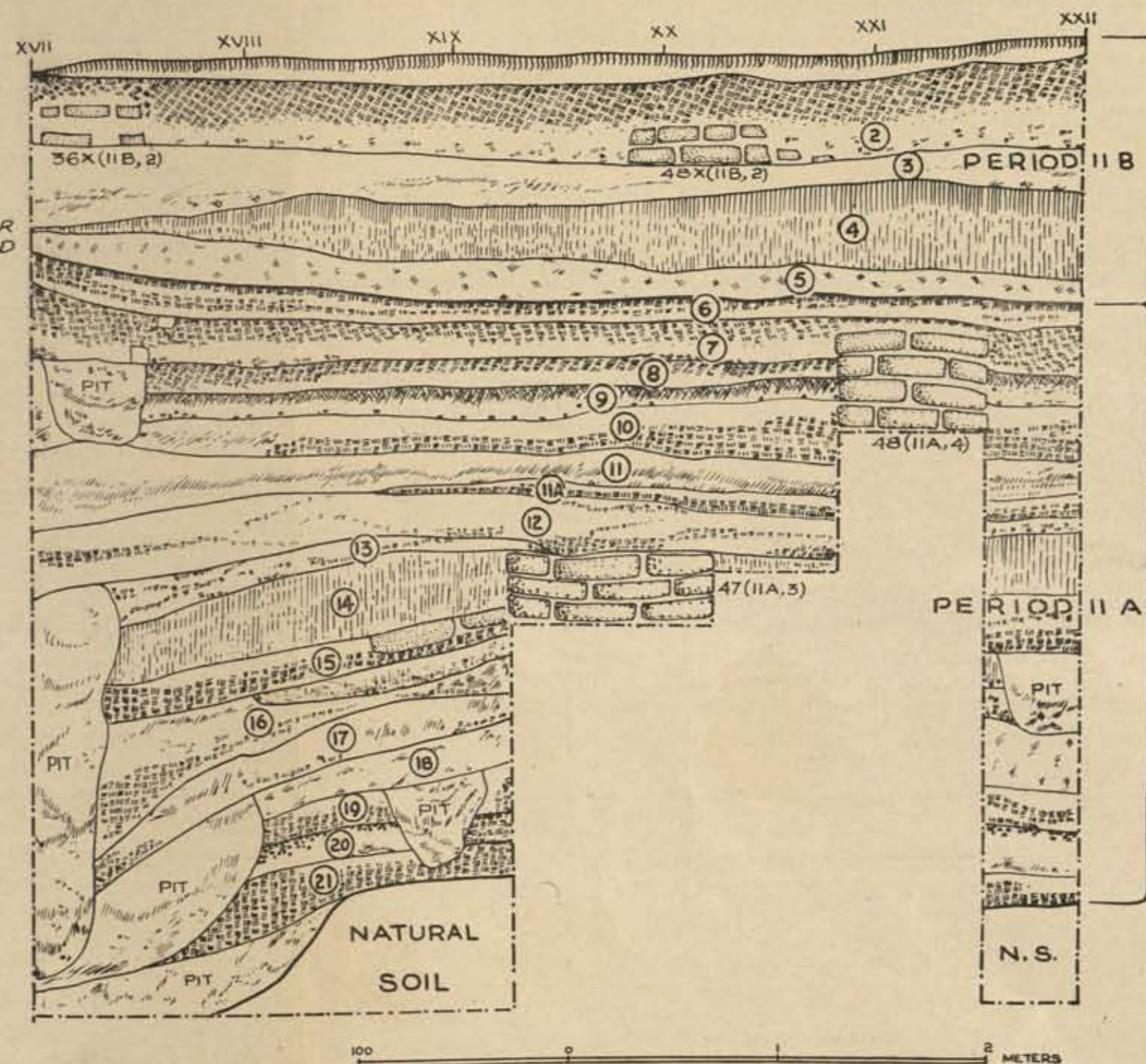
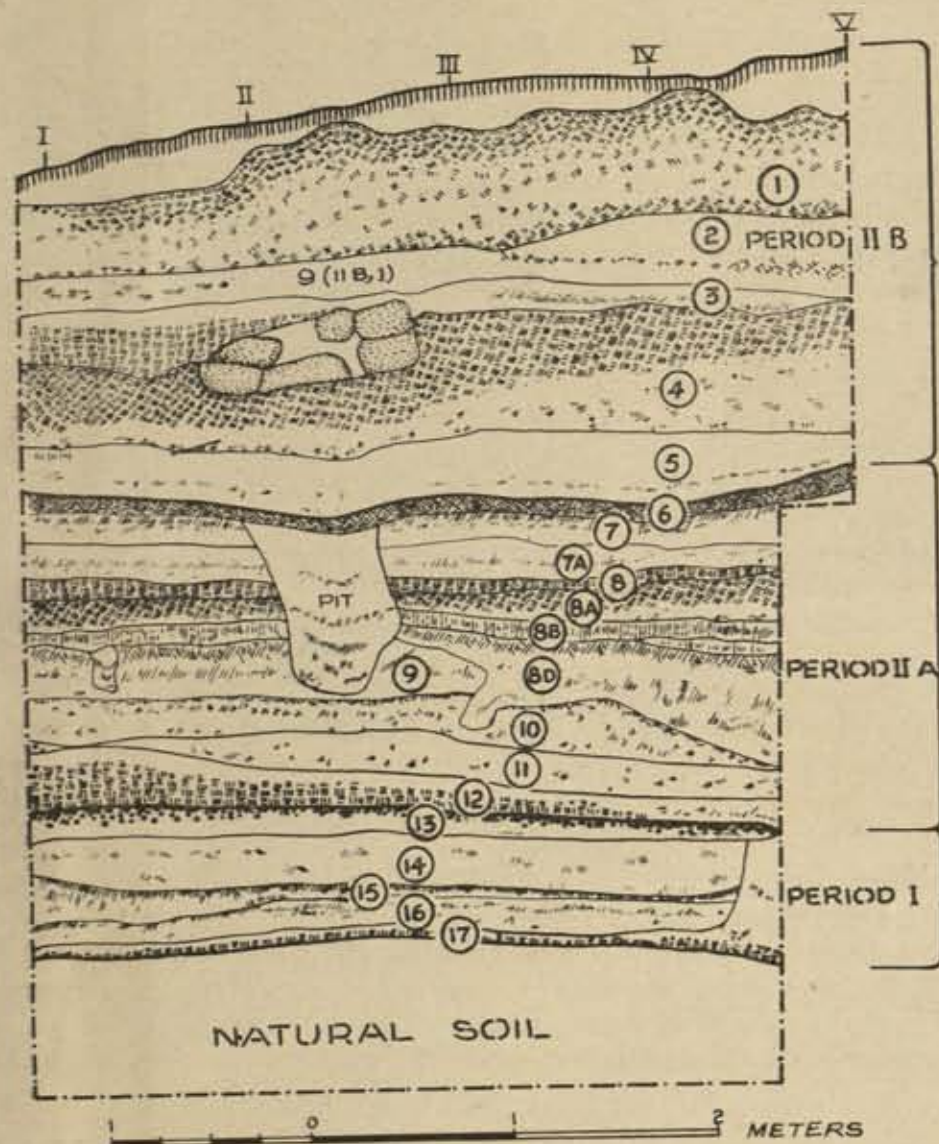
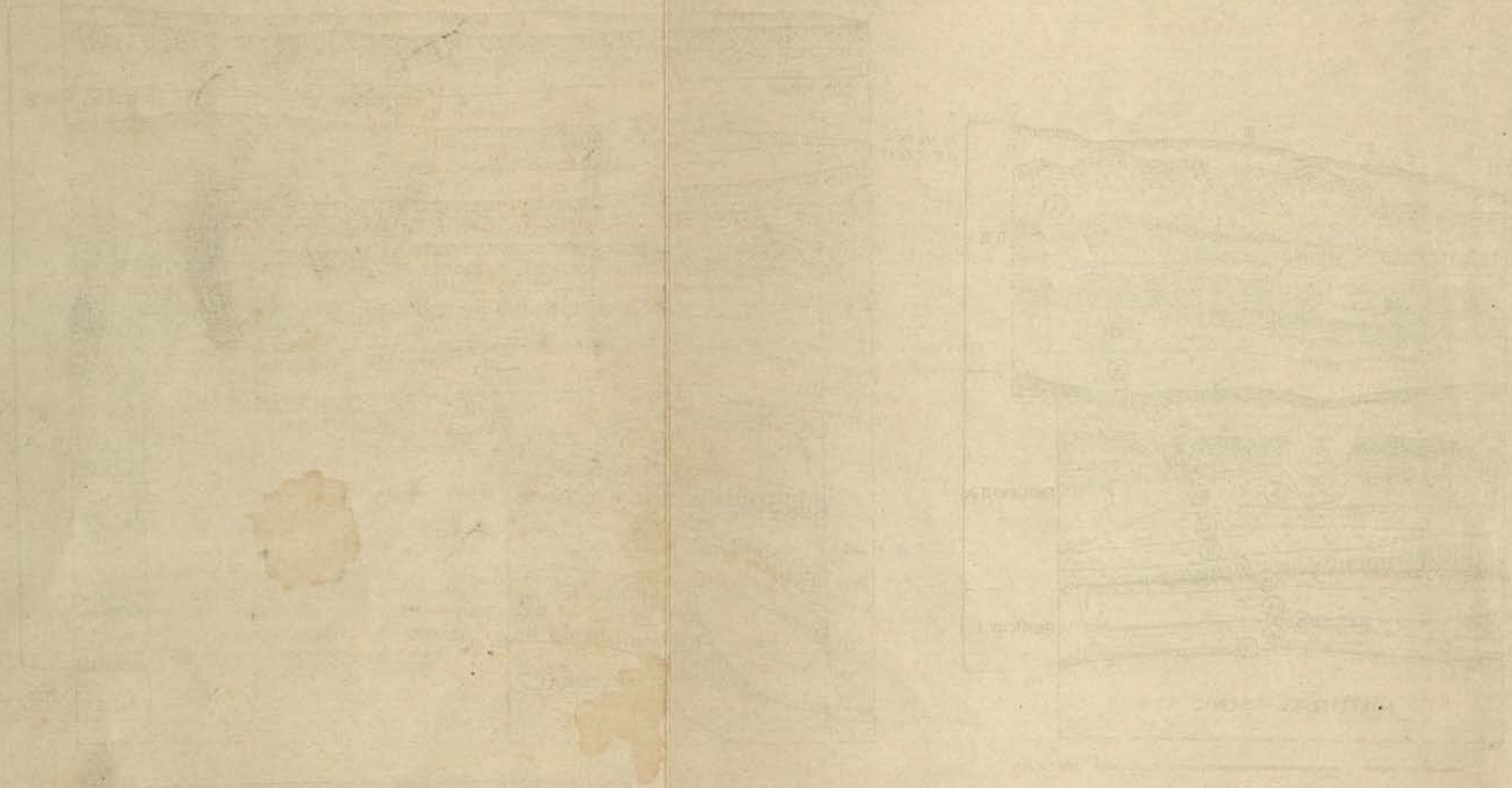


Fig 1

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MITATHAL,
HISSAR DISTRICT, 1968
CUTTING MTL-2

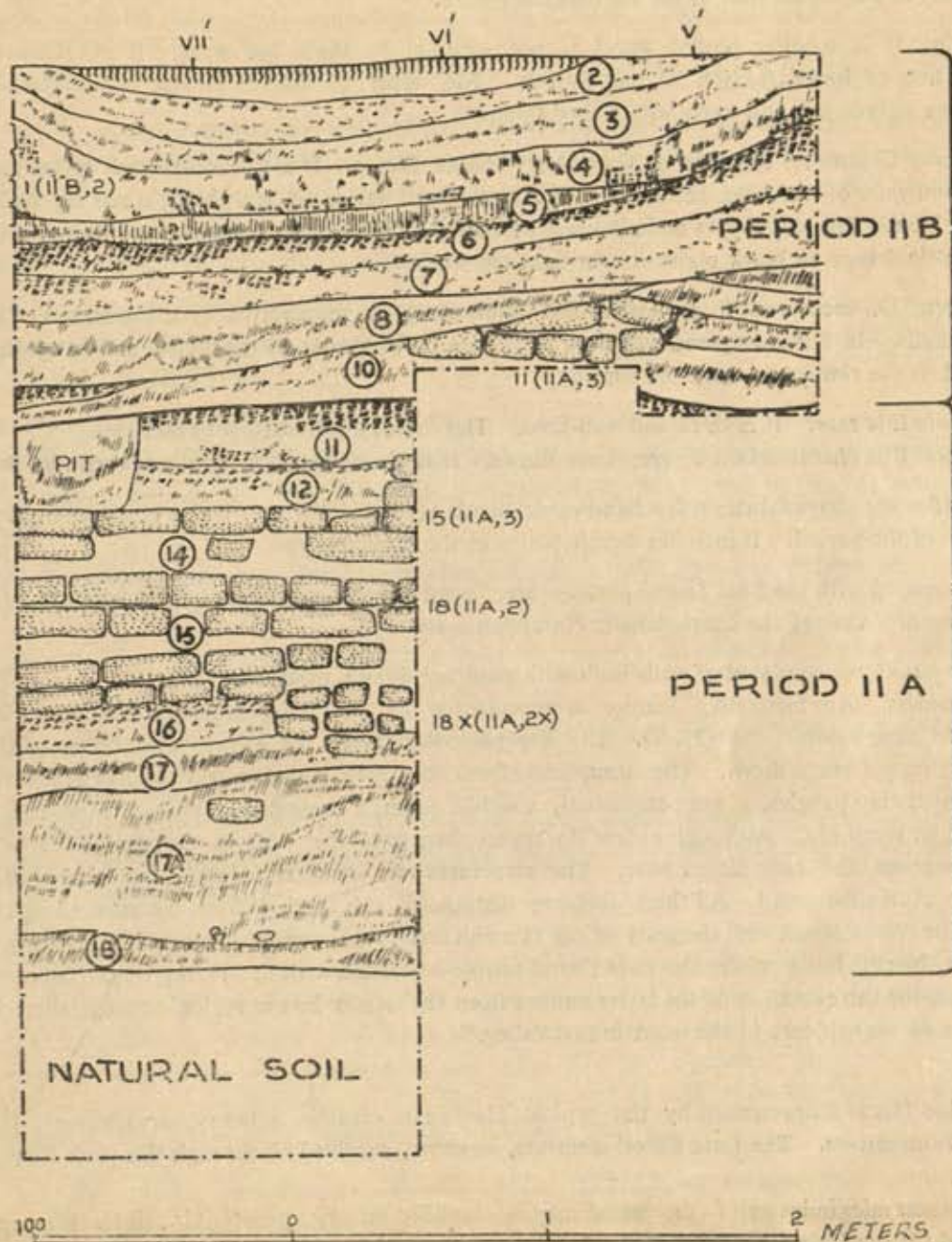


Fig. 2

Fabric A is a well fired red ware of medium course fabric with an unslipped matt surface. It is irregularly turned on a slow wheel. The main ceramic shapes in the fabric included vases with out-curved or out-turned rim, jars with wide mouth and bowls with convex or tapering sides. The ware is painted only in black pigment generally with horizontal bands at the rim, neck or shoulder. A black block band at the neck and shoulder is a conspicuous feature. The occurrence of the evolved types, the lack of variety in shapes and designs and the absence of the use of white pigment in painting indicate a more evolved stage than that of the Kalibangan I ware.³⁴

Fabric B is a better potted wheel turned medium to thick red ware. It is characterised by the rustication of lower portion of the vessels. The upper portion is treated with a red slip. The main shapes include jars and vases with ribbed shoulder.

Fabric C is more common in the pottery of this Period. It is a wheel-turned better-potted and well-fired red ware of medium thickness. The clay is well levigated and the light red slip on it bears a Harappan look. The main types include vases with flaring or out-curved rim and are painted with linear and geometric designs in black pigment over light red surface.

Fabric D, recovered from unstratified levels only, is represented by a few sherds of internally incised troughs. It is a sturdy and well fired red ware. The sherds are unslipped and have a horizontal black band at the rim over a matt red surface.

Fabric E is rare. It is thick and well-fired. The sherds are treated with buff-slip.

Fabric F is characterised by grey ware sherds. It is distinguished from other fabrics by its colour.

Besides the above fabrics a few hand-made sherds of dull red ware are also met with in the ceramic assemblage of the period. It includes dough plates as the common type.

Associated with the Late Siswal pottery are found a few sherds of dish, perforated jar, beaker and pointed base of a vase of the characteristic Harappan ware.

The structures consisted of walls built with sundried bricks measuring 30×20×10 cms. (Pl. V A) laid as headers. An interesting feature is represented by an adobe lining on the internal face of a pit cut into the natural soil (Pl. V). The super-imposed layers of ash suggest the use of thatch for the roof which got burnt down. The antiquities from the period included truncated biconical terracotta beads, painted clay bangles, a sand-stone ball, a saddle quern, a stone flesh rubber, a fragmentary copper bangle and an ivory pin. Although a few Harappan shapes are met with in the period the bulk of the pottery comprises the Late Siswal ware. The structures are identical in style and size of the bricks with those of Kalibangan I. All these features distinguish this period from the succeeding Harappan Period. The co-existence of elements of the two cultures in this period suggests a bilineal evolution of cultures in North India where the Late Siswal people co-existed with the Harappans. There is hardly any evidence for the evolution of the latter culture from the former in our region³⁵ though there is reason to believe such an evidence in the main Indus Valley.³⁶

Period IIA

Period IIA is characterised by the typical Harappan ceramic industry, architecture, household objects and ornaments. The Late Siswal elements, however, survived all through this period without any break.

The ceramic industry of the period may be classified into two groups, viz., (i) the Harappan ware (Fig. 6) and (ii) the Late Siswal ware (Fig. 7).

(i) The Harappan pottery comprises red ware of well levigated clay fired at a high temperature indicated by the uniform red colour of the core. Instances of greyish core of vessels are very few.

The pottery is generally treated with light red slip and commonly painted with black bands at the rim or shoulders, though some of the pots bear no slip or painting. The main types in the pottery include storage jar with a narrow or wide mouth and heavy projecting rim; jar with an out-curved rim and globular body; vase with a beaded rim, raised ledged neck and a globular body; vase with an out-curved rim, narrow neck and tapering shoulder; vase with a beaked rim and concave neck; shallow dish on stand with projected rim; tall stem of dish on stand with or without a drum; dish with a nail-headed rim and flat base; vase with a pointed base; beaker; perforated jar, etc. The handled cup, highly painted 'S' shaped vase and the goblet, so characteristic of the mature Harappan ware are conspicuous by their absence.

(ii) The Late Siswal ware comprises of Fabrics A to F, and occurs in a fairly good quantity.

Fabric A retains its crudity and irregularity of manufacture in this Period too. The fabric varies from medium to coarse. It generally has a grey core though some of the sherds are also burnt complete red. The main types include vase with out-curved rim; jar with out-curved rim and globular body; storage jar with externally thickened rim; vase with a loop handle, and bowls. The vessels are painted in thick black designs over dull to pale red matt surface.

Fabric B is rare. It is of medium thickness and well potted as in Period I. The upper portion of the pot is treated with deep red slip, while the lower portion is rusticated. In one case the two surfaces are demarcated by a black band.

Fabric C is distinguished by smooth and better made vessels turned on the wheel and treated with light or dull red slip. The main shapes are vase with out-curved flaring rim; bowl on stand; bowls with convex or tapering sides, etc. Some of the vases are painted in black with a black band at the rim and neck.

Fabric D is represented by sherds of storage jar with a thick rim and narrow neck, painted in thick black pigment over dull matt red surface.

Fabric E is rare and comprises a vase with featureless out-curved rim and tapering sides. The rim is painted with chocolate band over a thin buff slip.

Fabric F is represented by a vase with out-curved rim and globular body, and a stem of dish-on-stand.

The coarse red ware comprises a thick vase with a loop handle roundish in section; a dough plate, and a bowl. It is fired to a pale, dull red or blotchy surface. The surviving handle of the vase was painted with a thick pinkish slip.

The early levels of Period IIA, though noted on both the mounds, have few remains of the massive structures. It represents a rather formative stage of the culture showing almost the continuity of the pattern of life from the Late Siswal Phase. The culture received a sudden spurt about the mid phase marked by extensive well-planned and solid mud brick structures with a meter-wide walls. Some of the walls have been provided with offsets at the floor level. The bricks generally measure $40 \times 20 \times 10$ cms. and $36 \times 18 \times 9$ cms. as in Kalibangan II. The streets are 1 to 1.70 meter wide and are laid east-west and north-south. They seem to be staggered as at Kalibangan.²⁷

The other finds from the sub-period include a variety of beads of semi-precious stones and other materials like agate, carnelian, faience, steatite and terracotta. The excellent workmanship in the stone beads, careful cutting of the disc shaped paste beads and the decorative variety of the faience beads exhibit a high standard of lapidarian art showing a developed aesthetic sense of the people. The discovery of an unfinished bead and an unworked nodule of agate from the site suggests that

the beads were manufactured locally. The long barrel-shaped carnelian beads, so characteristic of the Harappan sites of the Indus Valley, are conspicuous by their absence. These are not imitated even in clay as done at Lothal.³⁸ The absence of the long carnelian beads and the paucity of the paste-beads might have been perhaps due to the scarcity of the raw materials.

Of the faience bangles only 52 pieces were recovered from this Sub-Period. These show an exceptionally rich variety in shapes and designs. The poor people were, however, content to wear clay bangles of single or multiple rings joined together. The Bangles were sometimes painted with oblique strokes in black over buff or red wash.

The terracotta finds from this Sub-Period include toy-cart wheels, wheeled toys, sling balls, discs with tapering ends, marbles and triangular cakes, etc. The stone objects comprise balls, hammer stones, saddle querns and mullers, cuboid weights, etc. A cubical chert weight and a chert blade from unstratified levels too seem to have belonged to this phase. Besides, an ivory pin or stylus and copper objects such as a bangle and a wire have also been recovered from the Sub-Period.

Period IIB

Period IIB is characterised by a general deterioration in the material culture of the Harappans. The pottery is a red ware and shows a general degeneration in the manufacture, treatment and decoration of pots. The characteristic Harappan shapes such as beaker, storage jar with flanged rim, perforated jar, dish and dish-on-stand with projected rim are scarce and have gradually fallen out of use. The storage jar with collared rim, basin with an undercut rim and carinated shoulder, shallow dish-on-stand with a tapering or drooping rim, deep dish-on-stand with undercut rim and broad squat stem, bowl-shaped lid with a central knob, and vases with high neck and recurved, beaded or flanged rims constitute the typical shapes of the period. An interesting type is a fine flask bearing affinities with those from Cemetery H.³⁹ The surface treatment of the vessels is on the whole poor and often crude, and the slip is generally thin. The painted designs commonly consist of linear and geometric motifs executed in black over red surface.

The Late Siswal elements survived all through Mitathal IIB side by side with the prepondering Harappan elements. But the improvement in the fabric, treatment of the ware with a light red slip and the use of thin pigment in painting blurred the distinctness of the pottery derived from the Late Siswal tradition from the Harappan red ware and the two could now be distinguished only by their typology. A few shapes such as the fine flask, basin with beaked rim, dish-on-stand with under-cut or flaring rim and sharp carinated shoulder, and jar with collared rim and tapering sides recall similar types in the Cemetery H pottery.⁴⁰

A general deterioration is noticed in their architecture. The walls are now not as solid as in the previous phase. Some of them are built of broken mud bricks or mud. But the size of the bricks continued to be the same as in Mitathal IIA. The general orientation of the structures and streets has also not changed much from those in Period IIA.

The streets generally run north-south and east-west, and measure 1.50 to 3.10 meters in width. In some of the houses oval ovens have been discovered. A large jar with a hole in the bottom was found embedded in the ground suggesting its use as a soakage jar. A few circular pits lined with a whitish organic material, measuring approx. 1.30 meter wide and about 2 meter deep, were met with in the habitation area in this phase and recall similar pits in the Cemetery H culture⁴¹. A large number of terracotta discs with tapering ends were found *insitu* in a furnace in the top levels (Pl. VB). The shape and size of the discs shows a regular evolutionary trend from Period I to IIB.

The ornaments of the Sub-Period comprise beads and bangles. The beads are manufactured of agate, carnelian, faience and clay. The arecanut variety of the beads or spindle whorls in clay form one of the links between the Late Harappan and the PGW culture.⁴¹ Faience and terracotta bangles occur in large numbers. The faience bangles show a great variety in decorated designs. The glazed faience bangles seemingly suggest the shapes and designs of the silver bangles so popular in the region in the present age. Only two pieces of shell bangles were recovered and might indicate the scarcity of the raw material perhaps owing to the remoteness of its source. The terracotta toys include the usual toy-cart wheels and wheeled animal toys.

The stone objects include spheroid and cuboid weights, sling balls, hammer stones, saddle querns and mullars.

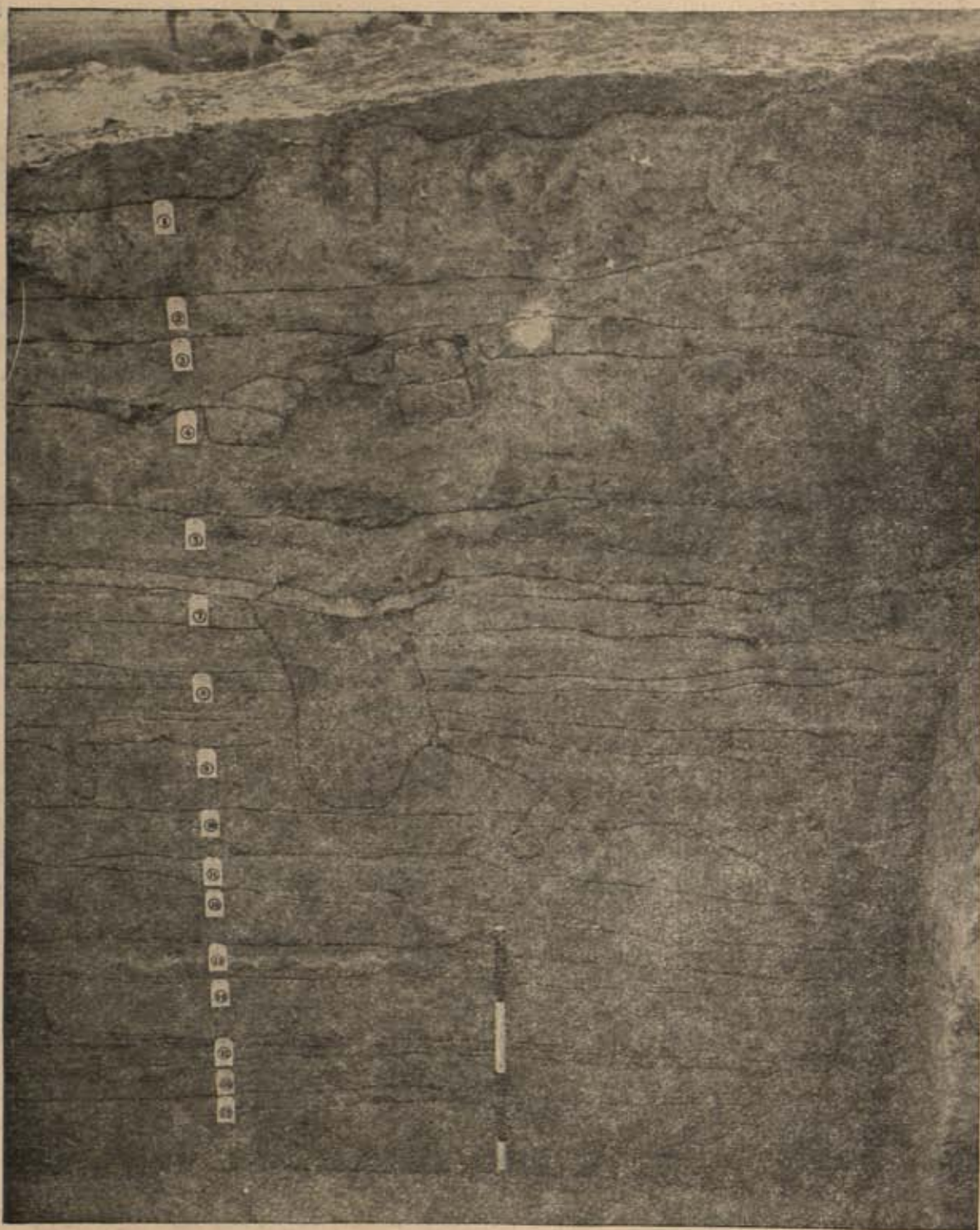
The most significant of the finds of this period are the copper implements which contain a flat celt, a ring, a *parasu* and bangles. To these may be added the harpoon⁴² found earlier in course of ploughing on the mound. An almost identical harpoon was found to be stratigraphically associated with the OCP at Saipai⁴³ in Etah district. The chemical analysis of the metal objects from the Mitathal excavations has revealed that the Mitathal people used pure copper obtained by an advanced metallurgical technique in all the periods (see Appendix A).

THE END OF THE SITE

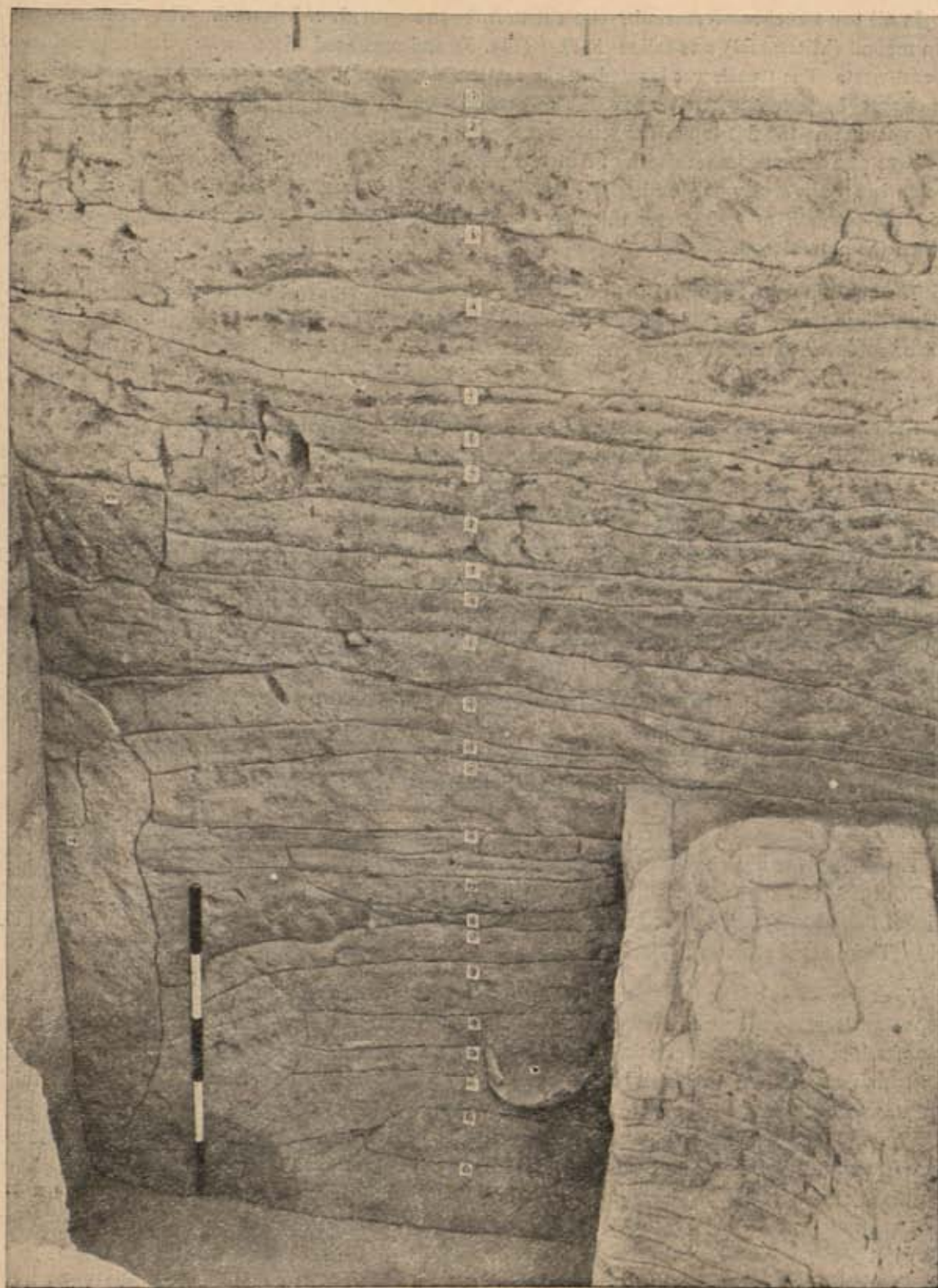
What brought about the end of this settlement is difficult to say in the absence of any internal evidence. The gradual decline of the material culture from the mid-Harappan times at Mitathal suggests that the end of the Harappa culture was not sudden and catastrophic but was a rather long drawn one which admits a greater possibility of natural causes. There is reason to believe that the Indo-Gangetic Divide suffered from growing desiccation in the sub-recent times. The drying up of the Sarasvati nadi has been alluded to in the later Vedic literature.⁴⁴ The occurrence of the post-Harappan PGW sites (generally dated to the first half of the first millennium B.C.) within the flood plain of the Sarasvati in northern Rajasthan⁴⁵ and Haryana and their conspicuous absence from the lower Drisadvati and Yamuna dry beds in Hissar region as observed by the author,⁴⁶ suggest the growing arid conditions in the Indo-Gangetic Divide atleast in the post-Harappan times. In the absence of any substantial evidence suggesting a climatic change in north India during the last four thousand years as hinted by G.F.Dales⁴⁷, perhaps the growing desiccation of the lower Sarasvati basin might have resulted from the hydrological changes.

The explorations conducted by the author in the Indo-Gangetic Divide have revealed that the Yamuna or atleast one of its tributary had anciently flowed by the side of Mitathal.⁴⁸ It seems to have drifted eastwards to acquire the easterly course along Karnal, Panipat, Sonapat and Delhi in the PGW times. The absence of pre-PGW sites on the easterly course of Yamuna and the non-occurrence of the PGW sites on the lower westerly course of Yamuna suggest that the river had started drifting eastwards in the pre-PGW times and the drift was completed by the beginning of the PGW Period.⁴⁹ This must have led to the gradual decline of the Harappa culture on the westerly course of Yamuna and ultimately forced the desertion of the site.⁵⁰

Similar hydrological changes also seem to have occurred in cases of Sarasvati and Drisadvati in the adjoining region. Both the rivers seem to have been caught by the Yamuna in its upper course.⁵¹ It is significant that the colonisation of the upper Haryana and the Ganga-Yamuna Doab by the Harappans coincides with this late phase.⁵²



MLT 1 : Deep cutting (pegs I-IV)



MTL 1 : Deep cutting (pegs XVII—XX)

4. THE CUTTINGS

In all two trenches were sunk, one each on the two mounds of Mitathal. The trench cut on the eastern mound (Mitathal 1) was called MTL-1 (Fig. 3) and measured 25×6 metres, its longitudinal axis being east-west. The trench was located on the eastern slopes of the mound so as to cover the find spot of the copper harpoons referred above. The second trench, called MTL-2 (Fig. 4), measuring 10×6 meters, was dug on the flat top of the western mound (Mitathal-2) with its longer axis being north-south. MTL-1 was dug to a maximum depth of 5 meters with a 4.15 meter thick cultural debris above the natural soil comprising yellow clay and kankar (Pl. III, Fig. 1). MTL-2 was excavated to a maximum depth of 4.50 meters with a 3.68 meter thick average cultural deposit (Fig. 2) above the yellow clay which comprised the natural soil.

The cultural debris of MTL 1 is divided into two periods, viz; Periods I and II. Period II is further subdivisible into two phases, viz., Phases IIA and IIB. While MTL 1 has yielded the remains of all periods or sub-periods, in MTL 2 are encountered Periods IIA and IIB only.

Period I:

The remains of Period I are confined to the easternmost portion i.e. between pegs 0-V in MTL-1 only. The average deposit of this Period which overlies the natural soil is 75 cms. (Fig. 1). It comprises layers 13 to 17. There occur three floor levels sealed by layers 16, 14 and 12 respectively from bottom upwards (Pl. II). The upper two show signs of burning.

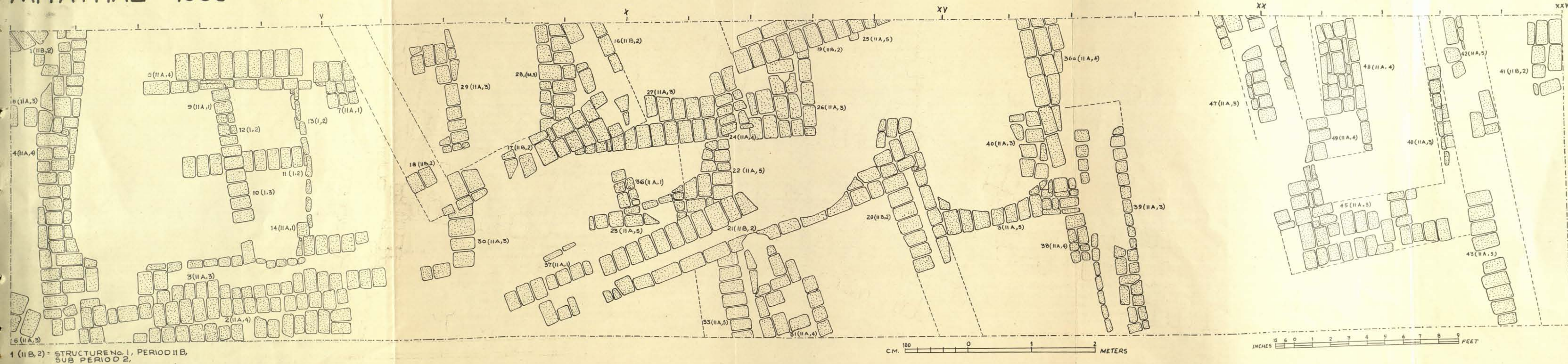
Three structural phases were encountered in this Period. The first phase is represented only by a flooring (Layer 17) which occurs in a pit cut into the natural soil. Structural phase 2 is comprised of mud brick wall (Str. 12) running north-south, another wall (Str. 11) running east-west and a rough facing of adobe (Str. 13) provided against the natural soil and laid north-south (Pl. VA) and structure 12 measuring 1.92 m. long and 30 cms. wide. It has two courses and is contemporary with layer 15. The bricks of the wall measure $30 \times 20 \times 10$ cms. Structure 13 has two courses of adobe which are of irregular size. The third structural phase comprises of a mud brick wall running north-south (Str. 10). The wall is single brick wide and measures 2.12 m. long. It has maximum three courses of bricks preserved. The structure is contemporary with layer 13.

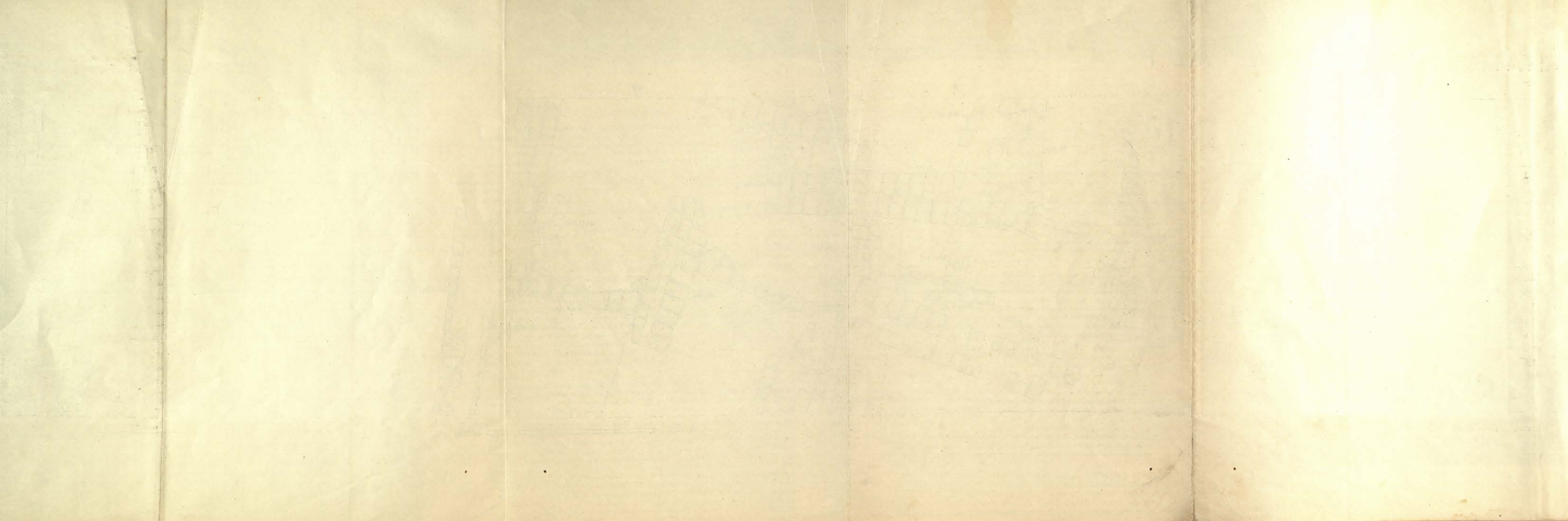
Period IIA

The Sub-Period has an average deposit of 2.50 meters in MTL 1 (Fig. 1) and 2.65 meters in MTL 2 (Fig. 2). In MTL 2 the deposit overlies the natural soil directly, while in MTL 1 it partially overlies deposits of Period I. The deposit comprises of layers 12-6 in MTL 1 (Fig. 1) and Layers 16-11 in MTL 2 (Fig. 2). There are 5 structural phases.

The early levels of the Sub-Period comprising two structural phases mark a formative stage of the Harappan settlement at the site. The structures are few and comprise of mud brick walls. There is a thick deposit of ash in these layers suggesting the existence of thatched roofs. The bricks measure $36 \times 18 \times 9$ cms. There is, however, noticed an exuberance of culture at the end of structural phase 2 when solid mud-brick structures were constructed all over the site rather abruptly. The structures are sometimes as thick as one meter and are provided with offsets at the foundation levels. The bricks measure $40 \times 20 \times 10$ cms. The occurrence of brick bats attests the use of burnt bricks in this phase. The structural phase 1 is comprised of structures 7, 9, 14, 36 and 37 in MTL 1 (Fig. 3) and structures 21 and 22 in MTL 2 (Fig. 6). Structures 20a, 18 and 14 in MTL 2 comprise structural phase 2. The third structural phase contains structures 6, 4a, 8, 3, 29, 30, 26, 27, 28, 30, 40, 45, 46 and 47 in MTL 1 and structures 20, 19, 15, 16, 12, 11, 13, 7 and 8 in MTL 2. The fourth structural phase comprises of structures 5, 4, 2, 31, 38, 36, 48, 49 in MTL 1 and structure 10 in MTL 2. The fifth structural phase includes structures 33, 22, 23, 36, 37,

MITATHAL 1968 PLAN MTL I





MITATHAL 1968: PLAN MTL 2

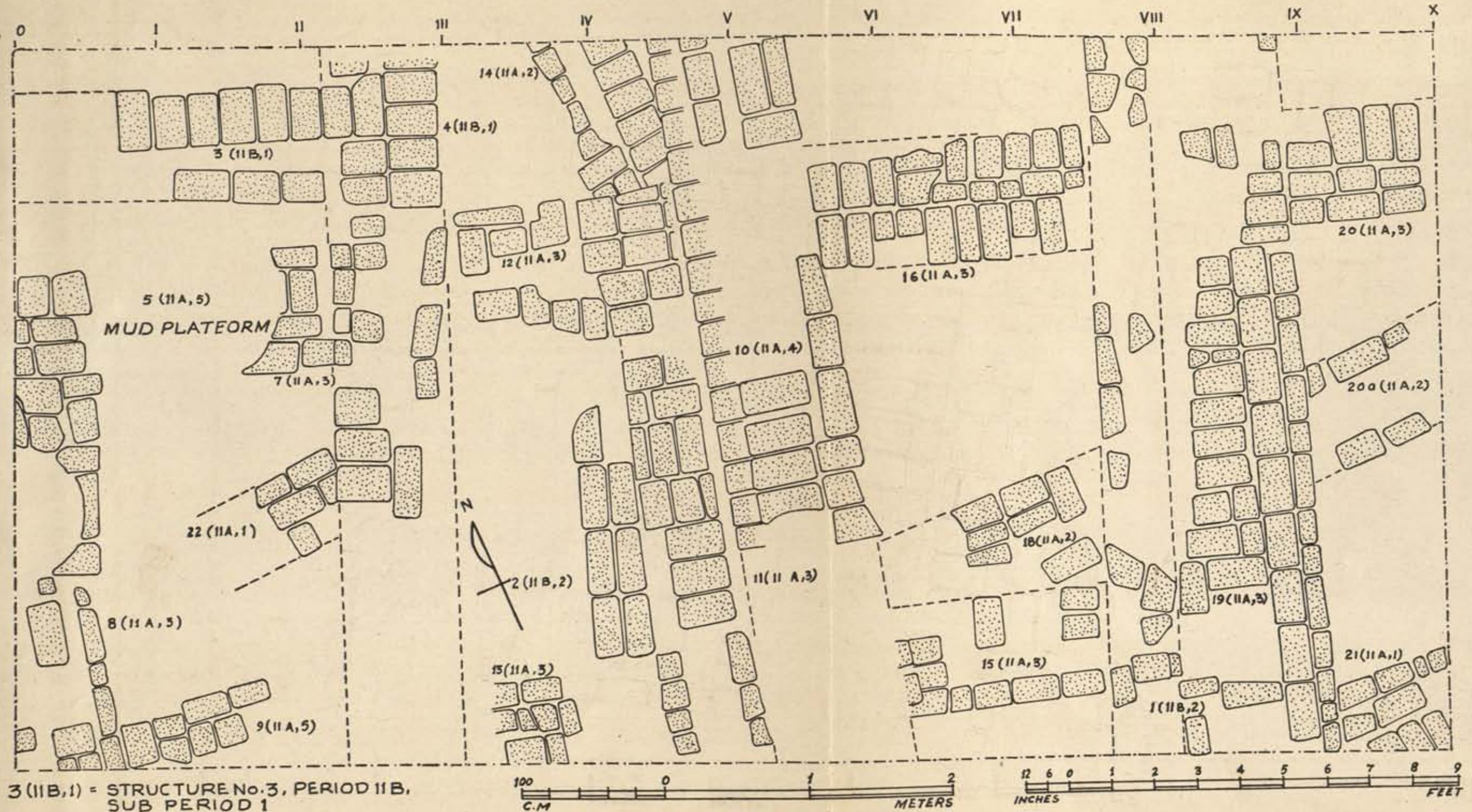
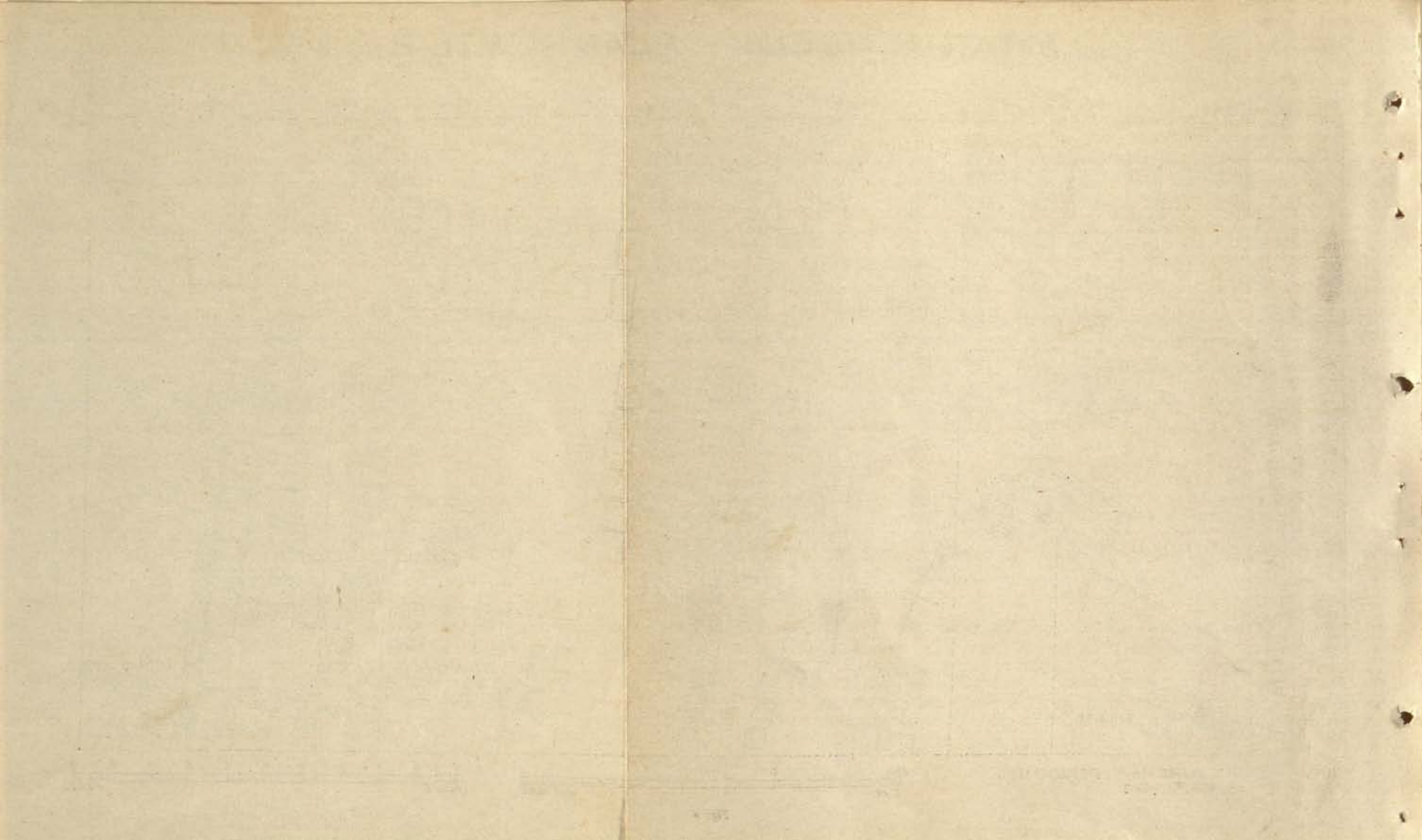


Fig. 4



25, 42 and 43 in MTL 1 and structures 5 and 9 in MTL 2. The bricks in 3rd, 4th and 5th structural phases generally measure $40 \times 20 \times 10$ cms.

The settlement appears to be planned with streets oriented east-west, and north-south. The streets are staggered as at Kalibangan and measure 1 meter to 1.70 meter wide (Figs. 3 and 4).

Period IIB :

The Sub-Period IIB which marks the decline of the Harappa civilization at the site occurs in both the trenches. The debris of the phase measures on average 1.65 meter in MTL 1 (Fig. 1) and 1.25 meters in MTL 2 (Fig. 2). The deposit comprises of layers 5-1 in MTL 1 and 10-1 in MTL 2.

The Sub-Period is marked by a gradual decline in its constructions as well as the other material equipment. The houses are made of mud bricks or mud. In several cases fragmentary mud bricks have been used possibly removed from earlier structures. The bricks measure $40 \times 20 \times 10$ cms. The Phase comprises of two structural periods occurring in MTL 1 and MTL 2 both.

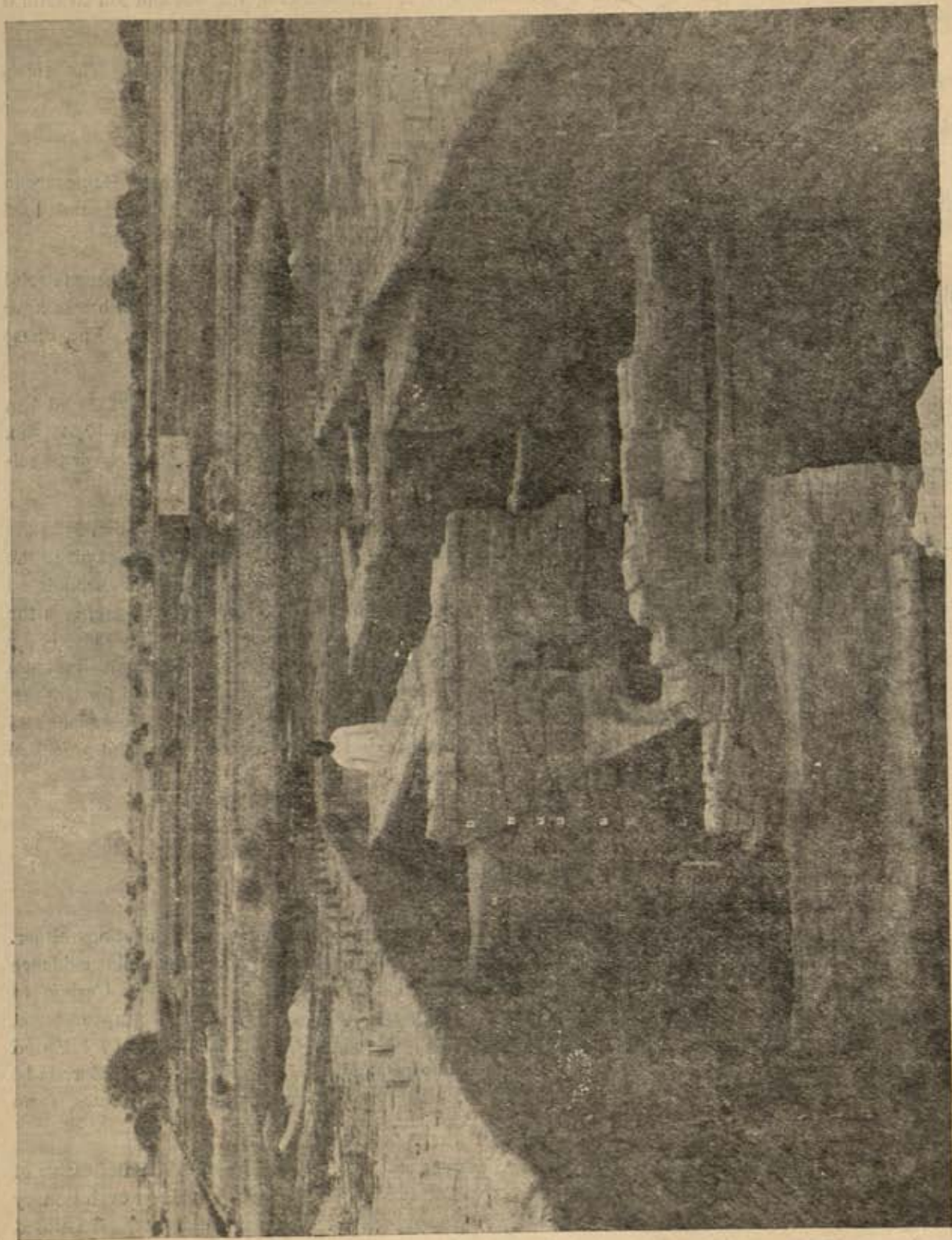
Structural phase 1 includes structures 1x, 19x and 20x in MTL 1 and structures 3 and 4 in MTL 2. The second structural phase is represented by the structures 1, 16, 17, 18, 20, 21, 19, 41, 48x and 36x in MTL 1 and structures 1 and 2 in MTL 2 (Figs. 3 and 4). This structural phase is distinguished by mud walls or walls of fragmentary mud bricks.

The walls in this Phase are not as solid as in the previous Sub-Period. The streets (Fig. 3) in the Sub-Period measure 1.50 meter to 3.10 meter wide. Some of the houses have oval ovens. A fire pit in the top levels of MTL-1 contained a number of terracotta discs *insitu* where they were placed for being fired (Pl. VB). Although no evidence of drainage is noticed in this Sub-Period, a large jar with a hole in the bottom seems to be used apparently for soakage purposes. A very interesting feature of this phase is the occurrence of several circular and cylindrical pits lined with chaff mixed clay. The pits measure generally 1 to 1.30 meter in diameter and 1 to 2 meter deep. Perhaps the pits were used for storage. Similar pits have been reported from Cemetery H levels at Harappa.⁵³ The purpose of a circular mud plinth in MTL 2 in the phase is also not clear. This platform is 1.30 meter in diameter and preserved to a height of 30 cms. It overlies an oblong fire pit full of ash.

5. CHRONOLOGY

Few datable finds have been recovered from the site. There are no Carbon 14 determinations either. As such the absolute chronology for the site has to be worked out by cross dating. The main evidence is provided by : for Period I, typology of the Siswal ware and the Harappan association and Carbon 14 determinations from pre-Harappan levels at Kalibangan; for Period IIA, typology of the Harappan ware, Carbon 14 determinations from Harappan levels at Kalibangan, Mohenjodaro and Lothal; and for Period IIB, typology of the Late Harappan ware and the Metal tools from Mitathal, Saipai, Kurdi, etc. Carbon 14 determinations from Kalibangan, Atranjikhra and Navdatoli and Thermoluminescence dates from OCP sites of the Doab.

Period I : The ceramic industry of this Period corresponds with that of Siswal B⁵⁴, a derivative of Kalibangan I. It represents all the fabrics i.e. A to F, noticed at Kalibangan though an evolutionary or rather devolutionary trend is apparently noticeable in shapes, fabric, surface treatment and painted designs (see pp. 12-15). Besides, the painted clay bangles, terracotta discs, sling balls, saddle querns and pestles and the use of mud bricks measuring $30 \times 20 \times 10$ cms. suggest Kalibangan affinities of Mitathal I.



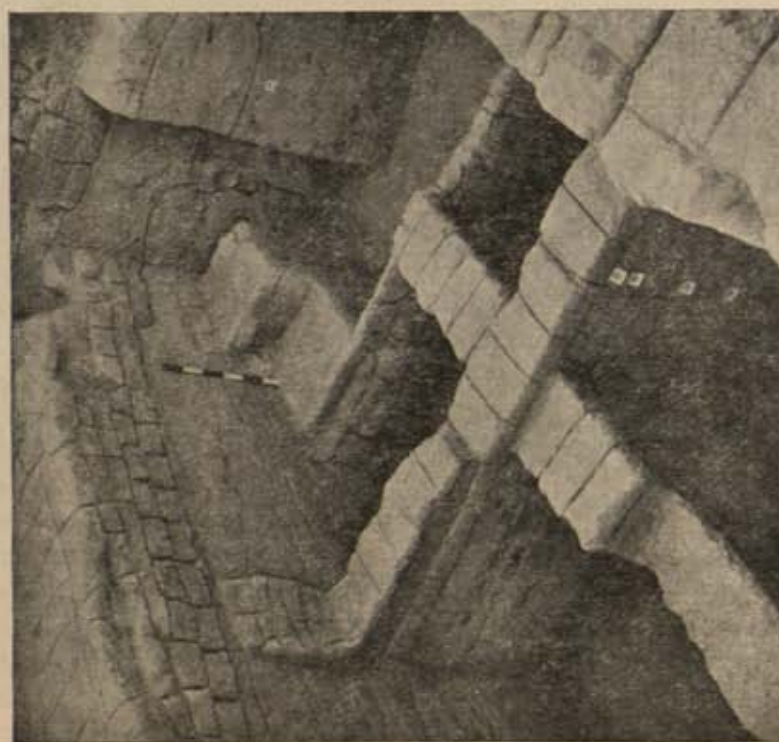
MTL-1 : General view of structures (looking east)

But the paucity of pottery types and painted designs, the latter being mainly confined to simple black band in black, the absence of the use of white pigment in painted designs and blades, the rather sturdy character of the pots and the association of a few Harappan types with the otherwise fully non-Harappan culture complex, suggests a later stage of the culture at Mitathal I, perhaps not earlier than the end of Kalibangan Period I.

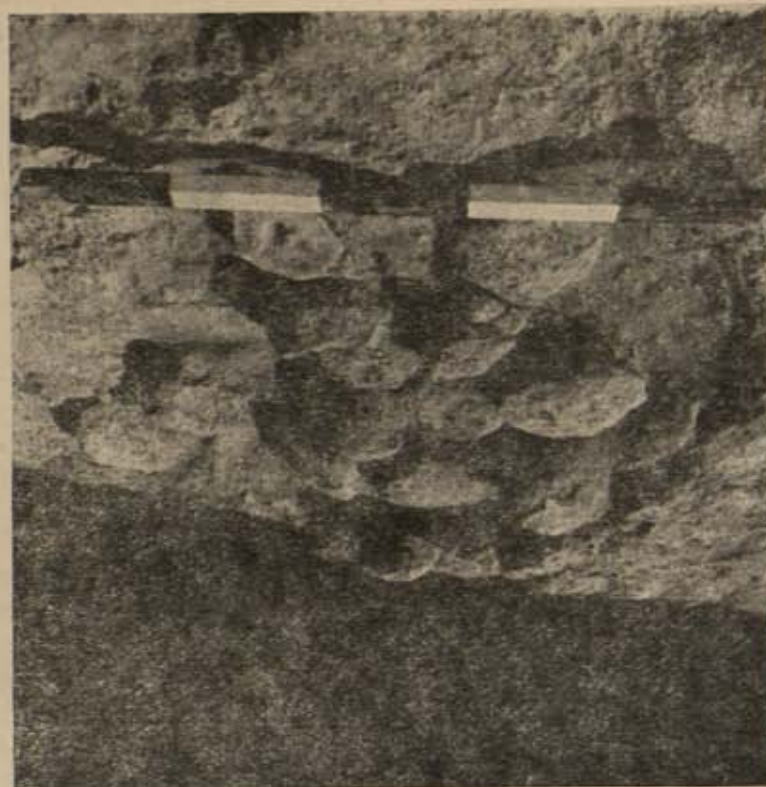
There are nine Carbon 14 dates from Kalibangan Period I⁵⁵ and the central date for the end phase of the period is 1900 ± 110 B.C. (TF—156). The earliest date from just above the natural soil is 2370 ± 120 B.C. (TF—155). For an internal consistency of the dates D.P. Agarwal takes the mean for early phases as 2296 ± 56 B.C. and by adding a standard deviation error on it, puts it at 2360 B.C. rounded to C. 2400 B.C. On the other hand he again adds a standard deviation to the central date for the end phase to place it at C. 2000 B.C. Thus on the basis of C. 14 dates Agarwal assigns a bracket of C. 2400–2000 B.C. to Kalibangan Period I.⁵⁶ Since Mitathal I represents a late stage of Kalibangan I culture it may begin where Kalibangan I ends. Total cultural accumulation in this Period being not more than a meter it can reasonably be assigned about a century on archaeological grounds. Thus Mitathal Period I may be placed between C. 2000 B.C. and 1900 B.C.

Period IIA : This phase is characterised by the typical Harappan features represented by the twin mounds, use of English bond in architecture, the mud bricks measuring $40 \times 20 \times 10$ cms. in size, terracotta triangular cakes, toy cart wheels and marbles, saddle querns and rubbers, cubical chert weight, chert blade and beads of carnelian, agate and paste (disc type), and bangles of terracotta, copper, shell and faience (Pl. XXIX). The occurrence of sturdy red ware represented by dish on stand, dish, perforated jar and storage jar with flanged rim and the use of reserved slip suggest a mature Harappan phase though not so much exuberant in variety of shapes and designs as in the main centers of the civilization. On typological grounds the phase corresponds to Kalibangan II, Lothal A, Rupar I (lower phase), and Rangpur II A. But the absence of the 'S' shaped painted vase, handled cup, scored goblet, the peacock, pipal leaf, intersecting circles and other characteristic mature Harappan shapes or designs, the absence of the deep red glossy slip as well as the limited occurrence of perforated jar, beaker, storage jars with flanged rim, tall dish on stand with drum and shallow dish, the non availability of seals and long carnelian beads, and the rarity of steatite beads, cubical chert weights, etc., represent a late-mature Harappan culture rather than the full bloomed Harappan. Thus Mitathal IIA would better correspond to the late phase of Kalibangan II, Lothal A, etc.

The Carbon 14 dates at Mohenjodaro from Dale's excavations⁵⁷ have completely upset the later limit for the culture worked out by Agarwal in 1964. Now the average date on six samples from late levels comes to $C. 2005 \pm 25$ B.C. on the basis of which Agarwal likes to place the end of the Harappan settlement about C. 2000 B.C.⁵⁸ At Kalibangan the Carbon 14 determinations from late levels of Period II provide C. 1700–1800 B.C. as the safe limit for the end.⁵⁹ That the end of Kalibangan II and Mitathal IIA coincided can be guessed from the common causes responsible for the desertion and decline of the respective sites by the Harappans. The explorations by the writer in the Sarasvati basin have shown beyond doubt that the end of the Harappa civilisation in the Sarasvati basin was brought about by growing desiccation resulting from the hydrological changes. The shifting of the Yamuna eastwards and the catching of the Sarasvati and Drisadvati by it in the upper reaches might have resulted in the scarcity of water in lower Haryana and North Rajasthan, the conditions being more acute in Rajasthan, which resulted in the overall decline of Harappa culture in our region and forced the occupants of lower Sarasvati to migrate upwards in search of better conditions of life.⁶⁰ Thus the end of Mitathal IIA which coincided with that of Kalibangan II can be placed about 1700 B.C. Hence Mitathal IIA may be assigned a date between C. 1900 B.C. and 1700 B.C.



A. MTL 1 : Walls 9-13, etc. (Period I), and 5 (Period IIA).



B. MTL 1 : Terracotta discs in the furnace (Pd. IIB)

Period IIB : This Phase at Mitathal is characterised by a general decline in the material culture of the people reflected in the poor architecture, inferior products of pottery, household objects and ornaments. Much more than any other material, pottery shows a regular devolution in shapes. Some of the classical Harappan shapes such as dish, beaker, perforated jar, 'S' shaped jar, etc; are either rare or have been dropped. The tall dish on stand with or without a drum is replaced by a squat dish on stand with undercut rim. The sturdy dish on stand with everted rim now develops a drooping rim. The storage jars have developed squarish, triangular or collared rim. The cubical stone weights are replaced by discoid stone weights. Among the metal tools, besides the Harappan celt there occur a *Parasu* and a ring. Cemetery H influences are also noticed in a fine flask, dish on stand and the jars with collared rim and tapering shoulder.⁶¹ A vase with flanged rim and sherds bearing incised decoration on the exterior are typically Bara⁶² in style.

Thus the over all picture of the assemblage of this phase suggests that the Harappa culture at Mitathal survived in a decadent stage even after it had disappeared at Kalibangan or other main centres of the culture farther west. On typological and stratigraphical grounds, therefore, it may be assigned a date later than the end of Kalibangan Period II i.e. C. 1700 B.C.

A comparative study of the Mitathal IIB pottery and copper tools with those from other contemporary sites provides an interesting evidence for cross dating. The vase with flanged rim, loop handle bowl, vases with high necks, bowl like lids, bowl cum basins with projected rims as well as the squat dish on stand with undercut rim or dish on stand with drooping rim occur at Rupar,⁶³ Bara,⁶⁴ Bargaon,⁶⁵ Ambkheri,⁶⁶ etc. On the other hand an identical copper harpoon occurs at Saipai in association, with the O.C.P. ware⁶⁷. A similar *parasu* was found in a hoard of copper implements at Kurdi,⁶⁸ Nagaur district, Rajasthan which also contained a channel spouted bowl, a characteristic type of the Malwa Ware.

No Carbon 14 dates exist for the corresponding phases at the above sites. But the Carbon 14 determinations at Atranjikhhera for the late levels of P.G. Ware,⁶⁹ which succeeds the late Harappan culture at Rupar, Alamgirpur, Daulatpur, etc., but does not overlap, can be extrapolated to date the OCP phase to pre 1200 B.C. This is also the date for the OCP phase at Hastinapur Period I suggested by B.B. Lal on literary and archaeological grounds.⁷⁰ There is reason to believe on typological grounds that the OCP phase in the *Doab* survived for a little longer time than the Late Harappan sites particularly in the Sarasvati basin further west at Mitathal. Granting a period of nearly two centuries to the 1½ meter thick deposit of Mitathal IIB on archaeological grounds the phase can be assigned a period between C. 1700 B.C. and 1500 B.C. allowing a margin of nearly three centuries for the OCP. Such a date for the upper layers of Mitathal IIB is also corroborated by the evidence of Kurdi referred above. The channel spouted bowls appear at Navdatoli in Period III dated by Carbon 14 about 1500 B.C.⁷¹ On the basis of the Thermoluminescence dates for Lal Qila, B.B. Lal worked out first half of the second millennium B.C., to be the approx. date for Saipai.⁷² It may be recalled that the harpoons at Saipai⁷³ and Mitathal are almost identical.

Thus the site of Mitathal continued to be occupied for nearly 500 years i.e. between C 2000 B.C. and 1500 B.C. and its various phases may be dated as under :

Mitathal Period I	...	C. 2000-1900 B.C.
Mitathal Period IIA.....		C. 1900-1700 B.C.
Mitathal Period IIB		C. 1700-1500 B.C.

6. THE POTTERY

A. Period I

(Fig. 5 and Pl. VI)

The pottery from Mitathal I is chiefly comprised of the late Siswal ware and can be classified into six fabrics as at Kalibangan⁷⁴ on the basis of difference of clay, potting, surface treatment, firing, etc.

Fabric A is characterised by medium to thin red ware having medium coarse fabric containing lime particles and fired generally at a high temperature to a brick red colour. The clay is not well levigated and the potting is generally done on a slow wheel. The interior of the vases is mostly irregular due to luting of the neck and the excess clay has been scooped out with the help of bamboo chips. The surface of the pots is devoid of any treatment and bears dull matt red appearance. The pots are generally painted at the rim. Block band painted in black above the shoulder of the vases is a common feature. The main shapes include storage jar with wide mouth; vase with out-curved or short out-turned rim; jar with thick out-curved rim and globular body, and bowl with flat topped or grooved rim and tapering sides or out-turned externally grooved rim and tapering sides. The typical Kalibangan I⁷⁵ bichrome painting on vases with the additional use of white pigment is conspicuous by its absence in Mitathal I and the vessels are painted only in black.

Fabric B is on the whole limited and is distinguished by a medium to thick red ware thrown on wheel. Its external surface is rusticated by applying a coating of sandy earth below the shoulder. The upper portion of the pots is treated with a thin light red slip. The rusticated exterior is also decorated with fingers, bamboo chip or fibre marks forming mild but generally parallel grooves bearing general similarities with the Quetta Wet Ware⁷⁶ and Fabric B of Kalibangan I.⁷⁷ The pots are mostly burnt to greyish core. Few shapes could be made out from the fragmentary sherds in the Fabric (Pl. VI, 8 and 10).

Fabric C is the most common of the fabrics at the site. It is characterised by a medium fabric akin to the Harappan, the ware is thrown on fast wheel and treated with a light red or pinkish to dull red slip. The clay is better levigated and contains less of *kankar*. The pots are fired to an ochreous red core. The surface treatment is poor and a slip of thick consistency is rarely applied. Some of the vessels specially the bowls with out-turned rim and tapering sides seem to be self slipped. The main shapes in the fabric include vases with out-curved or short everted rims and bowls. The rim or shoulders of the vases are generally painted in black with simple horizontal bands.

Fabric D is represented by a limited number of sherds of thick storage jar and jar with out-turned rim and globular body. Some of the sherds are decorated with cord impressions. The sturdy and internally incised trough, so characteristic of this fabric in Kalibangan I,⁷⁸ is not recovered from the stratified levels of Mitathal I, though a few sherds found from unstratified deposits may indicate the presence of the type.

Fabric E is distinguished by a buff slip. In fabric, potting, firing and surface treatment the ware is hardly distinct from other Fabrics.

Fabric F comprises of a few grey ware sherds. It includes vases with out-curved rim. But for its grey colour it is hardly distinguished from the other Fabrics.

Besides the above Fabrics a few crude hand-made dull red sherds and a few Harappan sherds have also been found in this period. In case of the hand-made ware the clay is tempered with chaff. The only type met with is a dough plate.

The Harappan ware is quite distinct from the Late Siswal ceramic industry in fabric and typology. It includes fragmentary sherds of perforated jar, dish, beaker and vase with pointed base. The pots are wheel made, well fired and have better levigated clay. These are generally devoid of any slip.

Very limited decorated designs are met with in the ceramic assemblage of Mitathal I. The painted designs in Fabric A generally include a block band in black at the rim, neck and shoulder of vases over matt red surface (Fig. 5, 4—6). Fabric C, is painted with a few strokes or suspended double loops in black pigment over light red slip (Pl. VI, 1—2; Fig. 5, 1, 15). The use of white pigment in addition to black, so characteristic of Kalibangan I and Siswal A, is conspicuous by its absence in Mitathal I.

The incised designs are also met with on a limited number of sherds and include grooved flowing lines on the interior of troughs in Fabric D, parallel ridges over rusticated surface in Fabric B and cord impressions on sherds of Fabric D (Pl. VI).

Late Siswal and other wares (Fig. 5)

1. Fragment of a vase of Fabric C with flaring rim and ovaloid body. It is of medium coarse fabric, burnt to brick red core and painted with block band in black above the shoulder over light red slip. The slip and the painting have largely flaked off. From a mid level of Period I. Cf. Kalibangan I⁹ (IA 1962-3 : Fig. 3, 1).

2. Fragment of a vase of Fabric C with out-turned rim, concave neck and tapering shoulder. It is of medium fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulder over light red slip. From an early level of Period I. Cf. Atranjikhra I⁸⁰ (IA, 1963—4 : Fig. 11, 3).

3. Fragment of a vase of Fabric C with short out-turned rim and globular body. It is of medium coarse fabric, burnt to brick red core and painted with black lines at the rim and belly over light red slip. From a mid level of Period I. Cf. Saipai⁸¹ (Puratattva, 5 : Fig. 21, 15).

4. Fragment of a vase of Fabric A with short out-turned rim and tapering shoulder. It is of medium coarse fabric, burnt to brick red core and painted with black block band above the shoulder over matt red surface. From a top level of Period I.

5. Fragment of a jar of Fabric A with an out-turned and externally grooved rim, short neck and expanding shoulder. It is of medium coarse fabric, burnt to brick red core and painted with black block band above the shoulder. From a late level of Period I. Cf. Saipai⁸² (Puratattva, 5 : Fig. 21, 14).

6. Fragment of a vase of Fabric A with short out-turned rim and tapering shoulder. It is of medium coarse fabric, burnt to brick red core and painted with black block band above the shoulder over matt red surface. From a late level of Period I.

7. Fragment of a jar of Fabric A with an out-turned or clubbed rim and rounded body. It is of medium coarse fabric, burnt to brick red core and painted with a black band at the rim over a self slipped light red surface. From an unstratified level. Cf. Bahadarabad⁸³ (Puratattva, 5 : Fig. 14, 17).

8. Fragment of a vase of Fabric F with an everted rim, raised neck and tapering shoulder. It is of medium fabric and burnt to grey core and surface. From a mid level of Period I.

9. Fragment of a storage jar of Fabric D with a wide mouth, out-turned beaked rim and convex profile. It is of medium coarse fabric, burnt to brick red core and painted with a black horizontal band at the rim over light red slip. From a mid level of Period I. Variant 9 A is distinguished by an externally grooved thick out-turned rim and a smaller size. From an early level of Period I.

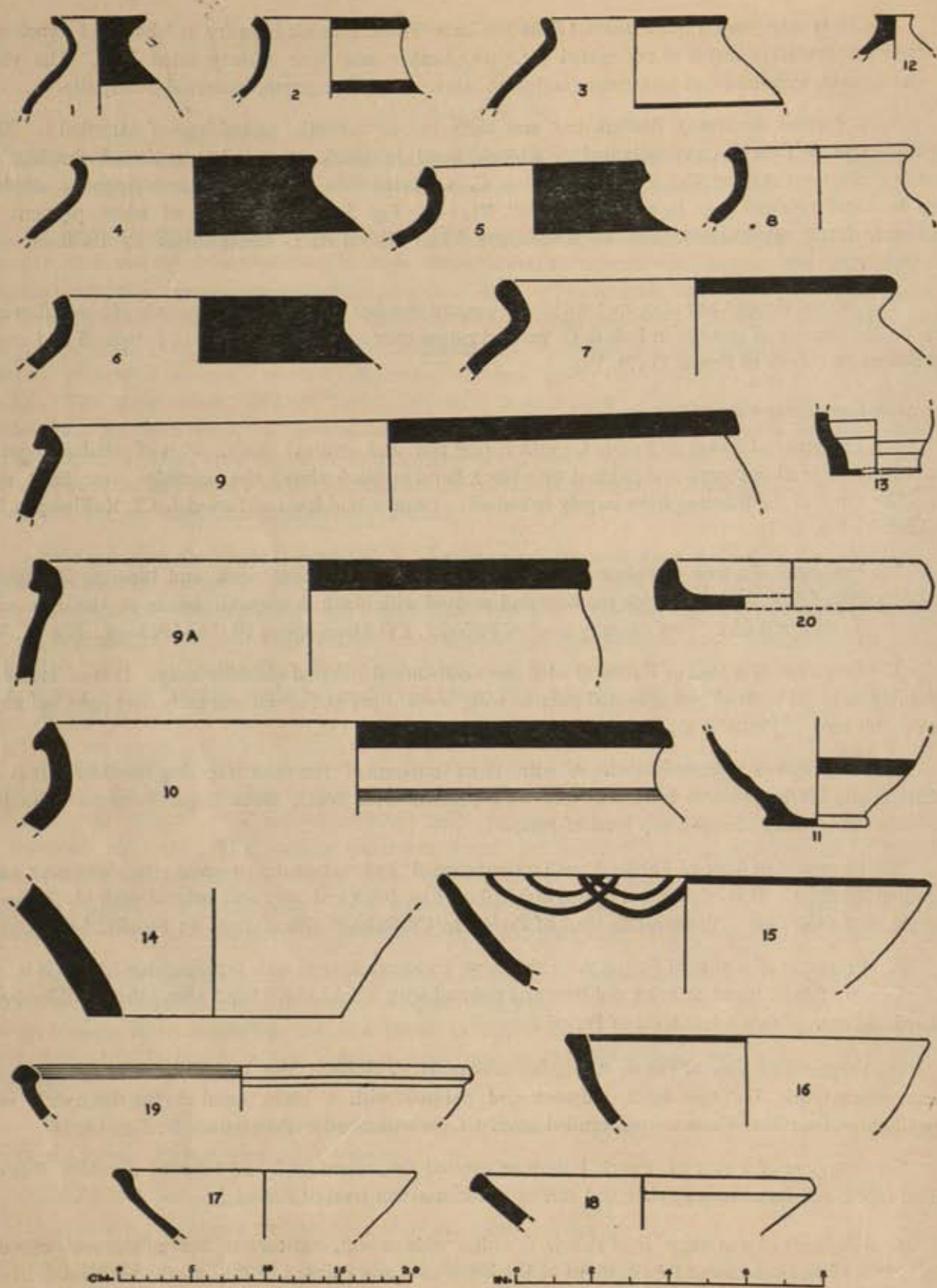


Fig. 5 Pottery from Mitathal I : Siswal and other wares

10. Fragment of a large storage jar of Fabric D with an out-curved beaked rim and concave neck. It is of medium coarse fabric, burnt to brick red core and painted with black band at the rim over pinkish red slip. From a late level of Period I.

11. Bottom of a vase of Fabric C with a disc base and internally grooved tapering sides. It is of medium fabric burnt to a brick red core and painted with a black horizontal band on the lower body over red slip. From a mid level of Period I.

12. Fragment of a lid of Fabric C with a short button knob on top. It is of medium fabric and burnt to brick red core. From a mid level of Period I.

13. Bottom fragment of a Harappan beaker. It is of medium fabric, burnt to brick red core and devoid of any slip. From a mid level of Period I.

14. Fragment of a sturdy vessel of Fabric E with a hollow base and internally tapering sides. It is of medium coarse fabric, burnt to brick red core and treated with a buff slip. From a mid level of Period I. Cf. Bahadarabad⁸⁴ (Puratattva, 5; Fig. 13, 14a).

15. Fragment of a bowl-cum-basin of Fabric C with externally grooved blunted rim and tapering sides. It is of medium coarse fabric, burnt to grey core and painted with a black band at the rim and double suspended loops on the interior below a line over light red slip. From an unstratified level. Cf. Kalibangan I⁸⁵ (IA, 1961-2; Fig. 16, 27).

16. Fragment of a bowl of Fabric C with flat topped everted rim and convex sides. It is of medium coarse fabric, burnt to brick red core and painted with a black band on the interior of the rim over red slip. From a late level of Period I. Cf. Kot Diji⁸⁶ Layer 7 (PA, 2: Fig. 24, 4), Atranjikhhera⁸⁷ (IA, 1963-4: Fig. 11, 10).

17. Fragment of a Harappan dish-cum-basin with a nail headed rim and tapering sides. It is of medium coarse fabric, partly burnt to greyish core and painted with a black band at the rim over light red slip. From a mid level of Period I.

18. Fragment of a bowl-cum-dish of Fabric C with externally levelled rim and tapering sides. It is of medium coarse fabric and burnt to red core. From a mid level of Period I.

19. Fragment of a Harappan dish with nail headed rim and tapering sides. It is of medium coarse fabric, burnt to brick red core and devoid of any surface treatment. From a late level of Period I.

20. Fragment of a dough plate of chaff mixed coarse red fabric. It is hand-made and treated with a buff wash. From a late level of Period I. Cf. Harappa⁸⁸ (AI, 3: Fig. 10, 44).

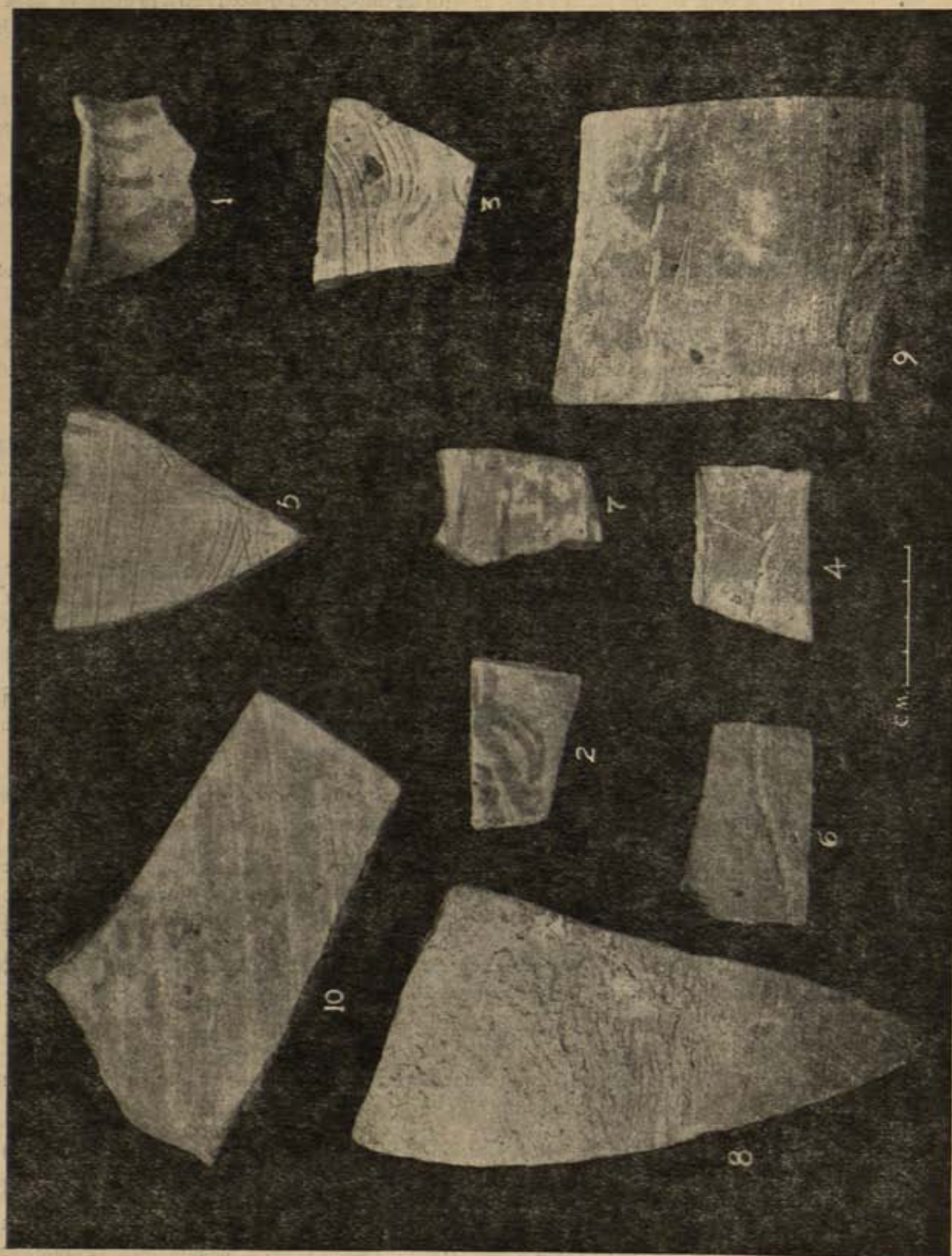
Plate VI

1. Sherd of a vase of Fabric C, painted with black horizontal band at the rim and oblique conical strokes below at the neck and shoulder over light red slip. From a late level of Period I.

2. Sherd of Fabric C, painted with black horizontal bands enclosing double suspended loops, and a wavy line above over light red wash. From a mid level of Period I.

3. Sherd of a trough of Fabric D, decorated with incised parallel and flowing partly overlapping grooves in groups of four on the interior. From a late level of Period I. Cf. Bahadarabad⁸⁹ (Puratattva, 5: Fig. 13, 15).

4. Sherd of Fabric D, decorated with rope marks on the exterior. From a late level of Period I.



Late Siswal Ware, painted and incised designs (Period I)

5. Sherd of Fabric D, decorated with shallow incised horizontal and flowing lines on the interior and rusticated on exterior. From a late level of Period I.
6. Sherd of Fabric D, decorated with a wavy rope design. From an unstratified level.
7. Sherd of Fabric B, decorated with mild parallel ridges formed by fingers over rusticated exterior. From an unstratified level.
8. Sherd of a trough of Fabric D with rusticated exterior. From an early level of Period I.
9. Sherd of Fabric D, decorated with rope marks on the exterior. From a late level of Period I.
10. Sherd of Fabric B, decorated with mild parallel ridges formed by fingers over rusticated exterior. From an unstratified level.

B. Period II A

(Figs. 6 and 7 ; Pls. VII and VIII)

The Sub-Period is characterised by the predominance of the Harappan ware in the otherwise continuous Late Siswal ceramic tradition of the site. The Harappan pottery is a red ware of medium fabric, well levigated clay and generally burnt to a red core. In most of the cases the vessels are treated with a light red slip and painted with black bands at the rim or shoulder. Some of the vessels are devoid of any slip, wash or painting. The main shapes include the characteristic Harappan types such as the storage jar with wide mouth and projected rim; jar with recurved rim and globular body; vase with beaded rim, raised neck and globular body; vase with out curved rim, ribbed shoulder and narrow neck; dish on stand with recurved base; shallow dish on stand with projected rim, carinated shoulder and tall stand with or without a drum; dish with nail headed rim and flat base; vase with pointed base; beaker; perforated jar, etc. The absence of the handled cup, scored goblet and 'S' shaped vase is, however, conspicuous. The ware is painted in black over light red slip with geometric and linear designs. The shapes as well as the designs in the Harappan ware lack variety to a great extent. Some of the shapes and designs are more evolved than met with in the classical Harappan ware.

The Late Siswal ware occurs side by side with the Harappan ware⁹⁰ in a subordinate capacity but fairly good quantity. The ware retains all the six fabrics of the former Period. The use of slow wheel continues to be in vogue in this Period too and the vessels are in a number of case irregularly potted. The fabric is medium to coarse. Most of the pots are fired well to a red core and are treated with light or dull red slip. The vassels are commonly painted in black with broad bands above the shoulder. The main types include vase with out curved rim; jar with out-curved rim; storage jar with beaked or thickened rim; vase with a loop handle, and bowl with flaring or flat topped rim and tapering sides.

The painted and decorated designs in both the Harappan and the Late Siswal wares are very limited in this Period also. The painted motifs include mostly linear and geometric designs painted in black over light red slip. The main design elements include horizontal lines, wavy or zig zag lines, lattice design, cross hatched triangles with suspended vertical lines, dots, stag, scorpion, loops, hatched leaf design and lotus with stalk. A few sherds of reserved slip ware bearing concentric arc design (Fig. 7, 21) or flowing lines over black block band (Pl. VIII 2) are also found. The decorated designs include cord impressions, notches and incised lines (Pl. VII).

A. Harappan Ware (Fig. 6)

1. Large storage jar with a thick projected rim, convex profile and wide mouth. It is of medium fabric, burnt to red core and treated with a light red slip. From an unstratified level.

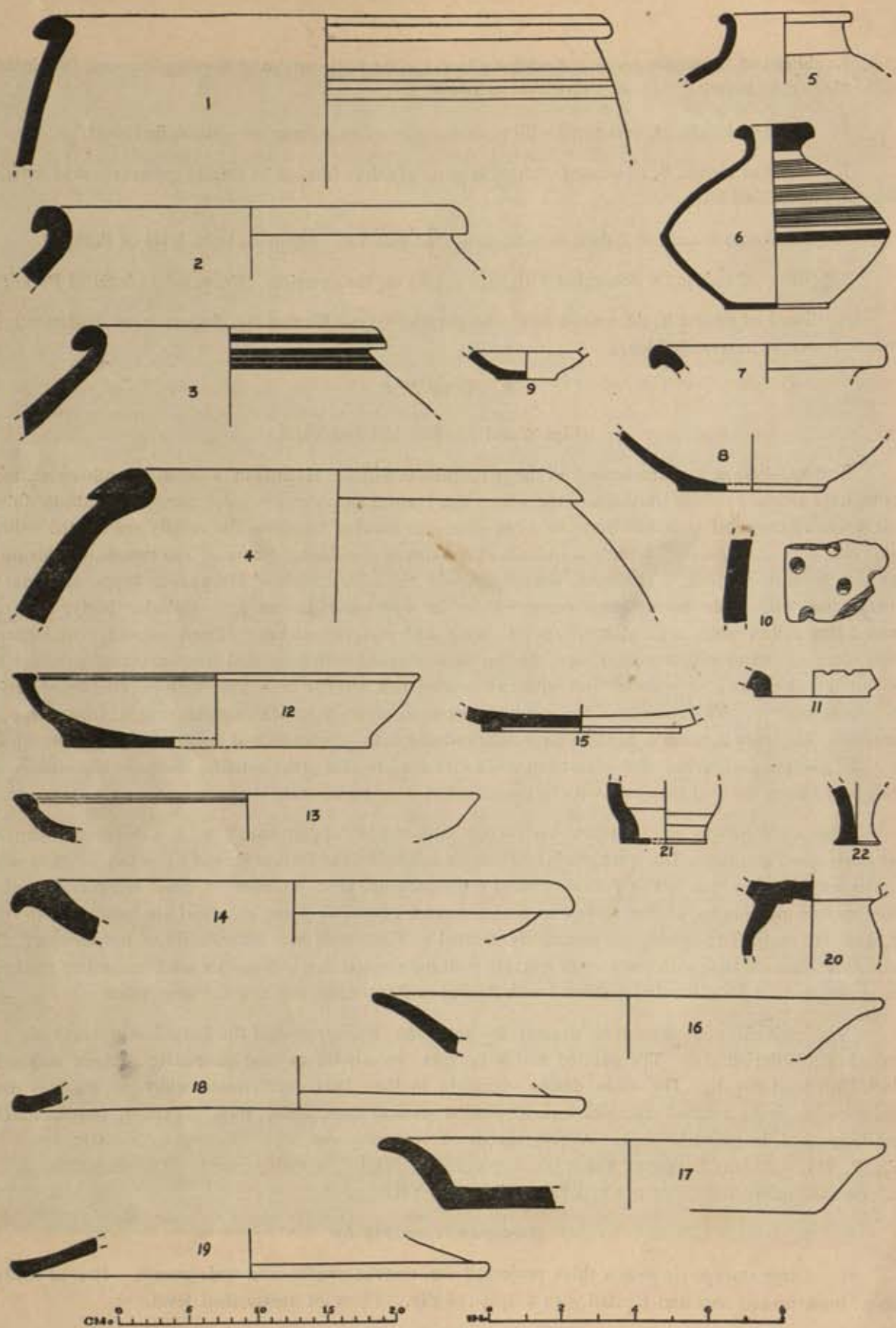


Fig. 6 Pottery from Mitathal IIA : Harappan Ware

2. Fragment of a storage jar with recurved beaked rim and tapering shoulder. It is of medium fabric, and burnt to pale red core. From an unstratified level.

3. Fragment of a jar with recurved rim sitting at the tapering shoulder. It is of medium fabric, burnt to pale red core and painted with black carefully ruled lines at the rim and below over light red slip. From a late level of Period IIA.

4. Fragment of a storage jar with a thick externally collared rim, wide mouth and globular body. It is of medium fabric, burnt to pale red core and has a worn off surface. From an unstratified level.

5. Fragment of a vase with beaded rim, vertical ledged neck and globular body. It is of medium fabric, burnt to pale red core and has worn off surface. From a late level of Period IIA.

6. Vase with a narrow mouth, out-curved rim, short neck, squatish carinated body and a disc base. It is of medium fabric, burnt to light red core and painted with carefully scored horizontal lines in groups on the upper part of the body enclosed by thicker bands at the rim and belly over brownish red slip. From a late level of Period IIA.

7. Fragment of a vase with flaring beaked rim. It is of medium fabric, burnt to light red core and treated with a self slip. From an unstratified level.

8. Bottom portion of a vase with broad disc base and tapering sides. It is of medium fabric, burnt to red core and treated with a light red slip. From a late level of Period IIA.

9. Bottom of a vase with a disc base. It is of medium fabric, burnt to greyish core and treated with a light red slip. From an early level of Period IIA.

10. Fragment of a perforated jar. It is of medium fabric, burnt to light red core and is devoid of any slip. From an unstratified level.

11. Hollow base of a small perforated jar. It is of medium fabric, burnt to light red core and is devoid of any surface treatment. From a mid level of Period IIA.

12. Fragment of a dish with nail headed rim and heavy disc base. It is of medium fabric, burnt to light red core and devoid of any surface treatment. From an early level of Period IIA.

13. Fragment of a dish with an incurved rim. From an early level of Period IIA.

14. Fragment of a dish on stand with out-curved rim. It is of medium fabric and burnt to a light red core. From a mid level of Period IIA.

15. Ring base of a dish. It is of medium fabric, burnt to light red core and treated with a light red slip. From a late level of Period IIA.

16. Fragment of a dish on stand with a long projected rim and carinated shoulder. It is of medium fabric, burnt to a partly greyish core and treated with a light red surface. From an early level of Period IIA.

17. Fragment of a dish on stand with a raised projected rim and carinated shoulder. It is of medium fabric, grey core and treated with a light red slip. From a mid level of Period IIA.

18. Base fragment of a dish on stand. It is of medium fabric, burnt to greyish core and treated with a light red slip. From a mid level of Period IIA.

19. Base fragment of a dish on stand. It is of medium fabric, burnt to greyish core and smoky surface. It is decorated with paring marks on the exterior. From a mid level of Period IIA.

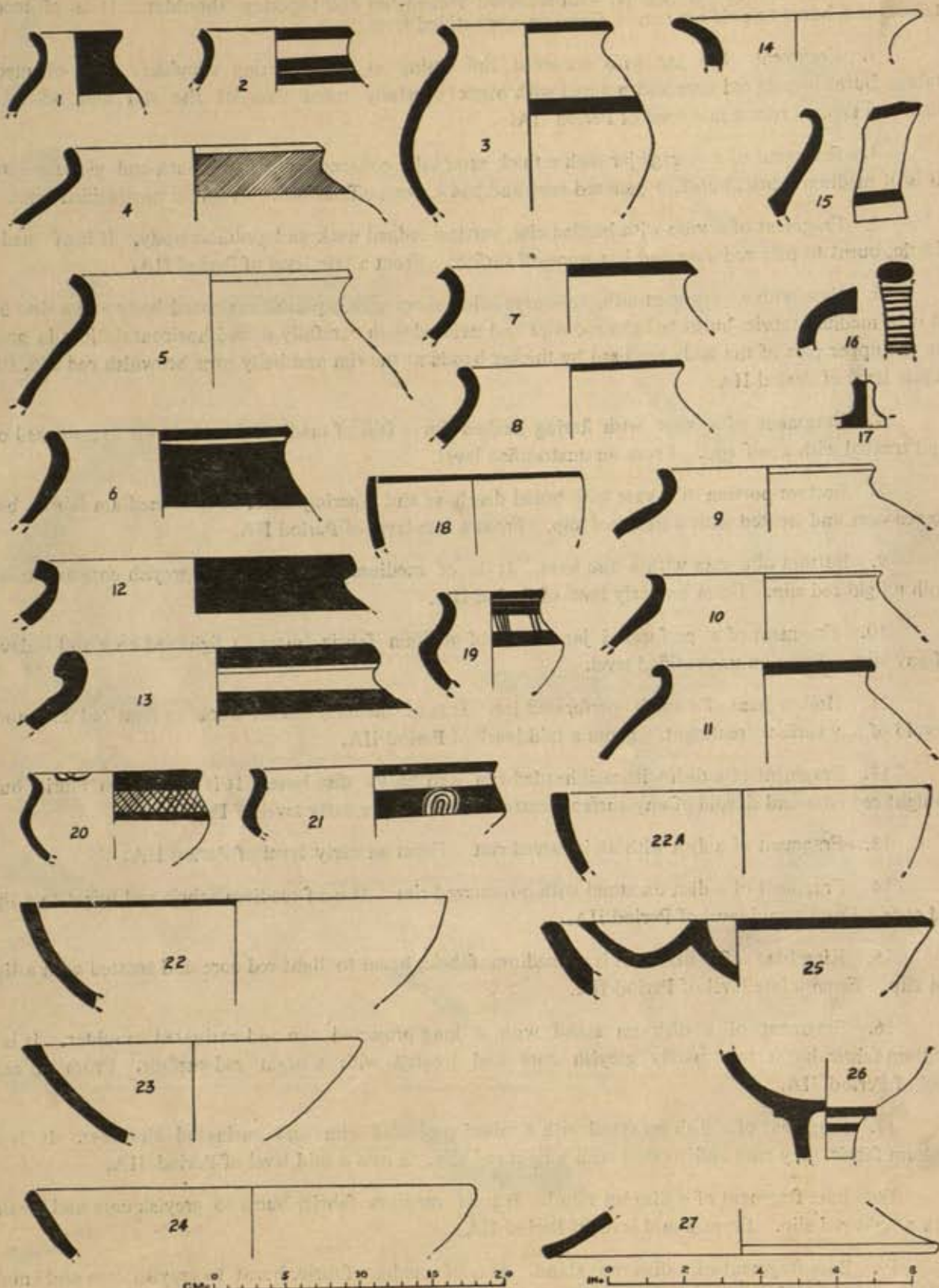


Fig. 7 Pottery from Mitathal IIA : Late Siswal Ware

20. Fragment of a dish on stand with a globular drum below the base of the dish. It is of medium fabric, burnt to red core and treated with a pinkish red slip. From a mid level of Period IIA.

21. Bottom portion of a beaker. It is made of medium fabric, burnt to pale red core and devoid of any surface treatment. From an early level of Period IIA.

22. Pointed base of a vase of medium fabric, burnt to light red core and treated with a light red slip. From a late level of Period IIA.

B. Late Siswal Ware (Fig. 7)

Fabric A

1. Fragment of a small vase with flaring rim, concave neck and ovaloid body. It is of medium coarse fabric, burnt to brick red core and painted with a black block band at the rim, neck and shoulder. From a mid level of Period IIA. Cf. Kalibangan⁹¹ (IA, 1961-2, Fig. 15, 3).

2. Fragment of a vase with a short out-curved rim and concave neck. It is of medium fabric, burnt to brick red core and painted with black horizontal bands at the rim and neck over light red slip. From a late level of Period IIA.

3. Fragment of a vase with out-curved rim and ovaloid body. It is of medium coarse fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulder over pinkish matt surface. From a late level of Period IIA. Cf. Kot Diji⁹² Layer 3A (PA, 2 : Fig. 14, 14).

4. Fragment of a vase of short out-turned rim, and expanding shoulder. It is of medium coarse fabric, burnt to brick red core and treated with a dirty white slip above the shoulder over matt pinkish red surface. From a mid level of Period IIA.

5. Fragment of a vase with flaring externally bevelled rim and ovaloid body. It is of medium coarse fabric, burnt to brick red core and has a matt red surface. From a late level of Period IIA. Cf. Kot Diji⁹³ Layer 1B (PA, 2 : Fig. 12, 6).

6. Fragment of a jar with an out-turned rim, and tapering sides. It is of medium coarse fabric, burnt to brick red core and painted with black block band at the neck and shoulder and a horizontal band at the rim. From an early level of Period IIA.

7. Fragment of a jar with out-curved bevelled rim, concave neck and tapering shoulder. It is of medium coarse fabric, burnt to brick red core and painted with a black band at the rim. From a late level of Period IIA.

8. Fragment of a jar with out-turned rim and tapering shoulder. It is of medium coarse fabric, burnt to brick red core and painted with a black band at the rim over matt red surface. From a late level of Period IIA. Cf. Kalibangan I⁹⁴ (IA, 1962-3 : Fig. 3, 9) Saipai⁹⁵ (Puratattva, 5 : Fig. 21, 11).

9. Fragment of a vase with an out-turned rim, ledged neck and bulbous body. It is of medium fabric and burnt to brick red core. From a mid level of Period IIA.

10. Fragment of a vase with short everted rim and tapering sides. It is of medium fabric, burnt to dull red core and painted with a chocolate band at the rim over buff slip. From an early level of Period IIA. Cf. Kot Diji⁹⁶ Layer 8 (PA, 2 : Fig. 23, 13 : Fig. 25, 15).

11. Fragment of a vase with an out-curved rim, narrow neck and tapering shoulder. It is of medium coarse fabric, burnt to brick red core and painted with a black band at the rim over pinkish red slip. From a late level of Period IIA.

12. Fragment of a vase with an out-turned oblique cut rim sitting at the taperings shoulder. It is of medium coarse fabric, burnt to red core and painted with a black band above the shoulder in black pigment. From a mid level of Period IIA.

13. Fragment of a vase with a beaded rim, ledged neck and expanding sides. It is of medium coarse fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulders. From a late level of Period IIA.

14. Fragment of a vase with flaring rim. It is of medium coarse fabric, burnt to a brick red core and treated with a dull red slip. From a late level of Period IIA. Cf. Harappa⁹⁷ (A 1, 3 : Fig. 9, 29).

15. Fragment of a carinated *handi* rusticated below the shoulder. It is of medium fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulder over pinkish red slip. From a mid level of Period IIA.

16. Fragment of a loop handle of vase with flatish oval section. It is of medium fabric, burnt to brick red core and painted with parallel black bands enclosed by longitudinal bands on the handle over pinkish red matt surface. From a mid level of Period IIA.

17. Fragment of a lid with a central knob. It is of medium coarse fabric and burnt to brick red core. From a mid level of Period IIA. Cf. Kalibangan I⁹⁸ (IA, 1961, 2 : Fig. 15, 22).

18. Fragment of a bowl with a sharp featureless rim and convex sides. It is of medium fabric, burnt to brick red core and painted with black band at the rim over light red slip. From a late level of Period IIA. Cf. Harappa⁹⁹ (IA, 3 : Fig. 8, 4); Bahadarabad¹⁰⁰ (Puratattva, 5 : Fig. 14, 18).

19. Fragment of a bowl with short out-curved featureless rim, concave neck and sharp carinated shoulder. It is of medium fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulder enclosing groups of oblique strokes over red slip. From an early level of Period IIA. Cf. Kalibangan I¹⁰¹ (IA, 1961, 2 : Fig. 15, 16).

20. Fragment of a bowl distinguished from type 19 by an everted featureless rim, broad open mouth and blunt carinated shoulder. It is painted with black bands at the rim and shoulder enclosing criss cross design on the exterior and overlapping loops on the interior of the rim. From a mid level of Period IIA. cf. Kalibangan I¹⁰² (IA 1962-3 : Fig. 3, 6, 10), Harappa¹⁰³ (AI, 3 : Fig. 8, 5), Kalibangan I¹⁰⁴ (IA, 1961, 2 : Fig. 15, 17).

21. Fragment of a bowl with everted rim and carinated shoulder. It is of medium coarse fabric, burnt to brick red core and painted with black horizontal bands at the rim and shoulder, the latter being decorated with concentric semi-circular design in the reserved slip manner over matt red surface. From a mid level of Period IIA. Cf. Saipai¹⁰⁵ (Puratattva, 5 : Fig. 21, 4).

22. Fragment of a bowl with a flat topped rim. It is of medium fabric, burnt to brick red core and painted with a black band at the rim over pinkish red surface. From a mid level of Period IIA. Variant 22A is distinguished by convex sides and absence of painting. From a mid level of Period IIA. Cf. Kalibangan I¹⁰⁶ (IA 1962-3 : Fig. 9, 9), Harappa¹⁰⁷ (AI, 3 : Fig. 9, 21).

23. Fragment of a bowl with a rim grooved at the top and tapering sides. It is of medium coarse fabric, burnt to brick red core and painted with a black horizontal band at the top of the rim over matt red surface. From a late level of Period IIA. Cf. Saipai¹⁰⁸ (Puratattva, 5 : Fig. 21, 3).

24. Fragment of a bowl with an externally bevelled rim and tapering sides. It is of medium fabric and burnt to brick red core. From a late level of Period IIA. Cf. Harappa¹⁰⁹ (AI, 3 : 9, 24c), Bahadarabad¹¹⁰ (Puratattva, 5 : Fig. 14, 23).

25. Fragment of a bowl with a featureless blunted rim and tapering sides. It is of medium fabric, burnt to brick red core and painted with a thick black band at the rim and suspended loops on the interior over matt red surface. From a mid level of Period IIA.

Fabric C

26. Fragment of a bowl on stand. It is of medium coarse fabric, burnt to brick red core and painted with black horizontal bands at the juncture of the bowl and the stem. From a mid level of Period IIA. Cf. Kalibangan I¹¹¹ (IA 1962-3 : Fig. 8, 12).

27. Fragment of a dish on stand with a broad base. It is of medium coarse fabric. From a mid level of Period IIA. Cf. Kalibangan I¹¹² (IA 1962-2: Fig. 5, 17), Kot Diji¹¹³ Layer 4A (PA, 3: Fig. 14, 19).

Pl. VII

1. Sherd of a medium thin red ware painted with a black horizontal band and finely drawn lines with branches below over smooth red surface. From a late level of Period IIA.

2. Sherd of a medium thick red ware painted with a black horizontal band and some fragmentary flower like designs below over dull red surface. From a mid level of Period IIA.

3. Sherd of a medium thick red ware painted with black horizontal bands with a fragmentary hatched leaf design. From a late level of Period IIA.

4. Sherd of a medium thick red ware painted in black with an animal figure with a cross hatched body below a horizontal line over dull red surface. From a late level of Period IIA. Cf. Kot Diji¹¹⁴ Layer 2B (PA. 2 : Fig. 12, 18).

5. Sherd of a medium thick red ware treated with a smooth red slip at the shoulder. The lower rusticated portion is separated by a black line at the juncture. The lower and is also decorated with shallow grooves. From a late level of Period IIA.

6. Sherd of a thick buff slipped ware painted with chocolate horizontal bands in groups of four, the central portions enclosing a wavy line. From an unstratified level. Cf. Kalibangan I¹¹⁵ (IA, 1962-3: Fig. 3, 9 ; IA, 1961, 2: Fig. 14, 30).

7. Sherd of a thin red ware painted in black with a cross hatched fragmentary scorpion or crab motif over light red slip. From a late level of Period IIA.

8. Sherd of a thin red ware painted in black with a cross hatched crab motif over light red slip. From a late level of Period IIA. Cf. Kalibangan I¹¹⁶ (IA, 1962-3: Fig. 5, F).

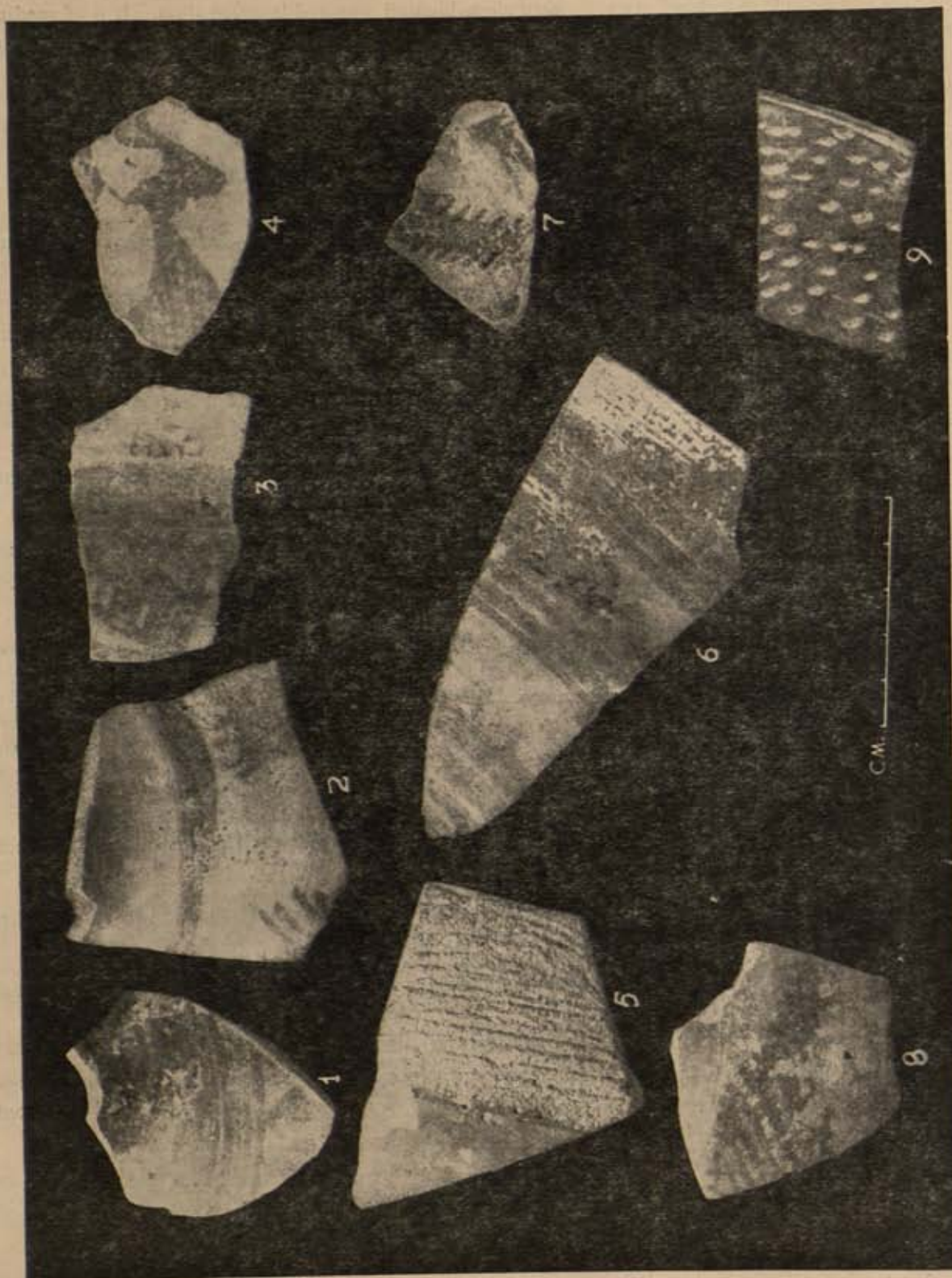
9. Sherd of a medium thin red ware decorated with incised notches on the exterior. From a late level of Period IIA. Cf. Atranjikhra¹¹⁷ (IA, 1963-4: Fig. 11, 15).

Pl. VIII

1. Sherd of a medium thick red ware painted with black horizontal bands enclosing thin horizontal lines and a zigzag band. Two parallel bands occur below over pale red surface. It is also decorated with rope marks. From a late level of Period IIA.

2. Sherd of a medium thick red ware painted in black with horizontal bands and a black band below. The black band bears incised flowing lines in the reserved slip manner. From a late level of Period IIA.

3. Sherd of a medium thin red ware painted with black horizontal bands, the lower broad band being decorated with flowing lines in the manner of reserved slip ware over dull red surface. From a mid level of Period IIA.



Painted and incised sherds (Period IIA)

4. Sherd of medium thick red ware painted with black horizontal lines enclosing oblique lines over light red slip. From a mid level of Period IIA.

5. Sherd of a medium thick red ware, painted with black horizontal bands of varying thickness enclosing a flowing line. A broad band is also decorated with incised concentric semi-circles in the manner of reserved slip ware. From a mid level of Period IIA.

6. Sherd of a thin red ware painted in chocolate horizontal bands enclosing loops and a cross hatched design is shown above the bands over pale red smooth slip. From a late level of Period IIA. Cf. Harappa¹¹⁸ (AI, 3: Pl. XLII, 10).

7. Sherd of a bowl of red ware painted with black horizontal lines at the rim, neck and shoulder enclosing oblique strokes in groups of four over red slip. From an early level of Period IIA.

8. Sherd of a medium thin red ware painted in black horizontal bands vertically hatched with thin lines over matt red surface. From a mid level of Period IIA.

9. Sherd of a medium thick red ware painted with black horizontal lines enclosing obliquely hatched chain of irregular diamonds over buffish red slip. From a late level of Period IIA. Cf. Kulli¹¹⁹ (Fairervis Jr. W.A., 1971, Fig. 54).

10. Sherd of a medium thick red ware painted with black horizontal bands enclosing criss cross design over pinkish red slip. From a late level of Period IIA.

11. Sherd of a thin red ware painted with black horizontal bands enclosing cross hatched diamonds over pale red slip. From a late level of Period IIA. Cf. Kulli and Quetta (Fairervis¹²⁰ Jr. W.A. 1971, Fig. 54).

12. Sherd of a medium thin red ware painted with black horizontal lines cross hatched by oblique lines. From a late level of Period IIA.

13. Sherd of a medium thick red ware painted with black horizontal lines enclosing opposed arcading design with the intermediate space cross hatched, resembling concave sided opposed triangles and enclose bipinnate hatched leaves over red slip. From a late level of Period IIA. Cf. Kulli¹²¹ (Fairervis Jr. W.A. 1971, Fig. 54).

14. Sherd of a medium thick red ware painted with thick black horizontal bands enclosing cross hatched inverted triangles with suspended double lines and dots in the residuary blank over matt red surface. From a mid level of Period IIA. Cf. Kalibangan II¹²² (1962-3: Fig. 5, J).

15. Sherd of a medium thin red ware painted with black horizontal bands enclosing cross hatched inverted triangle over dull red matt surface. From an early level of Period IIA. Cf. Kalibangan I¹²³ (IA 1962-3: Fig. 5, J).

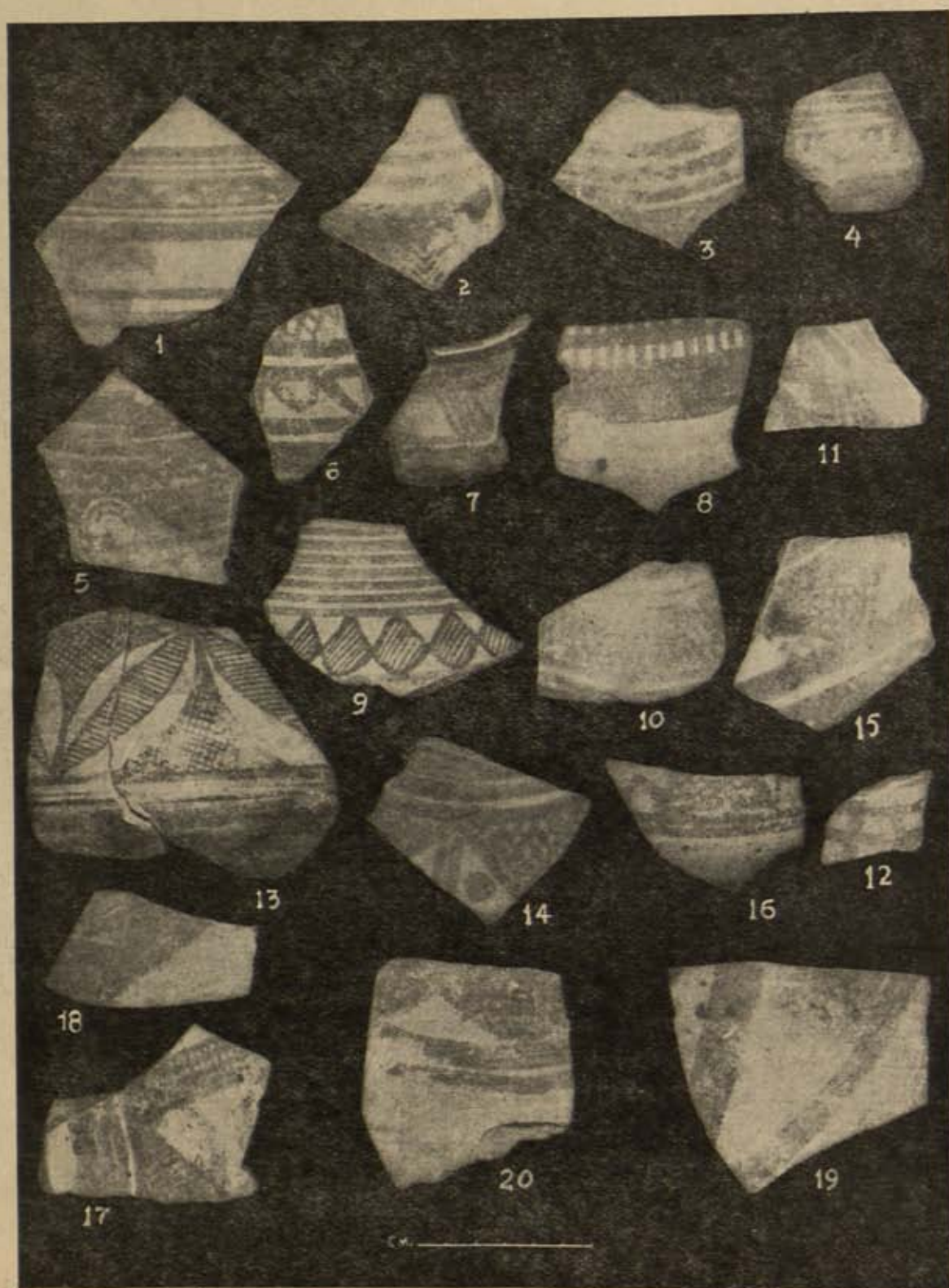
16. Sherd of a thin red ware painted in black with a cross hatched triangle and side loops above horizontal lines over red slip. From a late level of Period IIA.

17. Sherd of a thick red ware painted with black horizontal bands and cross hatched oblique lines below over dull red slip. From an early level of Period IIA.

18. Sherd of a thin red ware painted with a broad black band and dots above over pinkish red matt surface. From an early level of Period IIA. Cf. Kalibangan I¹²⁴ (IA 1962-3: Fig. 2, H).

19. Sherd of a medium thick red ware painted with black bands enclosing a thick loop with fronds over light red slip. From a late level of Period IIA. Cf. Kalibangan I¹²⁵ (IA 1962-3: Fig. 2, 4).

20. Sherd of a medium thick red ware painted with black horizontal bands and cross hatched oval design above over light red wash. From a mid level of Period IIA.



Painted pottery (Period IIA)

C. Period IIB

(Fig. 8-13; Pls. IX-XV)

The ceramic industry of this Sub-Period too represents a composite character chiefly resulting from the fusion of the Harappan and the Late Siswal traditions.¹²⁴ It is essentially a red ware showing modification in shapes, designs, fabric, potting, surface treatment and decoration. In course of transformation¹²⁵ the distinction between the two main strands has largely blurred but for the shapes of vessels. In the process while the fabric, surface treatment and the style of painting of the Harappan ware degenerated, the ware of Siswal tradition showed signs of improvement in certain respects and came to imitate¹²⁶ the Late Harappa ware in fabric, slip, surface decoration, etc.

The pottery of the Period is on the whole dominated by the Harappan fabric. But the classical Harappan shapes such as the beaker, perforated jar and dish with nail headed rim have mostly fallen out of use and are rare. The other mature Harappan types such as tall dish on stand with or without a drum, the sturdy dish on stand with down curved rim, storage jar with flanged rim, narrow or wide mouth, and the medium vase with raised ledged neck and beaded rim have been modified in form.¹²⁷ The dish on stand is of medium height now and the drum is replaced by a flange (Fig. 13, 94). The sturdy squat dish on stand develops a drooping rim (Fig. 13, 91a, 92). The storage jar has a beaded (Fig. 8, 1, 2) or collared rim (Fig. 8, 3, 4, 7). The vases have their neck elongated (Fig. 8, 13, 15, 16), the rim is beaded or beaked (Fig. 8, 17) and the ledge at the neck disappears (Fig. 8, 12, 18).

The vessels of Siswal tradition occur in fairly good quantity and also suggest evolution in forms.¹²⁸ These are now generally prepared on fast wheel though a few examples of hand made ware also occur. The clay is better levigated and considerably improved. The main shapes comprise vases with flat loop handles (Fig. 13, 99); basins with loop handles (Fig. 13, 103); vases with flaring oblique cut rim and oval or globular body with or without a flat base (Fig. 9, 23-28); bowls with convex or carinated profile (Fig. 11, 63-68), flaring rim (Fig. 11, 72, 74), or flat topped rim (Fig. 10, 59, 60); bowl on stand (Fig. 12, 85); and vase with flanged rim (Fig. 9, 32-34).

Another element in the ceramic complex of this phase is represented by the occurrence of a few Cemetery H¹²⁹ types. Although devoid of the characteristic surface treatment and painted motifs of Cemetery H pottery there do occur a few shapes such as the thin flask (Fig. 9, 37); storage jar with recurved or collared rim (Fig. 8, 4); dish on stand with sharp carinated shoulder (Fig. 12, 88 and 88a), and basin with beaded rim and disc base (Fig. 11, 71).

The surface treatment of the vessels is on the whole poor and the slip is generally thin and dull red. The pots are painted in black over red surface mostly with linear and geometric designs. Although in many a case the painting is executed coarsely the designs have considerably increased in this phase. The main designs include horizontal, oblique, wavy or zig zag lines (Pl. XIII); latticed design (Pl. XII, 7 and 8); cross-hatched triangles (Pl. XI, 3, 5, 6 and 9); hatched or cross hatched diamonds (Pl. XI, 1 and 2); cross hatched hide design (Pl. IX, 1a); chevron (Pl. IX, 7); arcading design (Pl. IX, 3) between horizontal lines with intermediary surface latticed; loop and dot design (Pl. IX, 1 and 1a); circlet with dot in centre and fronds on outside (Pl. IX, 1); diamond and dot design (Pl. XI, 4); leaf (Pl. X, 12, 14-18); lotus flower (Pl. X, 10 and 11); bean (Pl. X, 7 and 8); Plant (Pl. X, 3); and maltese square (Pl. XV, A).

Incised decoration on the exterior generally imitating the painted linear motifs is another characteristic feature of the phase. The main design includes groups of flowing horizontal or vertical lines (Pl. XIV, 7-10); converging oblique lines and oblique strokes; mat design (Pl. XIV, 4); cord impressions (Pl. XIV, 4); wavy finger marks (Pl. XIV, 4); oblique notches in rows (Pl. XIV, 12), and horizontal

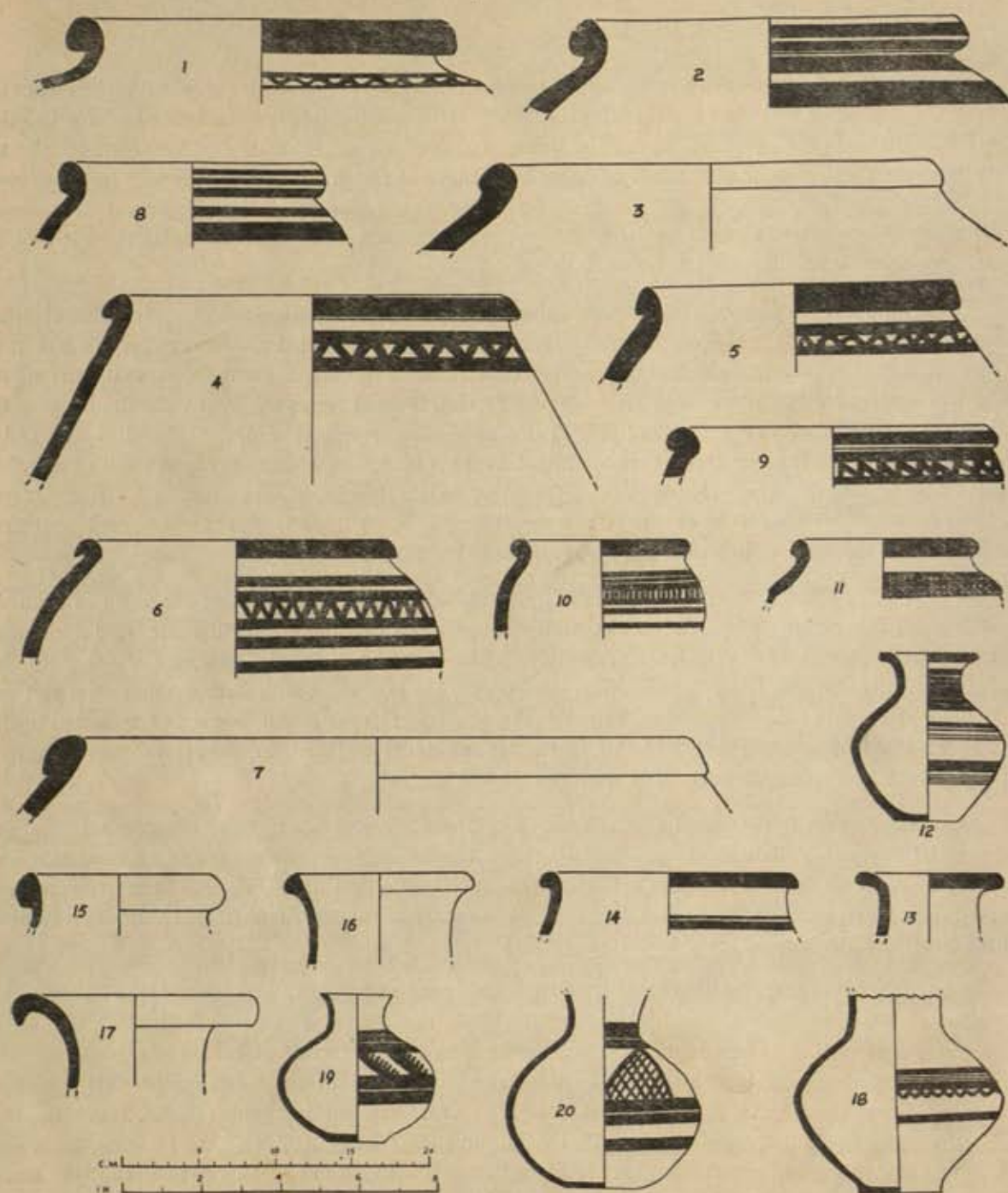


Fig. 8. Pottery from Mitathal IIB : Late Harappan Ware

lines superimposed by vertical or oblique lines as at Bara and drawn with sharp edged instrument. A number of the above painted and decorated designs have been found in Ropar I, Alamgirpur I, Bara, Bargaon, Dher Majra, Sanghol I, Chandigarh, Lothal B and Rangpur II.

(Fig. 8)

1. Fragment of a jar with beaded rim, medium fabric, burnt to red core and dull red slip. From an unstratified level. Cf. Bara (*Puratattva*, 5; Fig. 10, 11). Atranjikhara I, (*Puratattva*, 5; Fig. 6, 2).
2. Fragment of a jar with beaded rim, medium fabric and greyish slip. From an early level. The type developed to Krisna Deva Type 3.¹³⁰
3. Fragment of a storage jar with beaded rim, medium fabric, dull red core and dull red slip. From an unstratified level. Cf. Lal Qila (*Puratattva*, 5; Fig. 7, 1).
4. Fragment of a storage jar with recurved or collared rim, and tapering shoulder, black horizontal bands enclosing zig-zag line at the shoulder, dull red core and dull red slip. From a mid level.
5. Fragment of a jar with outcurved bevelled rim medium fabric, painted design as in Type 4, dull red core and dull red slip. From a mid level. The type devolved to Krisna Deva Type 3a.
6. Fragment of a jar with beaked rim, globular body, pinkish red core, painted design as in Type 4 over dull red slip. From a late level.
7. Fragment of a storage jar with collared rim, wide mouth, dull red core and dull red slip. From an unstratified level. Cf. Rangpur IIB (*AI*, 18 & 19; Fig. 28, 19a).
8. Fragment of a jar with vertical beaded rim, medium fabric, dull red core and pinkish slip. From an early level.
9. Fragment of a vase with recurved rim, convex sides, pale red core and painted design as in Type 4, over dull red slip. From a mid level.
10. Fragment of a vase with beaded rim, globular profile, painted with black strokes inbetween horizontal bands, pinkish red core and dull red slip. From a late level.
11. Fragment of a vase with beaded rim and carinated shoulder, painted with lattice design in black, smoky red core and smoky slip. From a late level.
12. Vase with out-turned beaded rim, blunt carinated shoulder, medium fabric, light red core and light red slip. From a mid level. Cf. Krisna Deva, Type 2d; Alamgirpur (*IA*, 1958-9; Fig. 24, 10).
13. Fragment of a vase with out turned rim and high neck, medium fabric, light red core and light red slip. From a mid level. Cf. Rangpur (*AI*, 18 & 19; Fig. 18, 15).
14. Fragment of a vase with out-turned rim and raised neck, medium fabric, light red core and red slip. From a late level.
15. Fragment of a vase with beaded rim. medium fabric, dull red core and light red slip. From an early level.
16. Fragment of a vase with beaded rim, high neck, medium fabric, dull red to pinkish core, From a late level.

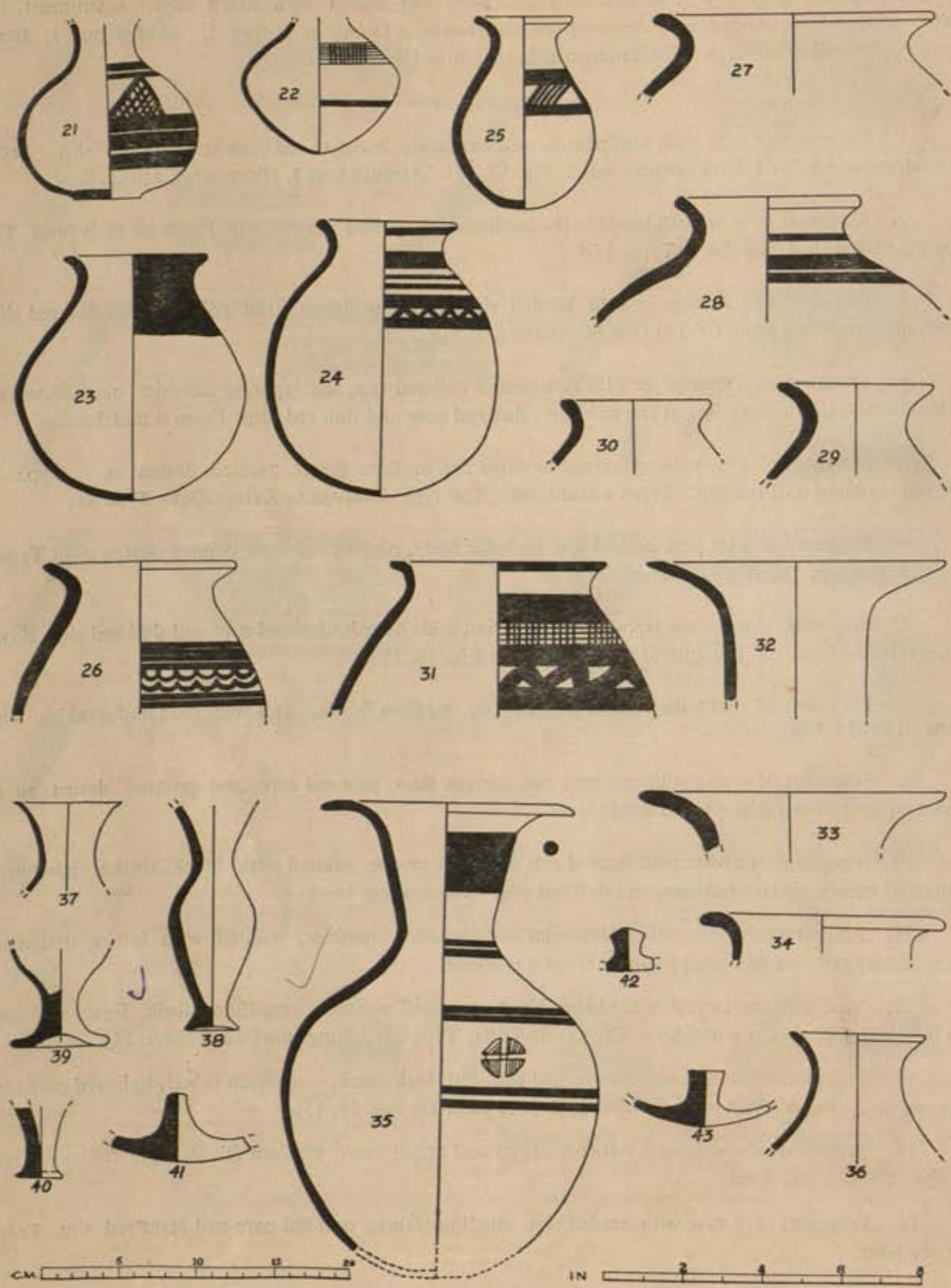


Fig. 9. Pottery from Mitathal IIB : Late Harappan Ware

17. Fragment of a vase with beaked rim, high concave neck, medium fabric, dull red core and dull red slip. From a late level. The type devolved to Krisna Deva Type 2e.

18. Vase with raised neck, disc base and broken rim, painted with horizontal lines of varying thickness and a loop, medium fabric, light red core and light red slip. From a mid level.

19. Vase with flaring mouth, globular body and disc base, medium fabric and painted with black horizontal bands enclosing branches with fronds over light red slip. From a late level.

20. Vase with concave neck, globular body and flat base, medium fabric, and painted with black horizontal bands enclosing cross hatched triangle and vertical lines bordered by fronds over light red slip. From a mid level.

(Fig. 9)

21. Vase with globular body concave neck, broken rim, medium fabric, painted with cross hatched triangle and branches enclosed between horizontal lines. From unstratified levels.

22. Vase with blunt carinated shoulder and tapering bottom, painted with thin horizontal lines intersected by verticals and a band below in black over matt red surface. From a late level.

23. *Lota*-shaped vase with globular body, flaring rim, painted with black block band, medium fabric, pinkish red core and light red slip. From an early level.

24. *Lota*-shaped vase, painted with black bands enclosing a zigzag line at shoulder, medium fabric, pinkish red core and dull red slip. From an early level.

25. *Lota*-shaped vase painted in black with horizontal bands enclosing oblique lines over self slipped light red surface, medium fabric and light red core. From a mid level.

26. Fragment of a vase with out-turned rim and painted with black horizontal lines enclosing loops over light brownish surface, medium fabric and dull red core. From a mid level.

27. Fragment of a vase with flared out rim, medium fabric, light red core. From a late level.

28. Fragment of a vase with out-turned rim and expanding shoulders, pinkish red core and light red slip. From a mid level.

29. Fragment of a vase with out-turned rim, medium fabric, pinkish red core and bright red slip. From an early level.

30. Fragment of a vase with everted rim, medium fabric and dull red surface. From a late level.

31. Fragment of a vase with out-turned projected rim, ovaloid body, painted with black horizontal bands enclosing latticed design and a zigzag line in horizontal registers, medium fabric, pinkish red core and light red slip. From an early level.

32. Fragment of a vase with flaring rim and high neck, medium fabric, pinkish red core and bright red slip. From a late level.

33. Fragment of a vase with flaring rim medium fabric, pinkish red core and chocolate slip. From an early level. Cf. Krisna Deva Type 1c; Bara (*Puratattva* 5, Fig. 8,9); Atranjikhara (*Puratattva* 5, Fig. 6,6).

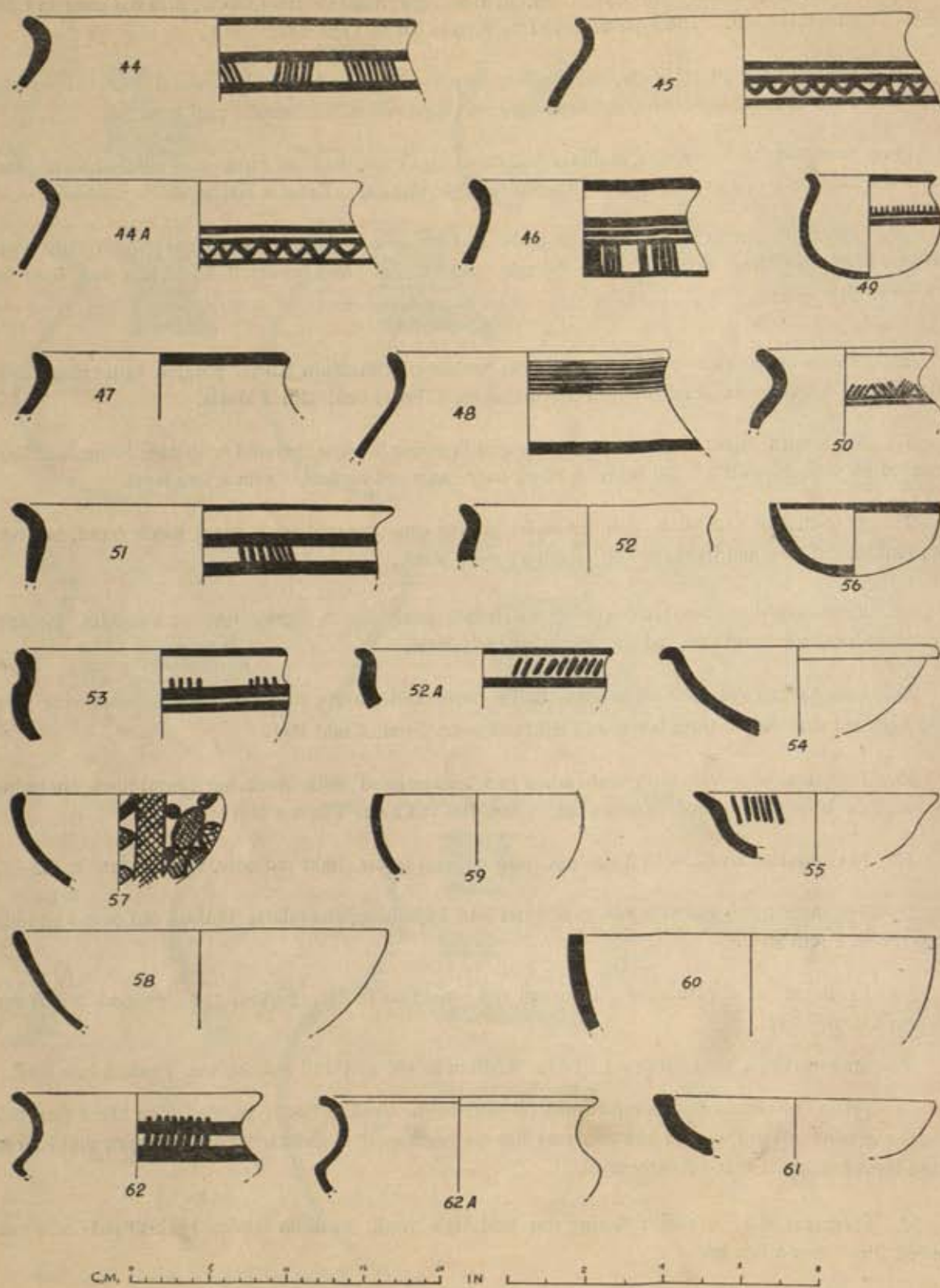


Fig. 10 Pottery from Mitathal IIB : Late Harappan Ware

34. Fragment of a vase with splayed out rim, medium fabric, grey core, and dull red slip. From a mid level.

35. Vase with flanged rim, high neck, ovaloid body, painted in black with a block band at neck and horizontal bands enclosing a hatched maltese square like design over pinkish red slip, of medium fabric and light red core. From a late level (Pl. XV, 1). Cf. Krisna Deva Type 1 a.

36. Fragment of a vase with flaring rim concave neck, medium fabric, greyish core and blotchy red slip. From an unstratified level.

37. Fragment of a thin vase or flask with flaring rim, pinkish red core and brownish slip. From a late level. Cf. Ambkheri (*Puratattva* 5, Fig. 2, 11)

38. Fragment of a vase or goblet with footed base, medium fabric, light red core and treated with light red slip. From a late level.

39. Fragment of a vase with concave pedestal base, medium fabric, light red core and treated with light red slip. From a mid level.

40. Pointed base of a vase, medium fabric, pale red core and light red slip. From an early level.

41. Fragment of a bowl like lid with a conical central knob, medium fabric, pinkish red core and matt red surface. From a mid level.

42. Fragment of a lid with knob, medium fabric, pale red core and light red surface. From an early level.

43. Fragment of a bowl like lid with a flat topped central knob, medium fabric, pale red core and light red surface. From an early level.

(Fig. 10)

44. Fragment of a vase with everted rim, wide mouth and tapering shoulder painted in black horizontal bands enclosing groups of oblique strokes, medium fabric, and pale red slip. Variant 44A is distinguished by an out-turned rim and the painted design comprising a wavy line enclosed between horizontal lines.

45. Fragment of a vase with short flaring rim, wide mouth, painted with black horizontal bands enclosing a wavy line, medium fabric, pale red core and pale slip. From a late level.

46. Fragment of a vase with out-turned rim, painted with black horizontal bands enclosing groups of verticals, medium fabric, dull red core and brownish red slip. From an early level.

47. Fragment of a vase with thickened everted rim, medium fabric, greyish core, matt dull red surface. From an early level.

48. Fragment of a vase with out-turned rim, medium fabric, pinkish red core and matt dull red surface. From a late level.

49. Bowl with everted rim, convex sides, rounded bottom, painted with black horizontal lines at the shoulder with strokes above and a band at rim, medium fabric, pinkish red core and matt red slip. From a mid level.

50. Fragment of a vase with flaring rim, carinated shoulder and painted with horizontal lines and oblique strokes at the shoulder, medium fabric, pale red core and pale red slip. From a late level.

51. Bowl with flaring rim and convex sides, painted with horizontal bands enclosing oblique strokes, pinkish red core and matt red slip. From a late level.

52. Bowl with everted rim, convex sides, medium fabric, pinkish red core and surface. From a late level. Variant 52A is distinguished by a more squat form and the painted design comprising horizontal lines enclosing oblique strokes.

53. Bowl with externally grooved rim, painted with black horizontal bands and short strokes, medium fabric, pinkish red core, matt red slip. From a mid level.

54. Bowl with everted rim, tapering sides, medium fabric, light red core and brownish red slip. From a mid level. Cf. Bara (*Puratattva* 5 : Fig. 9, 24).

55. Bowl with flaring rim, painted on interior with black strokes, medium fabric, pinkish red core, and matt red slip. From a mid level. Cf. Bara (*Puratattva* 5 : Fig. 9, 23).

56. Bowl with convex sides, featureless rim, medium fabric, pinkish red core and matt red surface. From an early level.

57. Bowl with incurved rim and tapering sides, painted with cross hatched complex design, medium fabric, greyish red core and matt red surface. From a late level.

58. Bowl with featureless rim tapering sides, medium fabric, pinkish red core and red slip. From an early level.

59. Bowl with convex sides, flat topped medium fabric, greyish red core and matt red surface. From a late level.

60. Bowl with flat topped rim and convex sides, medium fabric, pinkish red core and red slip. From an early level.

61. Bowl with nail-headed rim, medium fabric, pinkish red core and matt red surface. From a mid level.

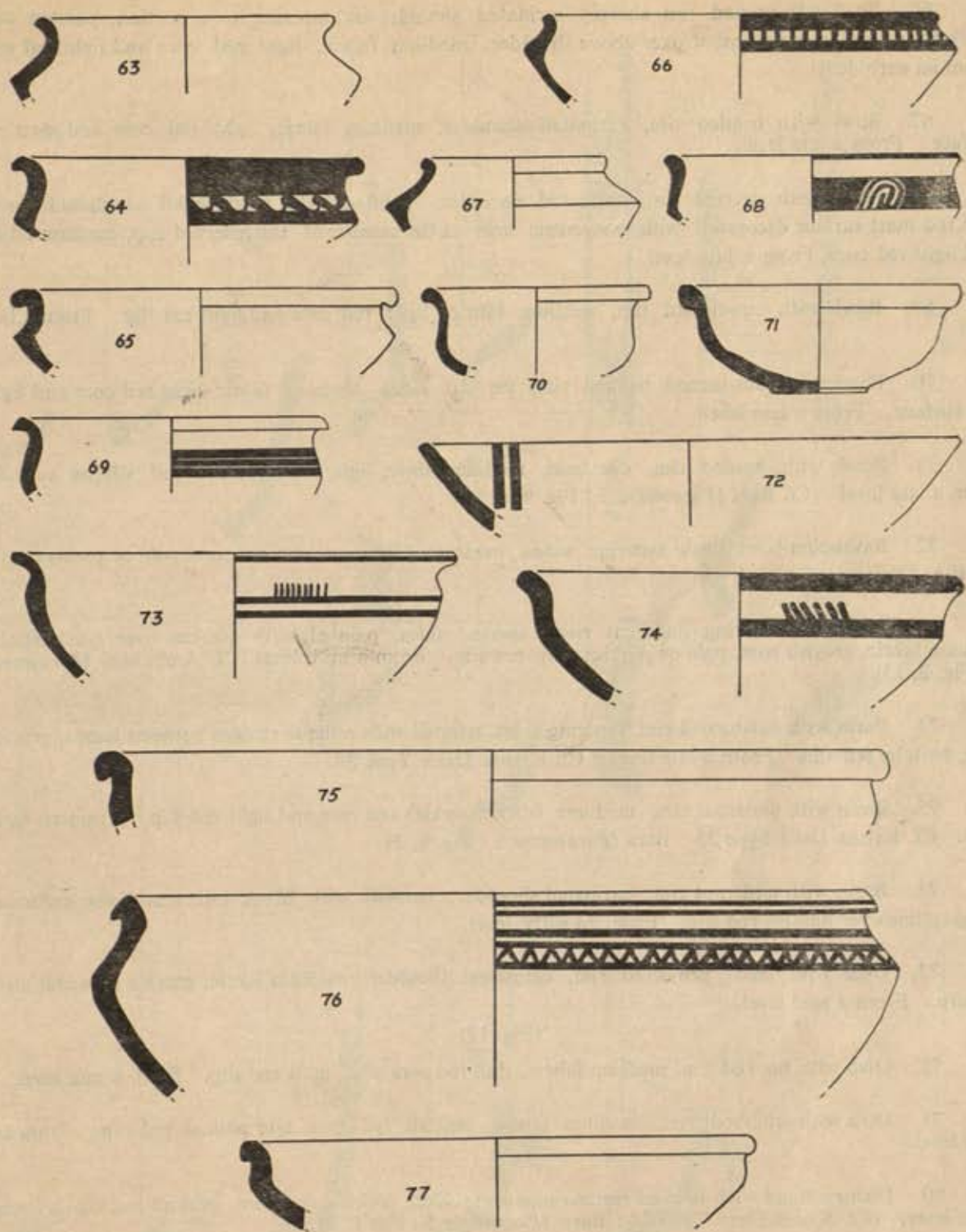
62. Bowl with concave exterior and carinated shoulder, painted with black horizontal bands intersected by oblique strokes, medium fabric, pinkish red core and matt red slip. From a late level. Variant 62A is distinguished by an unpainted less squatish form.

(Fig. 11)

63. Bowl with everted rim and sharp carinated shoulder, medium fabric, light red core and dull red slip. From a late level. Cf. Bara (*Puratattva*, 5 : Fig. 9, 10).

64. Bowl with out curved rim and sharp carinated shoulder, painted with black bands at rim and shoulder enclosing zigzag band, medium fabric, pinkish red core and matt red slip. From a mid level.

65. Bowl with hooked rim, carinated shoulder, medium fabric, light red core and dull red slip. From a Late level.



CM. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Fig. 11. Pottery from Mitathal IIB : Late Harappan Ware

66. Bowl with everted rim sharply carinated shoulder and tapering lower portion, painted with black bands enclosing vertical strokes above shoulder, medium fabric, light red core and light red slip. From an early level.

67. Bowl with beaded rim, carinated shoulder, medium fabric, light red core and matt red surface. From a late level.

68. Bowl with everted rim, carinated shoulder, painted with black band at shoulder over dull red matt surface decorated with concentric arcs in the manner of the reserved slip, medium fabric and light red core, From a late level.

69. Bowl with out-turned rim, medium fabric, light red core and light red slip. From a late level.

70. Bowl with out-turned beaked rim, vertical sides, medium fabric, light red core and light red surface. From a late level.

71. Bowl with beaded rim, disc base, medium fabric, light red core, and self slipped surface. From a late level. Cf. Bara (*Puratattva* 5 : Fig. 9, 6)

72. Basin-cum-bowl with tapering sides, medium fabric, pinkish red core, pale or pinkish matt red slip. From a mid level.

73. Basin with flaring undercut rim, tapering sides, painted with strokes over black bands, medium fabric, greyish core, pale or pinkish matt red slip. From a mid level. Cf. Ambkheri (*Puratattva* 5 : Fig. 2, 13).

74. Basin with out-turned rim, tapering sides, painted with oblique strokes between bands, greyish core, blotchy red slip. From a late level. Cf. Krisna Deva Type 20.

75. Basin with undercut rim, medium fabric, pinkish red core and light red slip. From an early level. Cf. Krisna Deva Type 25 ; Bara (*Puratattva* 5 : Fig. 8, 2).

76. Basin with undercut rim, carinated shoulder, painted with black horizontal lines, enclosing a zigzag line over pinkish red slip. From an early level.

77. Dish with short projected rim, carinated shoulder, medium fabric, greyish core and matt red slip. From a mid level.

(Fig. 12)

78. Dish with hooked rim, medium fabric, dull red core and matt red slip. From a mid level.

79. Dish with clubbed rim, medium fabric, pinkish red core and pinkish red slip. From an early level.

80. Dish on stand with hooked rim carinated shoulder, pinkish red core, pinkish red slip. From a late level. (Cf. Krisna Deva Type 22 ; Bara (*Puratattva* 5 : Fig. 8, 2).

81. Dish with thick projected rim and carinated shoulder, medium fabric, light red core and dull red surface, From a late level. Cf. Krisna Deva Type 20A.

82. Dish with thickened rim, light red core and matt red slip. From a mid level.

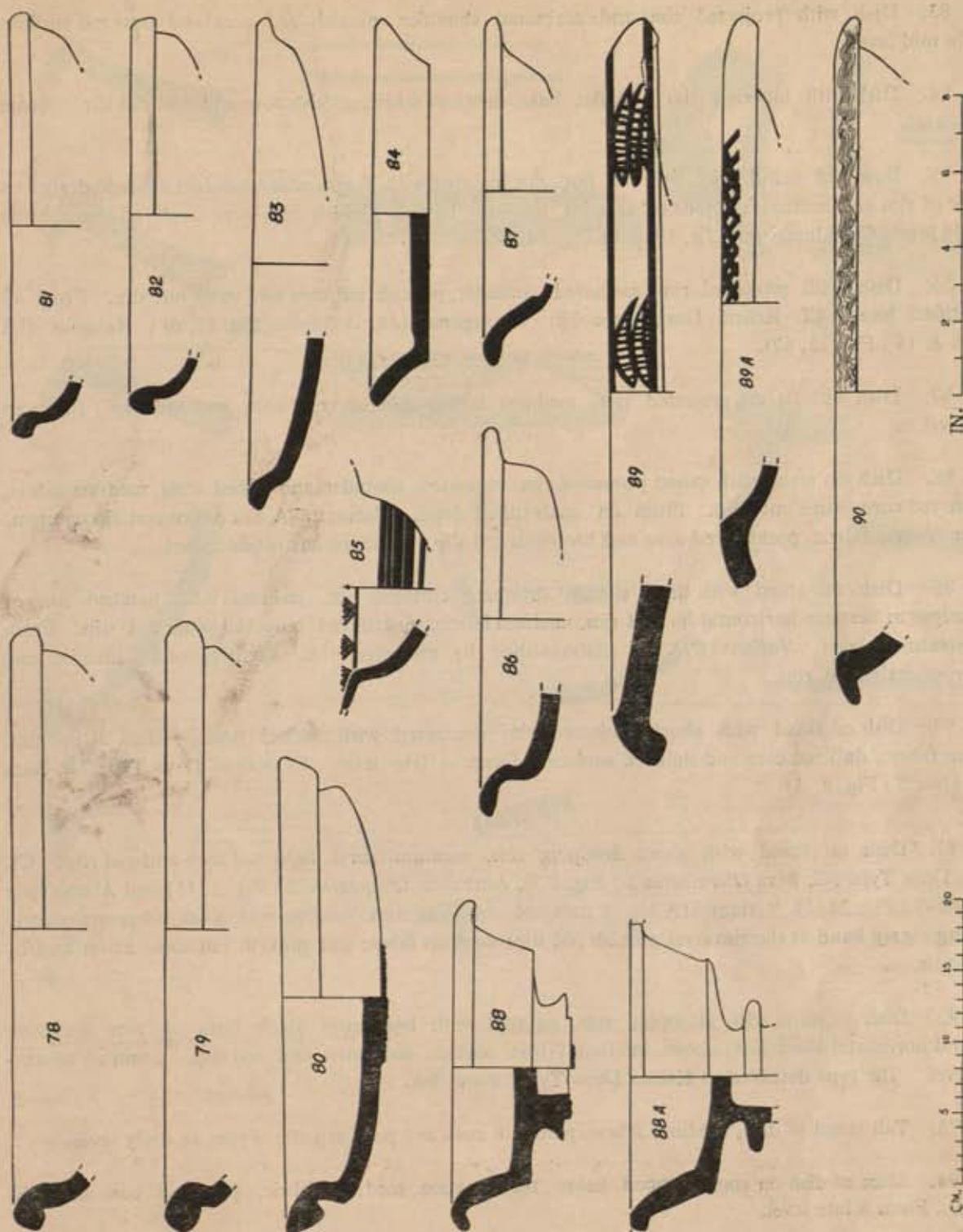


Fig. 12. Pottery from Mitathal IIB : Late Harappan Ware

83. Dish with projected rim and carinated shoulder, pinkish red core and matt red surface. From a mid level.

84. Dish with tapering rim and flat base, medium fabric, greyish core and dull red slip. From a mid level.

85. Bowl on stand with splayed out rim, painted with fragmentary hatched triangle design on interior of rim and horizontal bands on exterior, medium fabric, pinkish red core and red slip. From an early level. Cf. Alamgirpur (IA, 1958-9 : Fig. 24, 24)

86. Dish with projected rim, carinated shoulder, pinkish red core and worn out slip. From an unstratified level. Cf. Krisna Deva Type 7B; Alamgirpur (IA, 1958-9 : Fig. 25, 6) ; Rangpur IIA (AI, 18 & 19 : Fig. 22, 67).

87. Dish with flaring projected rim, medium fabric, pinkish red core and red slip. From an early level.

88. Dish on stand with raised projected rim, carinated shoulder and ribbed stem, medium fabric, pinkish red core, worn out slip. From an unstratified level. Variant 88A has prominent rib on stem, medium coarse fabric, pinkish red core and brownish red slip. From an unstratified level.

89. Dish on stand with thick slightly drooping clubbed rim, painted with hatched fish or leaf designs in between horizontal lines at rim, medium fabric, pinkish red core and plum red slip. From an unstratified level. Variant 89A is distinguished by projected rim, slightly deeper interior and criss cross design on rim.

90. Dish on stand with short projected rim decorated with incised flowing lines at the rim, medium fabric, dull red core and dull red surface. From a late level. Cf. Krisna Deva Type 7A; Bara (*Puratattva* 5 : Fig. 8, 1)

(Fig. 13)

91. Dish on stand with short drooping rim, medium fabric, light red core and red slip. Cf. Krisna Deva Type 9C, Bara (*Puratattva* 5 : Fig. 8,3), Ambkheri (*Puratattva* 5 : Fig. 2, 15) and Alamgirpur (IA, 1958-9 : Fig. 24, 1). Variant 91A has a medium drooping rim, painted with black horizontal bands enclosing zigzag band at the rim over pinkish red slip, medium fabric and pinkish red core. From unstratified levels.

92. Dish on stand with drooping rim, painted with horizontal black lines on rim enclosing loops and horizontal black lines above, medium fabric, pinkish red core and red slip. From an unstratified level. The type devolved to Krisna Deva Types 8 and 8A.

93. Tall stand of dish, medium fabric, pale red core and pale red slip. From an early level.

94. Stem of dish on stand ribbed below the junction, medium fabric, pale red core and light red slip. From a late level.

95. Stem of dish on stand with expanded base, medium fabric, light red core, light red slip and painted with black horizontal band at base. From an early level.

96. Stem of dish on stand with recurved base, medium fabric, dull red core and dull red surface. From a mid level. Cf. Rangpur IIA (AI, 18 & 19 : Fig. 23, 72B).

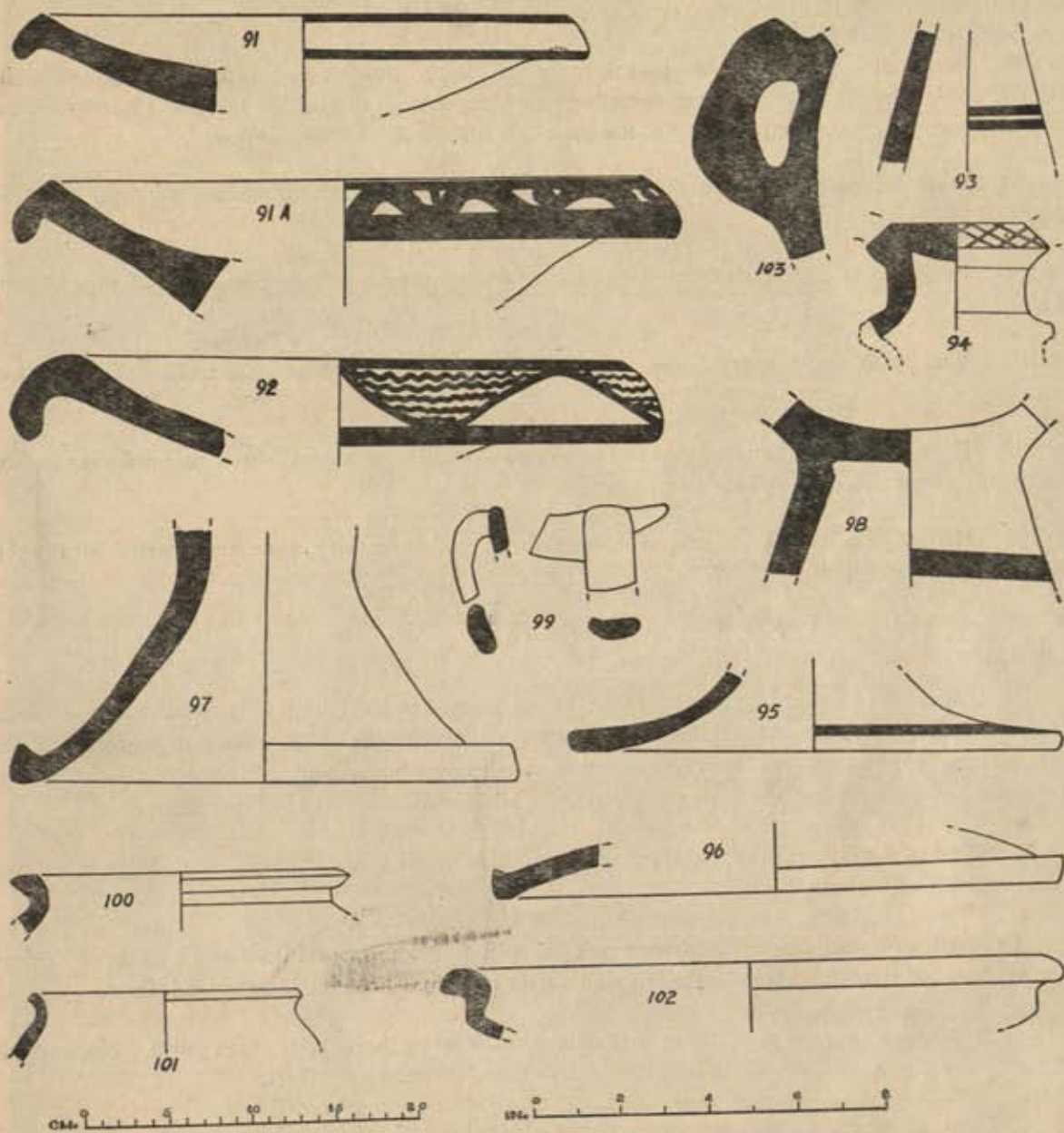


Fig. 13. Pottery from Mitathal 11B : Late Harappan Ware

97. Stem of dish on stand with recurved base, medium fabric, dull red core and dull red slip. From a mid level. Cf. Krisna Deva Type C; Bara (*Puratattva* 5 : Fig. 8, 4).

98. Broad dish on stand, medium fabric, red core, pinkish red slip and painted with black concentric circles superimposed by lines radiating from the central ring at the top and a horizontal band on sides. From an unstratified level. Cf. Rangpur IIB (*AI*, 18 & 19 : Fig. 29, 36).

99. Vase with a loop handle of flatish section, medium fabric and pinkish red core. From an unstratified level.

100. Fragment of a vase with projected rim, medium fabric, greyish core and buff slip. From a mid level.

101. Vase with short everted rim, medium fabric, grey core, matt grey surface. From an early level.

102. Dish with thick projected rim and carinated shoulder, medium fabric, pale red core and buff slip or wash. From an unstratified level.

103. Handle of a hand made vase of coarse fabric, coarse greyish core and treated with pinkish wash. From an early level.

(Pl. IX)

1. Fragment of a vase of medium thin red ware painted in black with horizontal bands enclosing a chevron design between oblique lines and loops with dots on the outer sides and a group of four ovals containing dots within and fronds on all the four sides over buffish slip. From a mid level. Variant 1A represents a fragment of the same pot having an additional cross hatched hide design.

2. Sherd of a medium thick red ware vase painted with thick black loops over dull red exterior. From a late level of Period IIB.

3. Sherd of a medium thin red ware painted with black horizontal lines and a chain of concave sided cross hatched triangles above enclosing plants over red slip. From an unstratified level.

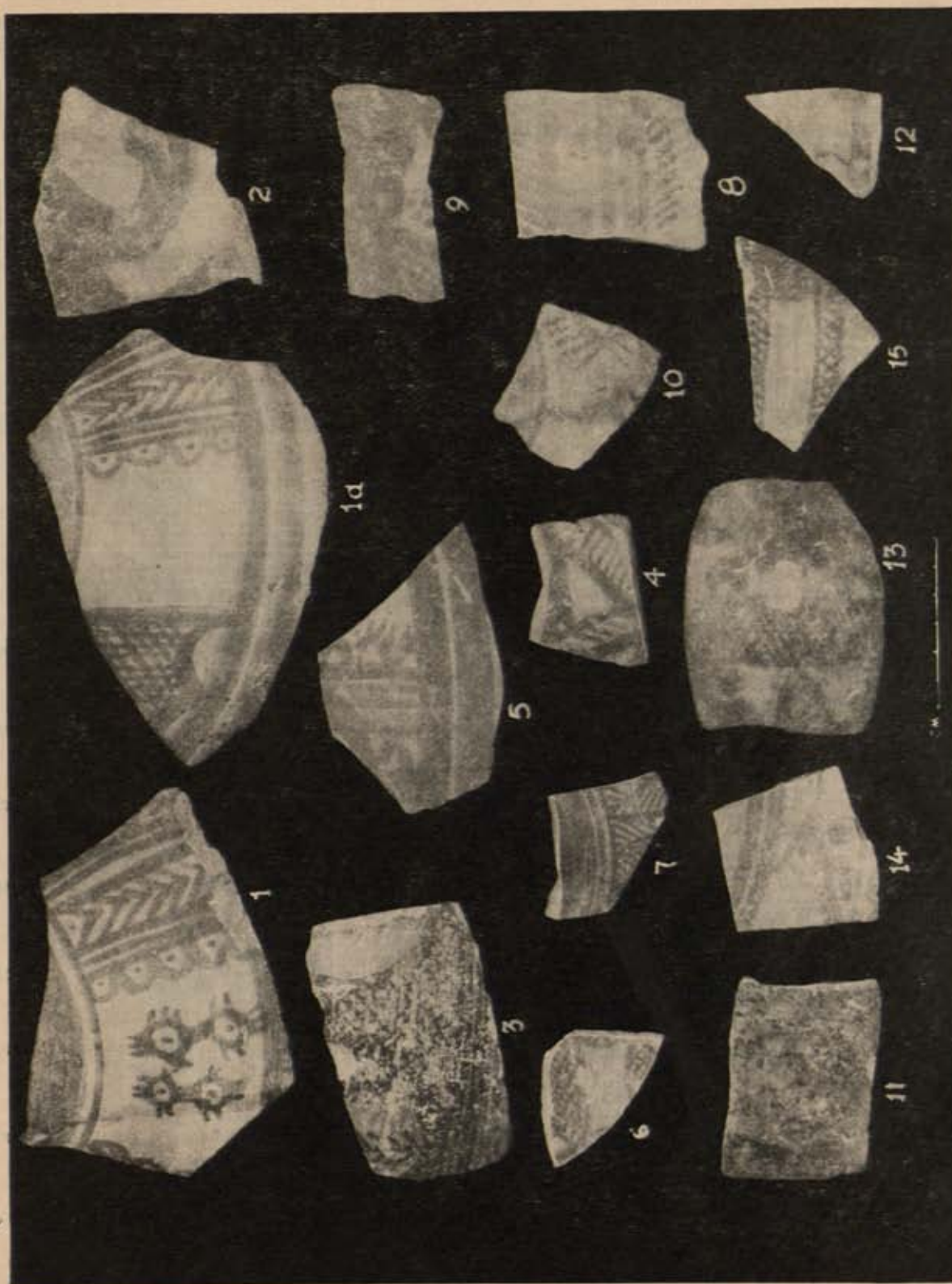
4. Sherd of a medium thick red ware painted with black horizontal band with oblique ladder like designs converging at base below over pale red surface. From a mid level.

5. Sherd of a medium thin red ware painted with black horizontal band and a group of vertical lines enclosed by loops with fronds over light red slip. From a mid level. Cf. Rangpur IIC (*AI*, 18 & 19 : Fig. 33, 14a).

6. Sherd of a medium thin red ware painted in black with cross hatched oval designs forming a rough rectangle over red slip. From a mid level.

7. Sherd of a thin red ware painted with black horizontal band and thin lines above hatched triangles over red slip. From a mid level.

8. Sherd of a thick red ware painted with vertical lines having short strokes on either side above a horizontal band over dull red slip. From a late level.



Painted Pottery (Period IIB)

9. Sherd of a medium thin red ware painted in black with horizontal bands enclosing wavy line and cross hatched inverted triangles with the blanks containing dots over matt red surface. From an early level.

10. Sherd of a thin buff slipped ware painted in chocolate with horizontal bands enclosing an oval motif with fronds resembling the eyelash design.

11. Sherd of a medium thick red ware painted with thick black bands enclosing a stippled circle over dull smoky red surface. From a late level.

12. Sherd of a medium thin red ware painted with an insect or maize *bhuta* design over matt red surface. From an unstratified level.

13. Sherd of a thin red ware bowl painted in black with cross hatched vertical or oval designs over red slip. From a mid level.

14. Sherd of a medium thick red ware painted in black with horizontal bands and a bird like design below over red surface. From an unstratified level.

15. Sherd of a medium thick red ware painted in black with cross hatched bands and an oval motif over pale red surface.

(Pl. X)

1. Sherd of a thin red ware painted in black with horizontal bands enclosing branches over light red matt surface. From a late level.

2. Sherd of a medium thin red ware painted in black with horizontal lines enclosing a branch with leaves over light red matt surface. From a late level.

3. Sherd of a medium thin red ware painted in black with a plant motif having thick tapering stem and branches above a horizontal band over red slip. From an early level.

4. Sherd of a medium thin red ware painted in black with a horizontal band below a branch over buffish slip. From a late level.

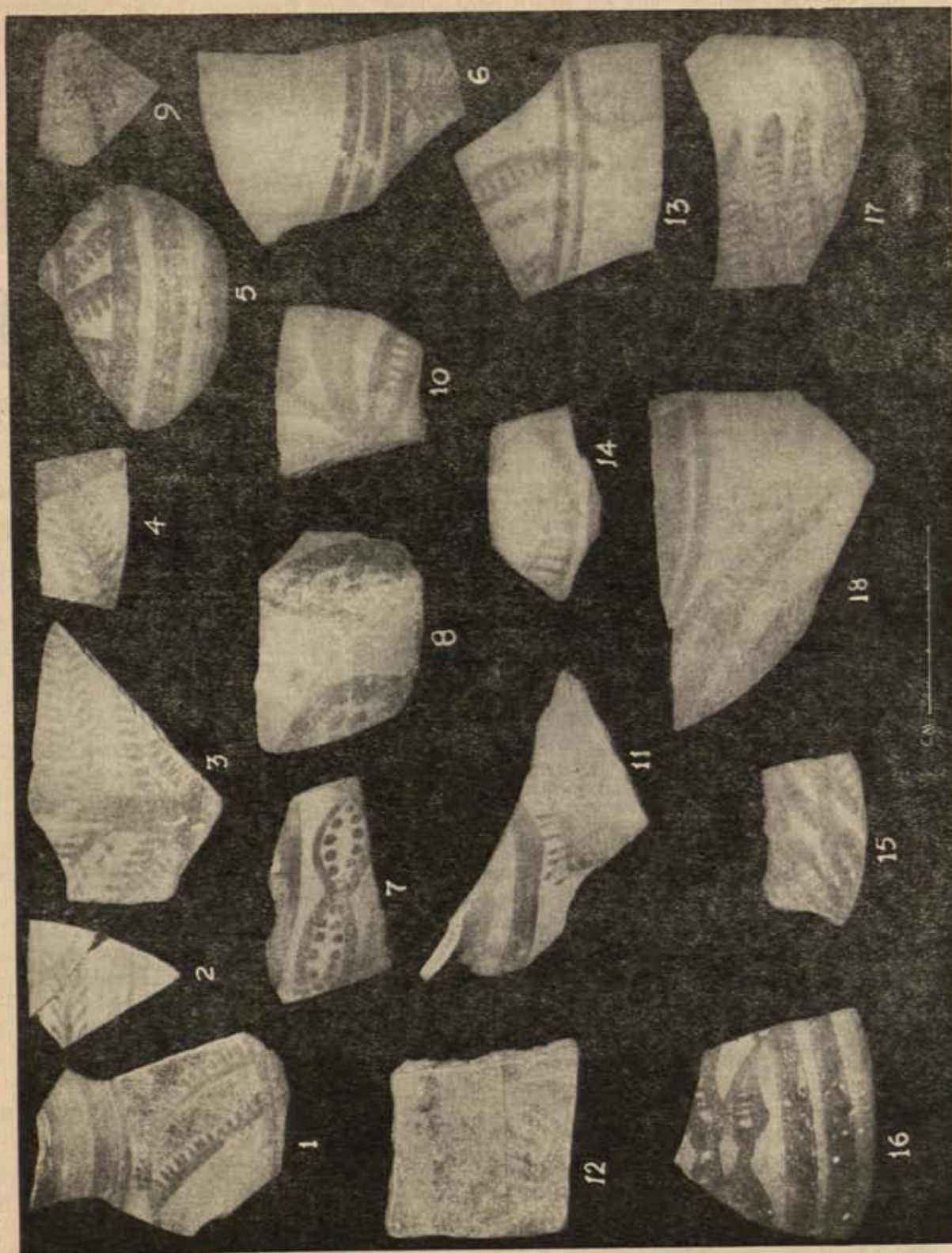
5. Sherd of a medium thin red ware painted in black with horizontal bands enclosing branches over light red wash. From a late level.

6. Sherd of a medium thick red ware painted in black with horizontal lines and branches below over dull red matt surface. From a mid level.

7. Sherd of a medium thick red ware painted in black with oval motifs having stippled interior enclosed between horizontal bands over light red matt surface. From an early level.

8. Sherd of a thin red ware painted in black with stippled ovals over red slip. From an unstratified level.

9. Sherd of a medium thick buff slipped ware painted with chocolate horizontal lines and a flower motif below. From an unstratified level.



Painted Pottery (Period IIB)

10. Sherd of a medium thick red ware painted in black with a flower plant having hatched leaves over light red slip. From an early level.

11. Sherd of a medium thin red ware painted in black with horizontal band and a flower motif over light red slip. From a late level.

12. Sherd of a medium thick red ware painted in black with horizontal bands and hatched leaves over smoky red slip. From a late level.

13. Sherd of a medium thin red ware painted in black with horizontal bands and thin hatched leaves over dull red wash. From a mid level.

14. Sherd of a medium thick buff slipped ware painted in chocolate with leaf motif over greenish buff slip. From an unstratified level.

15. Sherd of a medium thin red ware painted in black with hatched ovals in chain over buffish red surface. From an early level.

16. Sherd of a thin red ware painted in black with hatched double leaves above horizontal bands. From an early level.

17. Sherd of a medium thick red ware painted in black with hatched leaves above a horizontal band over dull red surface. From an unstratified level.

18. Sherd of a medium thick red ware painted in black with horizontal bands and hatched leaves over light red self-slipped surface. From an unstratified level.

(Pl. XI)

1. Sherd of a medium thin red ware painted in black horizontal bands enclosing hatched row of rough diamonds over dull red slip. From a late level.

2. Sherd of a thick red ware painted in black with horizontal bands enclosing cross hatched diamonds in row over dull red slip. From a late level. Cf. Rangpur IIB (AI, 18&19. Fig. 32, 34).

3. Sherd of a thick red ware painted in pinkish with obliquely hatched horizontal lines enclosing cross hatched triangles (mountain motif) and branches over pale red slip. From an unstratified level.

4. Sherd of a thin red ware painted in black with horizontal lines enclosing dotted diamonds over red slip. From an unstratified level.

5. Sherd of a medium thin buff slipped ware painted in chocolate with horizontal bands and arcading design cross hatched inbetween. From a late level.

6. Sherd of a medium thick red ware painted in black with registers horizontal bands enclosing ladders converging at top with cross hatched triangles within over light red slip. From a late level.

7. Sherd of a medium thin red ware painted in black with horizontal bands enclosing intersecting diagonals over light red slip. From a mid level.



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8. Sherd of a medium thin buffish ware painted in black horizontal bands and hatched opposed triangles meeting at apex over buffish red slip. From a late level.

9. Sherd of a thick red ware painted in black horizontal lines enclosing cross hatched opposed triangles in registers over buffish red slip. From a mid level.

(Pl. XII)

1. Sherd of a medium thick red ware painted in black with horizontal bands and roundles over light red slip. From a late level.

2. Sherd of a medium thick red ware painted in black horizontal band and oval dots over light red slip. From an unstratified level.

3. Sherd of a medium thin red ware painted in black with horizontal lines enclosing a row of dots over red slip. From a mid level.

4. Sherd of a medium thick dull red ware bowl painted in black with horizontal band at the top of the rim and a ladder design on profile over dull red slip. From a late level.

5. Sherd of a thin red ware bowl painted with hatched vertical lines in chocolate over matt buffish red surface. From an early level.

6. Sherd of a medium thin red ware bowl painted in black with hatched vertical lines in groups below a horizontal line over dull matt red surface. From an unstratified level.

7. Sherd of a medium thin bowl of red ware painted in black with a criss cross design at the shoulder over dull matt red surface. From a mid level.

8. Sherd of a medium thin red ware bowl painted in black with horizontal bands at the rim, and shoulder with a criss cross design enclosing roundles within ovaloid or semicircular blanks at intervals over dull matt red surface. From an early level.

9. Sherd of a medium thin red ware painted in black with horizontal bands enclosing loops with intermediary upper space hatched vertically over dull red slip. From a late level.

10. Sherd of a medium thin red ware painted in black with horizontal bands enclosing concentric arcs divided by vertical lines over red slip. From a mid level.

11. Sherd of a medium thin pinkish red ware painted in black horizontal bands enclosing oblique hatched loops or semicircles.

12. Sherd of a medium thin red ware painted in black with horizontal bands enclosing cross hatched triangles having convex sides

13. Sherd of a medium thin red ware painted in black with a block band decorated with concentric arcs in the reserved slip manner.

14. Sherd of a medium thin red ware bowl painted with block black band at the shoulder decorated with rough concentric arcs in the reserved slip manner.



Painted pottery (Period IIB)

15. Sherd of a medium thick pinkish red ware painted with black horizontal bands. The middle broad band is decorated with flowing lines in the reserved slip manner.

(Pl. XIII)

1. Sherd of a medium thick buff slipped ware painted with black horizontal lines in groups enclosing oblique strokes. From a mid level.

2. Sherd of a medium thick red ware painted with black horizontal band enclosing oblique strokes in groups over red slip. From a mid level.

3. Sherd of a thin buff slipped ware painted with chocolate horizontal lines intersected by groups of oblique lines. From a late level.

4. Sherd of a medium thin red ware painted with horizontal bands enclosing groups of converging oblique strokes over red slip. From a late level.

5. Sherd of a medium thick red ware painted with black horizontal bands enclosing converging groups of oblique strokes over light red self slipped surface. From a mid level.

6. Sherd of a medium thick vase painted with black horizontal broad bands enclosing groups of converging oblique strokes and circles each containing four dots over red slip. From a late level.

7. Sherd of a medium thick buff slipped ware painted with chocolate horizontal bands enclosing oblique strokes over buff slip. From a mid level.

8. Sherd of a thick red ware painted with black horizontal lines in groups enclosing verticals and zigzags in separate registers over pinkish red slip. From a late level.

9. Sherd of a medium thin red ware painted with irregular black horizontal bands enclosing wavy line and oblique strokes in separate pannels over red slip. From an early level.

10. Sherd of a medium thin pinkish red ware painted with black horizontal bands and a line and thin loops below over buffish red slip. From a mid level.

11. Sherd of a medium thick red ware painted with black horizontal bands enclosing double loops, over matt red surface. From a mid level.

12. Sherd of a medium thin red ware painted in black with horizontal bands enclosing loops. From a mid level.

13. Sherd of a medium thin red ware painted with black horizontal bands enclosing zigzag lines in registers over red. From a late level.

14. Sherds of a medium thin red ware painted in black with a horizontal band below a group of flowing vertical lines over red slip. From an early level.

(Pl. XIV)

1. Medium thick red ware sherd decorated with horizontal grooves. From a late level.



Painted pottery (Period IIB)

2. Medium thin red ware sherd decorated with sharp edged tool with incised horizontal lines sparsely intersected by oblique slashes. From a late level.

3. Medium thick red ware sherd decorated with incised horizontal lines intersected by oblique lines below the rib and slashes with a sharp edged tool. From a late level.

4. Medium thick red ware sherd decorated with incised horizontal lines intersected by groups of oblique lines in groups of six with a sharp edged tool suggesting a basket design. From a late level.

5. Sherd of a medium thick red ware decorated with incised intersecting lines. From a late level.

6. Medium thick red ware decorated with converging groups of oblique lines incised below the rib. From an unstratified level.

7. Medium thick red ware decorated with flowing incised lines over rusticated surface. From a mid level.

8. Red ware sherd of medium thickness decorated with incised flowing lines in groups of four and horizontal lines intersected by vertical or oblique lines below. From an early level.

9. Sherd of a medium thick red ware decorated with incised horizontal lines enclosing flowing lines in groups of three. From an unstratified level.

10. Medium thick red ware sherd decorated with shallow horizontal grooves enclosing groups of flowing vertical lines.

11. Sherd of a thick red ware decorated with rope marks. From a late level.

12. Thick crimson red sherd decorated with rope marks forming chevron design over the ribbed exterior. From a mid level.

13. Medium thick sherd of red ware decorated with mild parallel ridges over rusticated surface. From a mid level.

14. Thick sherd of red ware decorated with flowing mild ridges over rusticated surface. From a late level.

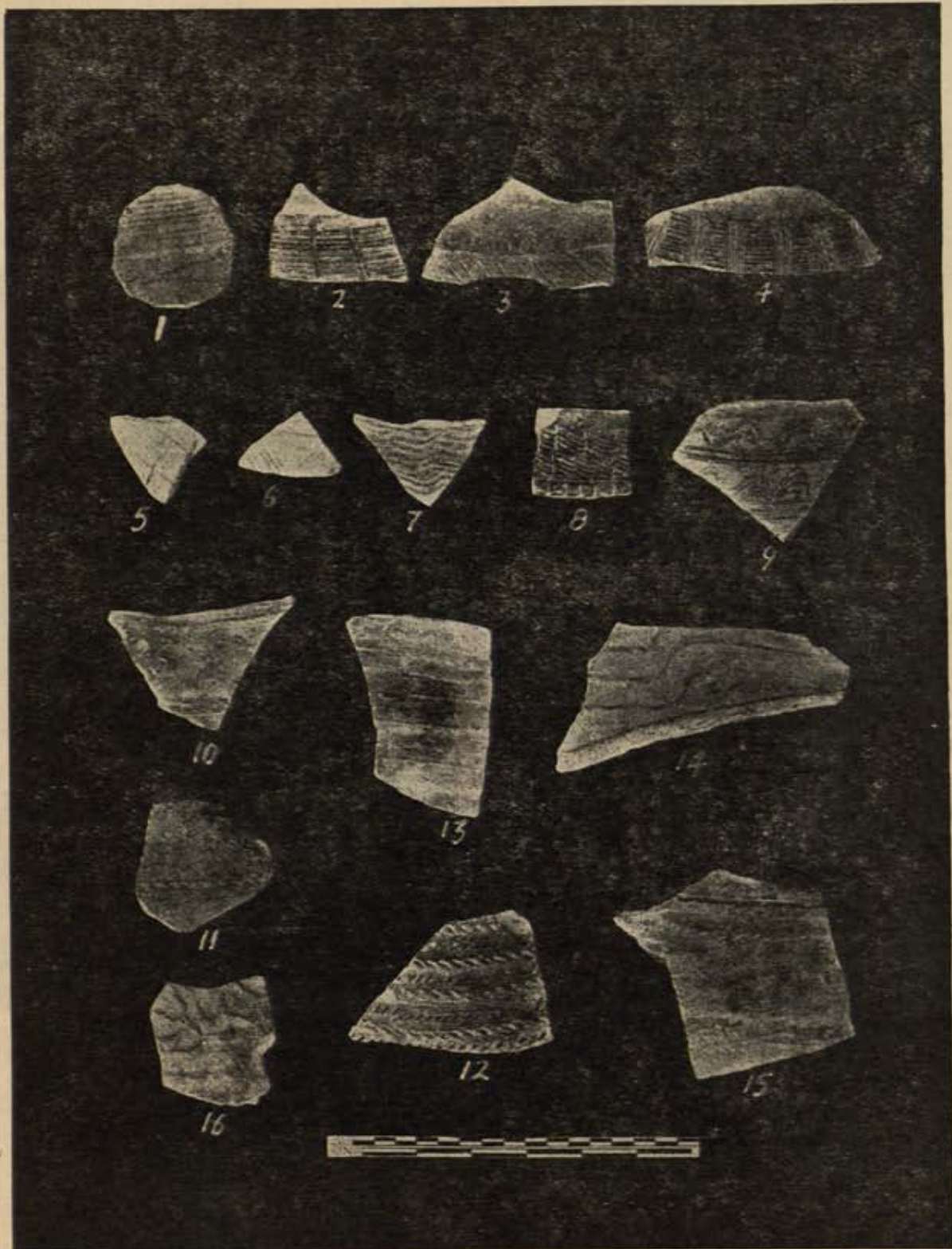
15. Thick sherd of red ware having ribbed shoulder and rusticated lower surface with mild irregular ridges decorated with incised slashes. From a late level.

16. Medium thick sherd of red ware rusticated on the exterior forming irregular ridges. From a late level.

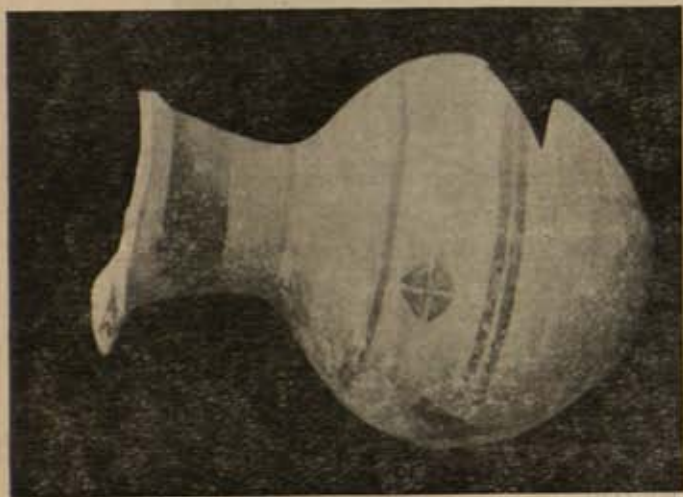
(Pl. XV)

1. Vase of thin pinkish red ware with flanged rim and oval body. Painted with black horizontal bands of varying thickness and a maltese cross at the belly. From an unstratified level.

2. Coarse red ware hand made sherd, preserving the impressions of a coarse cloth on the interior. From an early level.



Decorated pottery (Period IIB)



1. Painted vase (Period IIB)



2. Hand made ware bearing cloth impression (Period IIB)



3. Hand made ware bearing basket impressions on interior (Period IIB)

3. Coarse grey ware sherd, hand made, having deep basket impressions on the interior. From an early level.

7. OTHER FINDS

A. Stone Objects

The stone objects recovered from the excavations include weights, marbles, ring stones, chert blade, quern and rubber stones, pebble hammer and a core.

(i) *Weights* (Pl. XVI)

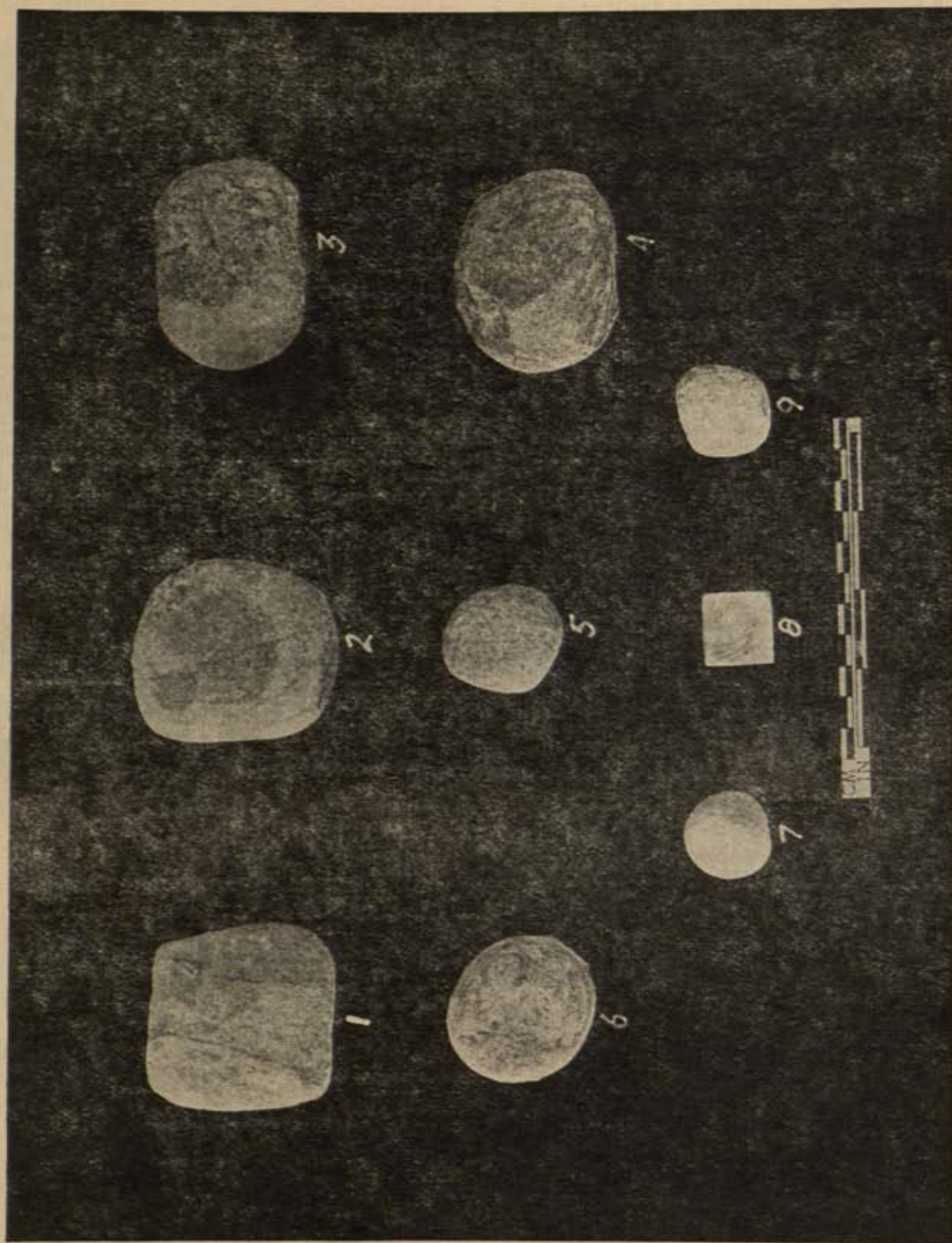
In all 17 stone weights were recovered from the excavations of which 11 came from the stratified deposits. The weights can be divided into four categories on the basis of their shape, viz; cubical, cuboid, discoid and irregular shaped. The cubical chert weight (Pl. XVI.8) is rare at the site and includes only two specimen of which one is housed in the Museum at Jhajjar. Both were collected from unstratified deposits but may be assigned to Period IIA, being so characteristic of the Harappa culture at the classical sites. The cuboid weights include nine examples of sand stone weights and one piece of granite. The weights are of rough manufacture and were perhaps used for heavier measurements. Of these six belong to Period IIB, while three come from unstratified deposits. All but two of these are made of sand stone, while two others being manufactured of quartzite pebbles. An irregular shaped unusually heavy grey granite pebble (Pl. XVI, 4) seems also to have been used as a weight. It comes from Period IIB.

(ii) *Balls and marbles.* (Pl. XVII A)

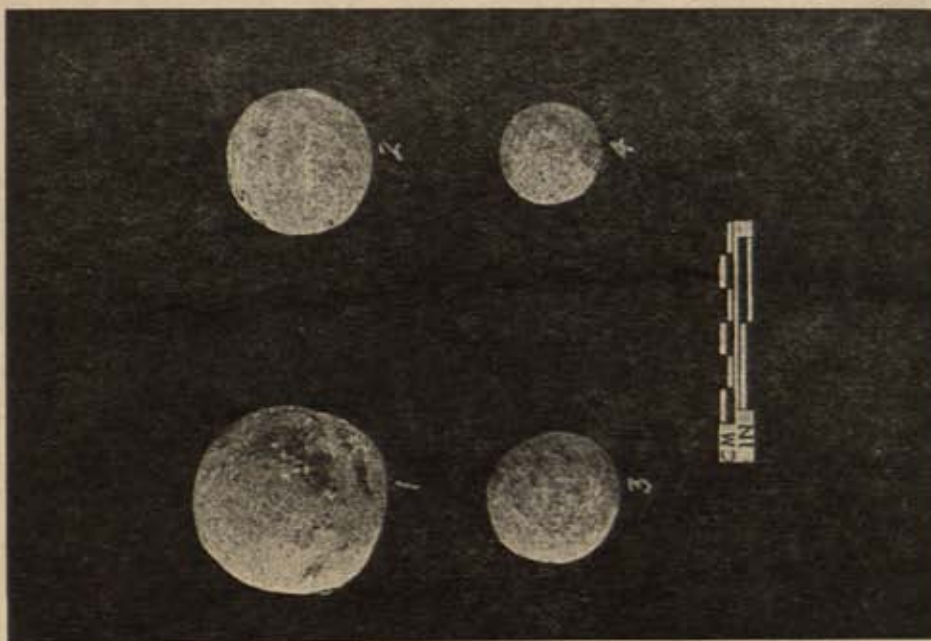
Thirteen balls and marbles of stone were recovered from the site in various sizes. Of these one comes from Period I, two from Period IIA, eight from Period IIB and two from unstratified deposit. The note-worthy feature of the balls is that the size in a few cases in Period IIB is bigger.

(iii) *Ring stone and Pebble hammers* (Pl. XVII B). *Chert blade and Agate core* (Pl. XIX A)

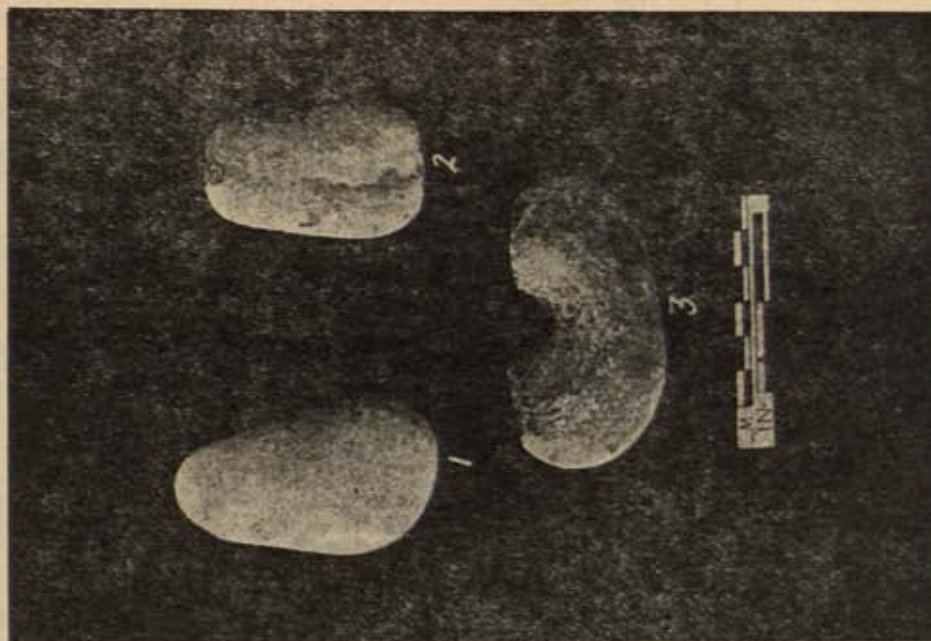
A fragmentary ring stone with a characteristic hour glass section was recovered from an unstratified deposit. It is made of grey sand stone and is partly polished on either side. It is interesting to recall that a small polished axe was recovered from Kalibangan-II during 1966-7.¹³¹ The possibility of the existence of neolithic folks side by side in the region specially in the nearby areas cannot be ruled out. Only one chert ribbon flake blade was found from the unstratified deposits of the site. The blade showed traces of original retouching which seems to have got blunted by use. The use of the tool is also indicated by the glossy polish along the edges. Besides, the pebbles of quartzite, one each from Periods IIA and IIB, were found from the site. The pebbles are blunt at both ends and show no signs of working. The example from Period IIB, however, shows some abrasive marks on sides and battering marks on the ends indicating its use as a pebble hammer. The other piece was less used.



Stone Weights (Period IIA and IIB)



A. Stone balls and marbles (Period IIA and IIB)



B. Ring stone 3, pebble hammers (unstratified)

(Pl. XVII B)

1. Quartzite pebble used as pebble hammer. From a mid level of Period IIA. (MTL 2,450).
2. Quartzite pebble used as pebble hammer. From an early level of Period IIB. (MTL-1,327).
3. Ring stone of grey sand stone ; irregular shape and hour glass section. From an unstratified level (MTL 1,664).

(Pl. XIX A)

1. Chert ribbon flake with originally retouched sides blunted and polished by use. From an unstratified deposit (MTL-1,758),
2. Agate core. From an unstratified level (MTL-665).

(iv) *Saddle Querns and pestles*

In all 28 pieces of saddle querns were recovered from the site which are generally made of red sand stone. Of these 27 have been found from the excavations, while one came from the surface. Among the excavated finds 12 pieces of the querns came from Period IIA and 15 from Period IIB.

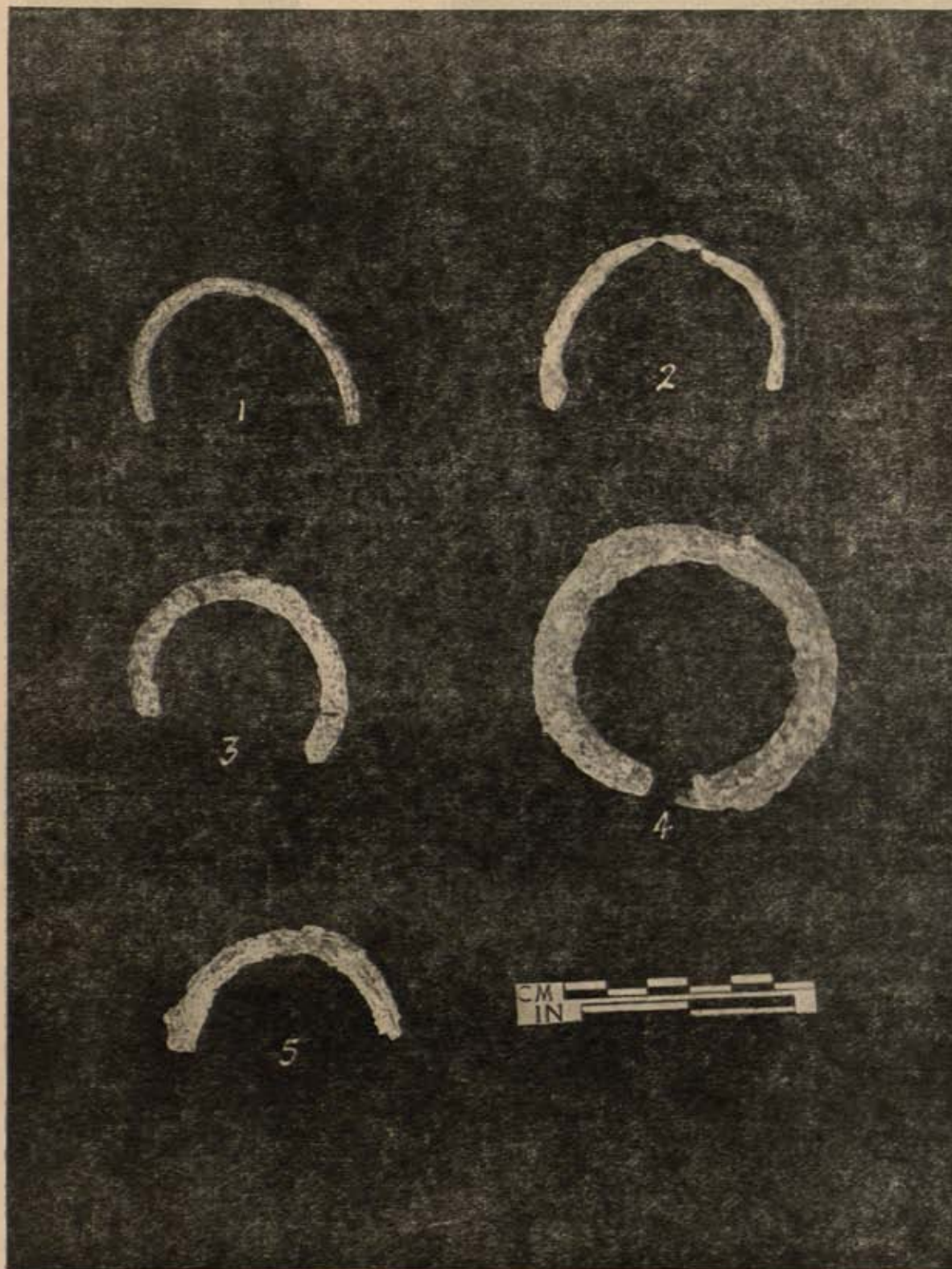
The pestles discovered from the site include 21 pieces of which 19 come from stratified and 2 from unstratified deposits. These are generally made of red sand stone, while quartzite and lime stone was also used in some cases. Of these 9 pestles have been recovered from Period IIA and 10 from Period IIB. In one case a broken quern piece had been reused as a rubber stone in Period IIA. The rubber stones of Period IIB are generally elongated and well made. A few rounded pebbles have also been used for this purpose in Period IIB. One of these is made of lime stone. Among those from the surface are included a pestle of quartzite and another of red sand stone.

B. Metal Objects (Pl. XVIII and XIX, Fig. 14)

In all 16 copper objects were discovered from Mitathal of which 13 came from the excavations and 3 from the unstratified levels. Period I has yielded only a single fragment of a bangle. From Period IIA were recovered 5 objects of which two are of indeterminate shape. The remaining include a medium sized copper ring and a copper wire of square section. Period IIB has yielded 7 objects in all, three of which are fragmentary and indeterminate in shape. The remaining four are better preserved and include a copper ring with circular section (Pl. XVIII, 4); a *parasu* with thin blade (Pl. XIX, 3); and a celt with rectangular section and mild convex cutting edge (Pl. XIX, 2). Of these implements the ring and celt show affinities with those of the 'Copper Hoards' from Ganga-Yamuna Doab¹³². The copper *Parasu* from this phase bears akinness to the one found at Kurdi¹³³ in Nagaur district of Rajasthan. Besides, the surface finds include two pieces of bangles with a rounded and a flatish sections, and an object of indeterminate shape.

(Pl. XVIII)

1. Copper bangle of plano-convex section. From an unstratified level (MTL-1, 16). (Fig.14,1).
2. Copper bangle of elliptical section. From a late level of Period IIB (MTL-1, 275). (Fig.14,3)



Copper bangles, 3 Period IIA, 2 and 4 Period IIB, 1 and 5 unstratified



A. Chert blade and agate core (unstratified)



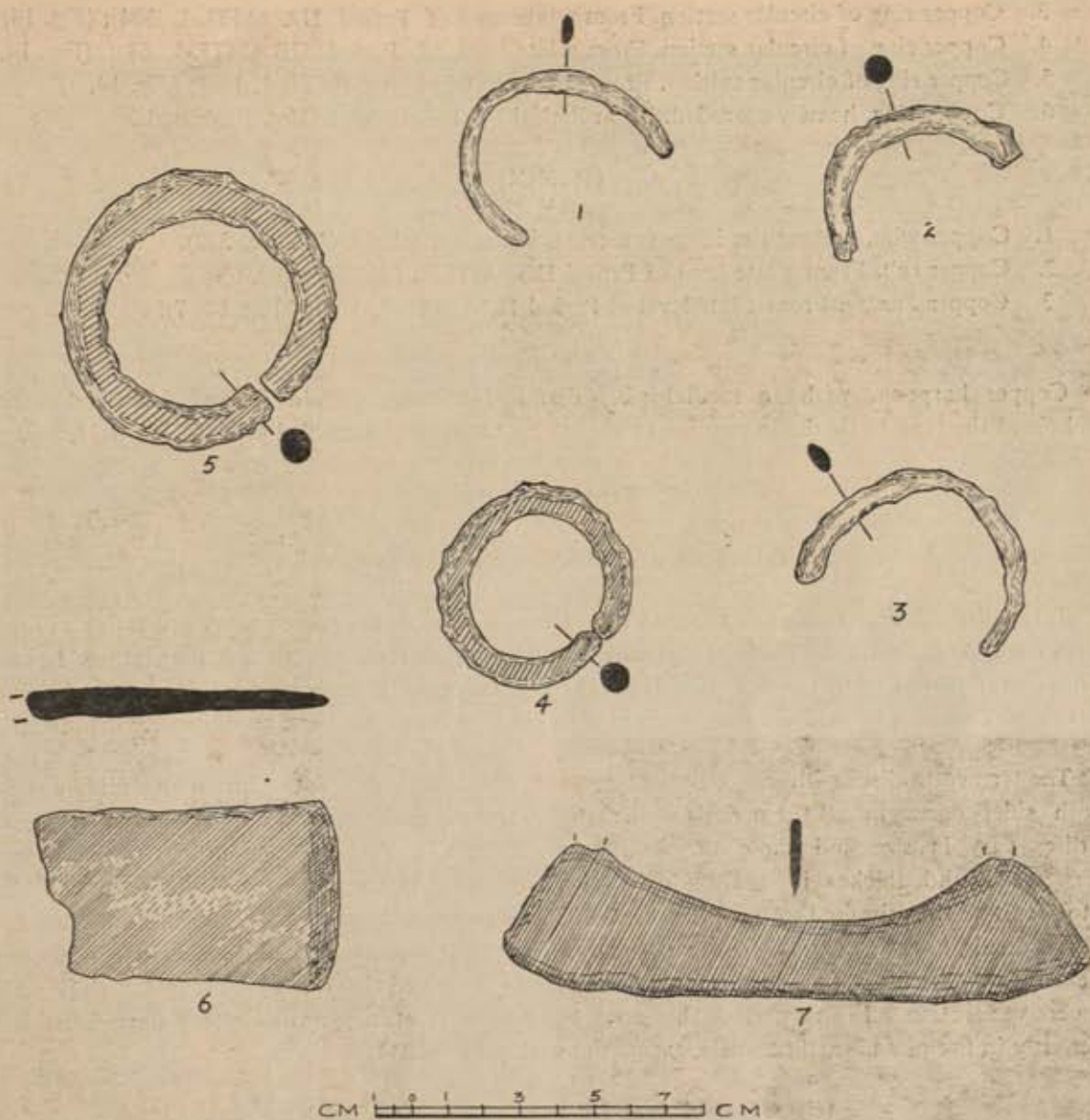
2. Copper Celt (Pd. IIB)



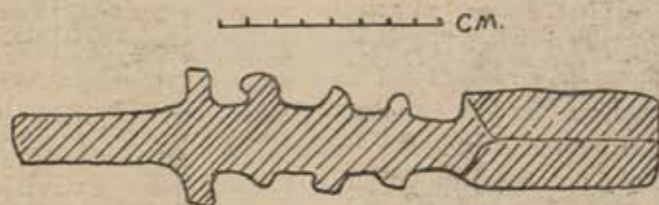
3. Copper Parasu (Pd. IIB)



1. * Copper wire (Pd. IIA)



A. Copper Objects, 4 Pd. IIA; 3, 5-7 Pd. IIB; 1 and 2 unstratified



B. Copper harpoon (unstratified)
Fig. 14.

3. Copper ring of circular section. From a late level of Period IIA (MTL-1, 304); (Fig. 14, 4).
4. Copper ring of circular section. From a late level of Period IIB (MTL-1, 68); (Fig. 14, 5).
5. Copper ring of circular section. From an unstratified level (MTL 1, 186); (Fig. 14, 2)
6. Copper ring, heavily corroded. From Period I (MTL-1, 562); (Not illustrated).

(Pl. XIX)

1. Copper wire, rectangular in cross section. From Period IIA (MTL-1, 522).
2. Copper celt. From a late level of Period IIB (MTL-1, 75); (Fig. 14, 6).
3. Copper *Parasu*. From a late level of Period IIB (MTL-1, 129); (Fig. 14, 7).

(Fig. 14 B)

Copper harpoon, with a medial rib, diamond section, curved barbs (moulded variety) and a hole at the tang to tie the implement to the stick. From an unstratified level. Cf. Saipai (*Puratattva* 5, Fig. 22,3).

C. Terracotta Objects

(i) *Triangular cakes and elliptical discs*

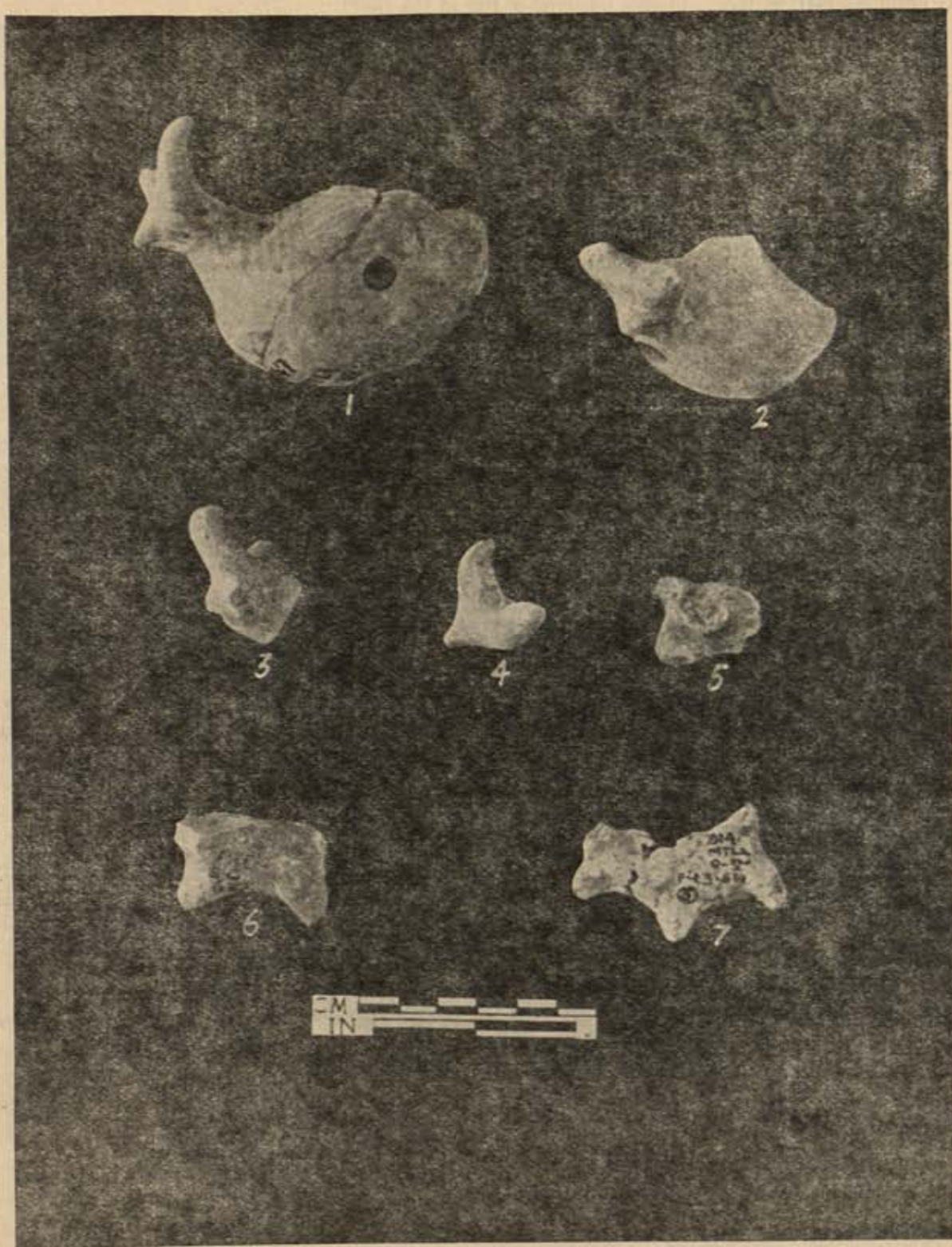
Terracotta triangular cakes so typical of the Harappa culture have been recovered rather in limited numbers from the excavation. These are mainly found in Period IIA, though a few examples have also been discovered from Period I and Period IIB. The cakes generally have rounded corners and occur in various sizes. These are of medium fabric mixed with chaff as degreasant and are coarsely manufactured.

The terracotta discs with an elliptical section marked with finger tips on the middle portion on both sides occur in all the periods at the site. A few of these discs bear the finger impression. The discs vary in size and show an evolution in form. In Period I the examples are generally smaller in size and thicker in the middle invariably bearing the finger tip depressions on both the faces to facilitate the grip for throwing the missile. The disc grows larger in size and becomes flatish in section gradually in the later levels of the site showing a clear evolution of the type. In Period IIB a number of examples bear finger tip marks on one face only and the other face is plain thus making a planoconvex section. In this period the discs are generally of rough make and have been baked indifferently in fire pits unearthed in the excavations (See Pl. VIB)

(ii) *Wheeled toys and animal figurines (Pl. XX)*

In the present excavation there were recovered 15 wheeled toys. Of these only six came from the stratified deposits and the rest from unstratified deposits. The toys represent bull or ram headed and bird bodied figurines which have lateral perforation for wheeling and a longitudinal hole for passing a stick across to drag it. The animals have pointed muzzle and horns distinguishing them as bull or ram. Of the excavated toys two come from Period IIA. The toys of this sub period are better prepared than those of the later phase. These are, however, unslipped and the finger marks are visible. Both the toys are painted on the back with cross hatched or oblique lines in black indicating the wings. Even the horns of the bull are painted. The toys of Period IIB are still cruder and no signs of painting are preserved. They are four in number and represent bull and ram headed toys. The surface finds also include bull and ram types. The toys have their counterparts from the late Harappan sites such as Bargaon¹³⁴, Alamgirpur¹³⁵, etc.

1. Wheeled toy of medium fabric in red ware representing horned head of bull and body of a bird, beaked muzzle, lateral perforations to wheel and longitudinal hole for passing a dragging stick or



Terracotta wheeled toys and animal figurines, 1 Period IIA, 2, 3 and 7 Period IIB, and 4-6 unstratified

rope. It is devoid of any surface treatment and is painted in black with oblique lines indicating the feathers over unslipped matt surface. From a late level of Period IIA (MTL 1, 547).

2. Fragment of a wheeled toy with bull head and medium red fabric. It is devoid of any treatment on the surface. From an early level of Period IIB. (MTL 1, 321).

3. Fragment of a wheeled toy with ram head in smoky red ware of medium fabric. From a late level of Period IIB (MTL 1, 69).

4. Fragment of a wheeled toy with bull head in red ware of medium fabric. From an unstratified level (MTL 1, 736).

5. Fragment of an animal figurine of red ware, short horns, perforated muzzle and medium fabric. From an unstratified level (MTL 1, 57).

6. Animal figurine of red ware with mutilated head, medium fabric, well modelled, treated with a chocolate slip. From an unstratified level (MTL 1, 637).

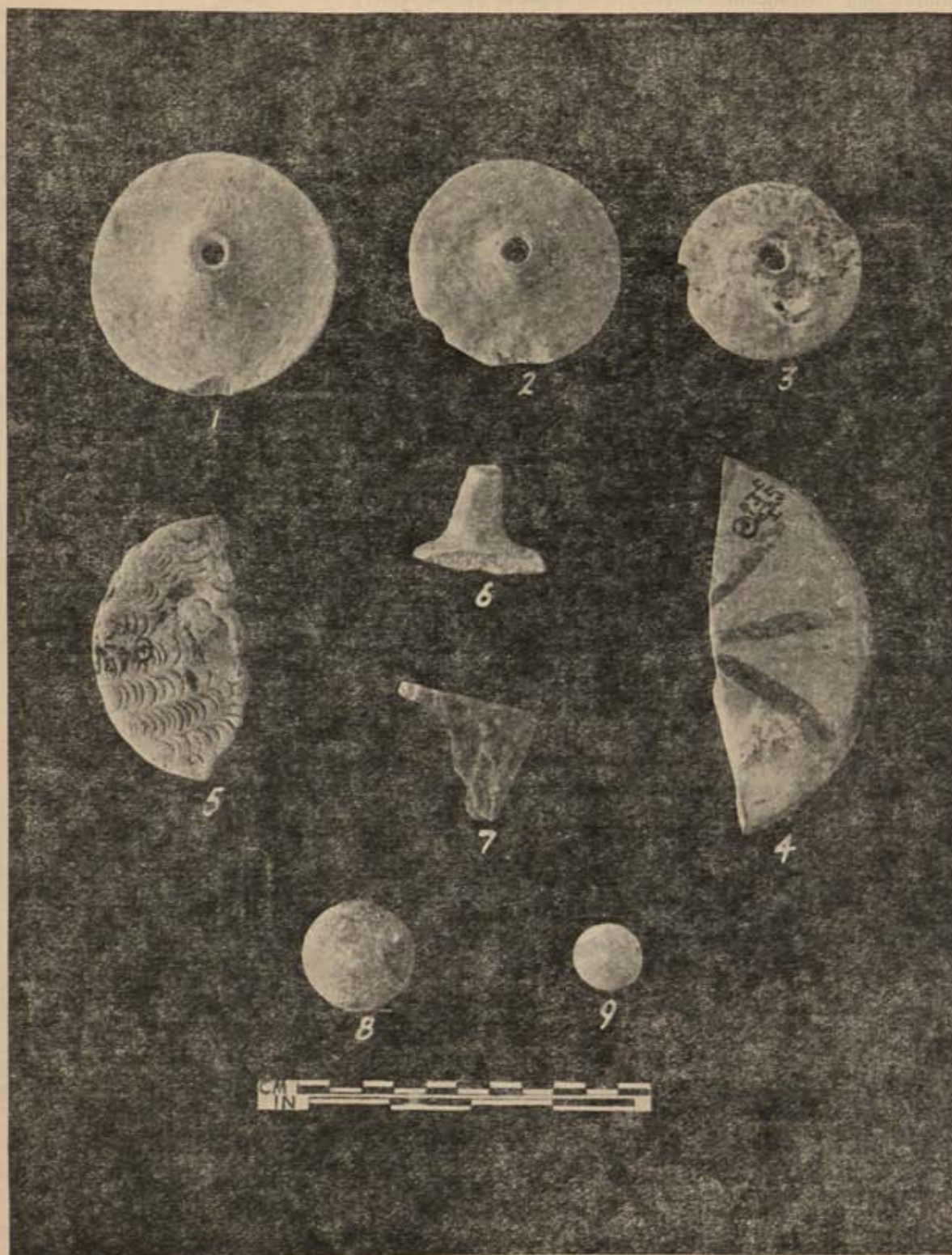
7. Animal figurine possibly representing a dog of dull red ware of medium fabric and crudely modelled. From a late level of Period IIB (MTL 2, 314).

(iii) *Toy-cart wheels and other objects (Pl. XXI)*

In all 43 terracotta toy-cart-wheels were collected from the site of which 31 came from stratified deposits. No wheel was recovered from Period I. Period IIA yielded 11 wheels including the one made on a potsherd. These are of better make than those manufactured in the later phase. The wheels have generally plain inner face while the outer face is slightly convex and has a projecting hub on the exterior as a prominent feature. Some of the wheels are treated with a buffish wash and painted in black on the exterior with multiple parallel lines on the four sides forming a hollow square around the hub. A distinct variety is represented by a fragmentary disc treated with red wash and painted with black converging strokes representing the spokes and a band on the peripheral edge. The example is unusually large in size. Period IIB has yielded 20 wheels. All the examples belong to the externally protruding hub variety and are only distinguished by their shorter size and thicker section. The wheels from this site are similar to those from Harappa, Mohenjodaro, Lothal, Kalibangan II, Ropar I, Bargaon, Alamgirpur I, etc.

Other terracotta objects recovered from the excavation included balls, marbles, rectangular box, decorated disc, etc. Of these the terracotta disc and the box deserve mention. The circular disc from Period IIA is of medium fabric and decorated with nail design on all sides. The design is characteristic of the mature Harappa culture. In the middle the disc is pressed on both sides by thumb or fingers. The box like pot is fragmentary. It has high walls with perforations near the top preserved on one side only. The example has burnt to grey interior and blotchy red exterior. It belongs to Period IIA.

1. Toy-cart wheel of red ware. The underside is plain, while the outer side is slightly convex and has a protruding hub. The example is of medium fabric and treated with buffish wash on the exterior. It is painted with thin parallel lines on the four sides forming a hollow square in the middle. From a late level of Period IIA (MTL 1, 395).



Terracotta objects, 1, 2 and 7 Period IIA, 3-5, 8 and 9 Period IIB and 6 unstratified

2. Toy cart wheel of red ware. The example is distinguished from Type I by a smaller size and less prominent hub. Of medium fabric, the example is painted with parallel lines forming a square at centre on the exterior as in Type I over unslipped surface. From an early level of Period II (MTL-2, 199).

3. Toy cart wheel of dull red ware. The example is smaller in size and stumpy. It is of medium fabric and unslipped. From an early level of Period IIB (MTL-1, 188).

4. Fragment of a toy cart wheel of red ware. The example is distinguished by its large size and thicker variety. Of medium fabric, the example is treated with red slip and painted in black on both faces with a rim band and converging strokes representing the spokes. The full specimen might have had nine or ten spokes. From a mid level of Period IIA (MTL-1, 443).

5. Toy cart wheel of dull red ware. The example is smaller in size and stumpy. It is of medium fabric and unslipped. From an early level of Period IIB (MTL-1, 188).

6. Flat disc of dull red ware. The example is of medium fabric and burnt to unoxidized smoky core. Pressed in the middle with finger tips on both sides the disc is decorated with nail designs all over. From a mid level of Period IIB (MTL-1, 224).

7. Terracotta object with a protruding handle.

8. Rectangular box like pot of red ware. It has high walls having perforation near the top. The pot is of medium fabric and has burnt to unoxidized greyish interior and blotchy red exterior. From a mid level of Period IIA (MTL-2, 549).

9. Terracotta marble. From an early level of Period IIB (MTL-2, 437).

10. Terracotta ball. From a late level of Period IIB (MTL-2, 220a).

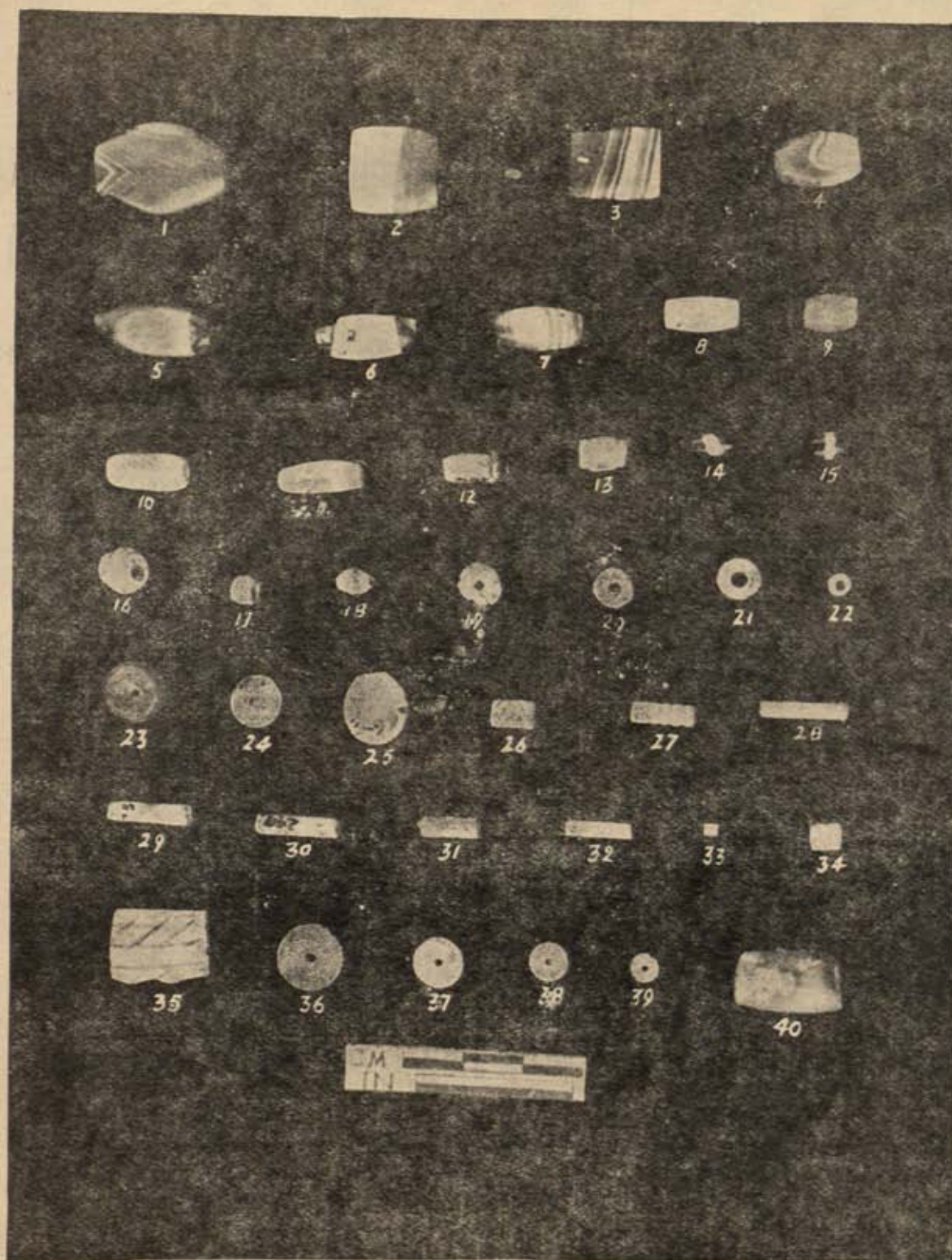
D. Beads (Pl. XXII-XXIII ; Fig. 15)

In all 114 beads were found from the site of which 54 come from the excavations and 60 from the unstratified levels. There is a rather limited variety in material and shapes. The beads are made of semiprecious stones like agate, carnelian and flint, faience, paste, terracotta and bone. Period I has yielded only a terracotta bead. From Period IIA come 19 beads comprising one agate bead, 9 faience beads, two paste beads and 7 beads of terracotta. Period IIB has yielded 34 beads including three of agate, 2 of carnelian, 9 of faience, three of paste and 17 of terracotta. The beautifully finished agate beads from unstratified levels are manufactured in the classical Harappan style. It is surprising that the carnelian and paste beads are less popular at the site. The long barrel beads of carnelian, so characteristic of the mature Harappa culture at the main centres, are conspicuous by their absence at Mitathal. The 46 faience beads represent the most popular variety followed only by the terracotta beads. The faience beads include tubular, barrel, segmented, gadrooned, biconical and pear shaped varieties and are generally sky blue in colour though a few navy blue example are also met with. The occurrence of an unfinished agate bead and a small agate core suggests that these beads were locally manufactured.

(Pl. XXII; Fig. 15)

1. Agate : Long barrel elliptical. From an unstratified level (MTL, 672).

2. Agate : Standard barrel lenticular. From an unstratified level (MTL-671).



Beads : 30, 32 and 39 Period IIA; 1, 8-11, 21, and 37, Period IIB; and others unstratified

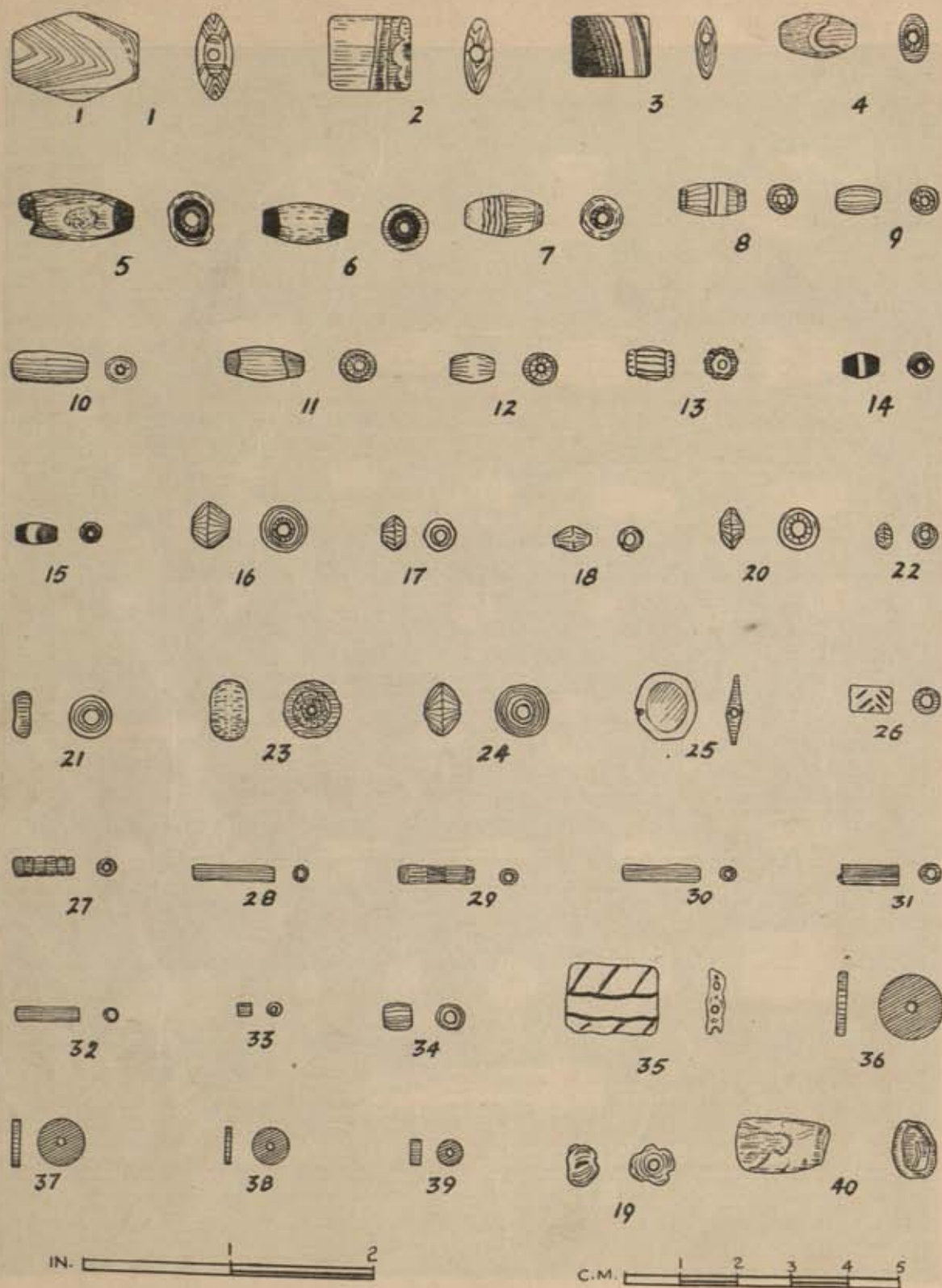
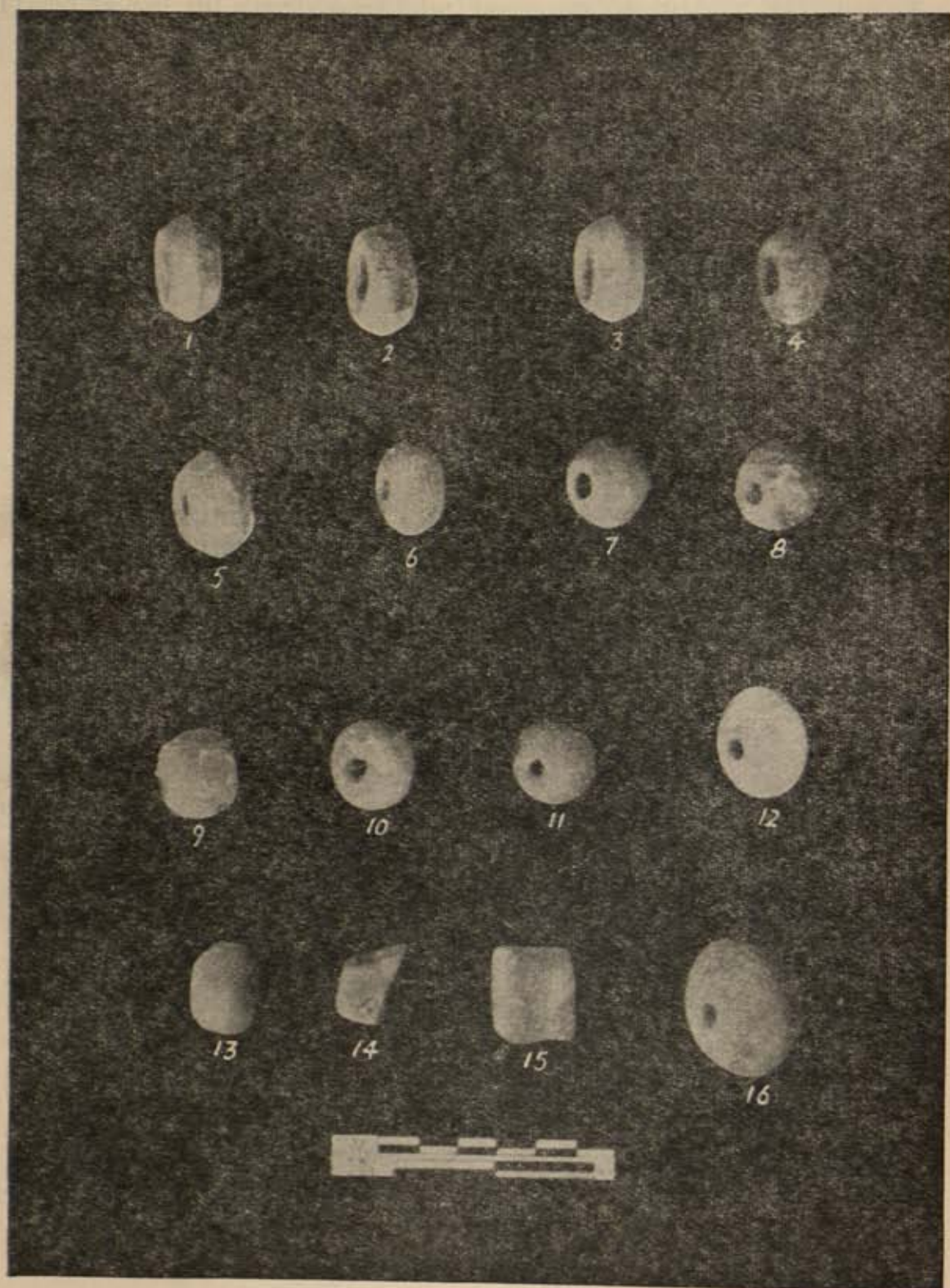


Fig. 15. Beads : 32 and 39 Period IIA; 1, 8-11, 21 and 37 Period IIB and others unstratified

3. Agate : Long barrel lenticular. From an unstratified level (MTL, 1).
4. Agate : Long barrel tabloid, decorated with trefoil design. From a late level of Period IIB (MTL-2, 73).
5. Agate : Long barrel circular. From an unstratified level (MTL, 738).
6. Flint : Long barrel circular. From an unstratified level (MTL, 2).
7. Agate : Long barrel circular. From an unstratified level (MTL, 529).
8. Agate : Long barrel circular. From a mid level of Period II B (MTL 2, 287).
9. Carnelian : Long barrel circular. From a mid level of Period II B (MTL 2, 230).
10. Faience : Long barrel circular. From an early level of Period IIB (MTL 1, 534).
11. Faience : Long barrel circular. From an early level of Period II B (MTL 1, 316).
12. Faience : Long barrel circular. From an unstratified level (MTL, 741).
13. Faience Mildly gadrooned. From an unstratified level (MTL, 678).
14. Agate : Long barrel circular. From an unstratified level (MTL, 565).
15. Agate : Long barrel circular. From an unstratified level. (MTL, 79).
16. Faience : Standard pear shaped circular. From an unstratified level (MTL, 739).
17. Faience : Standard biconical circular. From an unstratified level (MTL, 743).
18. Faience : Long biconical circular. From an unstratified level (MTL, 742).
19. Faience : Short barrel circular, decorated with oblique strokes. From an unstratified level (MTL, 740).
20. Faience : Biconical circular. From an unstratified level (MTL, 683).
21. Faience : Oblate circular. From a late level of Period IIB (MLT-2, 168).
22. Faience : Short barrel circular. From an unstratified level (MTL, 682).
23. Carnelian : Short barrel circular. From an unstratified level (MTL, 670).
24. Agate : Biconical circular. From an unstratified level (MTL, 686).
25. Bone : Ovaloid elliptical. From an unstratified level (MTL, 674).
26. Faience : cylinder Circular, decorated with chevron design. From an unstratified level (MTL, 677).
27. Faience : Segmented circular. From an unstratified level (MTL, 679).
28. Faience : Cylinder circular. From an unstratified level (MTL, 747).
29. Faience : Cylindrical circular, banded white and green. From an unstratified level (MTL-, 675).
30. Faience : Cylindrical circular. From a late level of Period IIA (MTL-1, 299).
31. Faience : Cylindrical circular. From an unstratified level (MTL, 680).
32. Faience : Cylindrical circular. From an early level of Period IIA (MTL-1, 293).
33. Paste : Micro cylindrical circular. From an unstratified level (MTL, 751).
34. Faience : Standard cylinder circular. From an unstratified level (MTL-1, 518).
35. Faience : Spacer with three perforations. From an unstratified level (MTL, 673).
36. Paste : Disc circular. From an unstratified level (MTL, 688).
37. Paste : Disc circular. From a mid level of Period II B (MTL-2, 212).
38. Paste : Disc circular. From an unstratified level (MTL, 690).
39. Paste : Disc circular. From a late level of Period II A (MTL-1, 546).
40. Agate : Long barrel oblate, unfinished unbored. From an unstratified level (MTL, 102).

(Pl. XXIII)

1. Terracotta, short bicone circular, truncated (MTL, 278).
2. Terracotta, short bicone circular, truncated (MTL, 544).



Terracotta beads

3. Terracotta, short bicone circular, truncated (MTL, 438).
4. Terracotta, short bicone circular, truncated (MTL, 398).
5. Terracotta, standard bicone circular truncated (MTL, 468).
6. Terracotta, short barrel circular (MTL, 324).
7. Terracotta, standard bicone circular (MTL, 669).
8. Terracotta, standard barrel circular (MTL, 62).
9. Terracotta, standard barrel circular (MTL, 667).
10. Terracotta, short barrel circular (MTL, 77).
11. Terracotta, short barrel circular (MTL, 61).
12. Terracotta, short biconical circular (MTL, 228).
13. Terracotta, short barrel circular (MTL, 71).
14. Terracotta, short spacer, (MTL 224).
15. Terracotta, standard grooved (MTL, 83).
16. Terracotta, standard biconical circular (MTL, 72).

TABLE I
Period-wise distribution of Beads classified according to material

Material/Period	I	IIA	IIB	Unstratified	Total	Percentage
Semiprecious Agate (silicon minerals)	—	1	3	8	12	10.52
Carnelian	—	—	2	2	4	3.26
Flint	—	—	—	1	1	0.88
Faience	—	9	9	28	46	40.35
Steatite (Paste)	—	2	3	11	16	14.03
Terracotta	1	7	17	8	33	28.94
Bone	—	—	—	1	1	0.86
Indeterminate	—	—	—	1	1	0.88
Total	1	19	34	60	114	
Percentage	0.88	16.66	29.82	52.63		

TABLE II
Period-wise distribution of beads classified according to shape

Shape/Period	I	IIA	IIB	unstratified	Total	Percentage
Barrel	Long oblate	—	1	—	1	1.23
	Long circular	—	4	5	10	12.34
	Standard circular	—	1	2	3	3.7
	Short circular	—	1	2	3	3.7
Cylinder	Long circular	—	6	10	25	30.86
	Standard circular	—	1	4	5	6.41
	Short circular	—	—	1	1	1.23
	Long elliptical	—	—	1	1	1.23
Bicone	Standard elliptical	—	—	1	1	1.23
	Standard circular	—	—	2	2	2.46
	Short circular	—	—	3	3	3.7
Disc	Short circular	—	3	10	5	18.51
Biconvex	Long elliptical	—	—	1	1	1.23
Oblong	Standard bicone elliptical	—	—	1	1	1.23
Segmented	Long circular	—	—	1	1	1.23
Gadrooned	—	—	—	2	2	2.46
Spacer	—	—	—	1	1	1.23
Ghata	—	—	—	2	2	2.46
Indeterminate	—	—	—	3	3	3.7
Total	—	12	17	52	81	
Percentage		14.81	20.98	64.19		

E. Bangles and Rings. (Pl XXIV and XXV)

A total number of 353 bangle fragments mostly of faience and terracotta were recovered from the excavations, the faience bangles accounting for nearly 71 percent of the total yield. Other materials represented are copper (three examples) and shell (two examples). Of the 253 faience bangles 243 were recovered from the excavations and 10 came from unstratified deposits. No faience bangle was found from Period I. Period IIA yielded 52 bangles. The main types include bangles with medium width and rectangular section; bangles with wide flatish section; bangles with ovaloid or elliptical section; bangles with plano-convex section; bangles with round section; bangles with triangular section; bangles with ridged exterior, and flat bangles with ribbed exterior simulating the terracotta multiple pressed bangles. The ridged and multiple grooved bangles came from the late levels of Period IIA. The bangles of the period are invariably decorated with a variety of incised designs such as horizontal or oblique grooves; concentric circles; chevrons; group of flowing lines; opposed triangles; cross hatched designs; oblique strokes meeting at apex; indented ridge design, and horizontal grooves imposed upon by obliquely hatched rounded pallets.

From Period IIB were recovered in all 137 bangles of faience. They include bangles with rectangular section; bangles with flatish section; bangles with planoconvex section; bangles with circular section; bangles with triangular section, and heart shape bangles. The variety of designs occurring in Period IIA continues in this period except for the flowing grooves and opposed triangles. In addition, the multiple chevron design; concentric grooves superimposed upon horizontal grooves; cross hatched oval pallets over horizontal grooves, and zones of horizontal grooves bracketed between vertical grooves are the new designs met within this period. The design showing horizontal grooves superimposed by rounded oblique hatched pallets has become quite common. The new designs on the bangles from unstratified deposits included knobbed design, indented design, ribbed bangle with chevron design, etc.

The terracotta bangles recovered from the excavation included 95 of which seven came from unstratified deposits. The terracotta bangles are in various sizes and are prepared both as singles with rounded section or multiple pressed bangles with flatish section. Period I has yielded bangles mostly of former variety while the multiple joined bangles are most common in Period IIA. The latter, however, also continue to be used in Period IIB. The bangle with rounded section also occurs in Periods IIA and IIB.

Period I yielded six bangles of which three are treated with buff slip and painted with black strokes. All the bangles have round section except one which belonged to the multiple pressed variety having flatish sides.

In Period IIA were recovered 49 bangles in all of which seven represent single type bangles with round section. The multiple pressed bangles have two, three or four rings pressed together. Twelve of the bangles are treated with a buff slip while four have red slip. These are painted with black strokes all around. One of the bangles is in grey fabric. Some of the bangles are self slipped. The majority of the bangles have lost their original treatment.

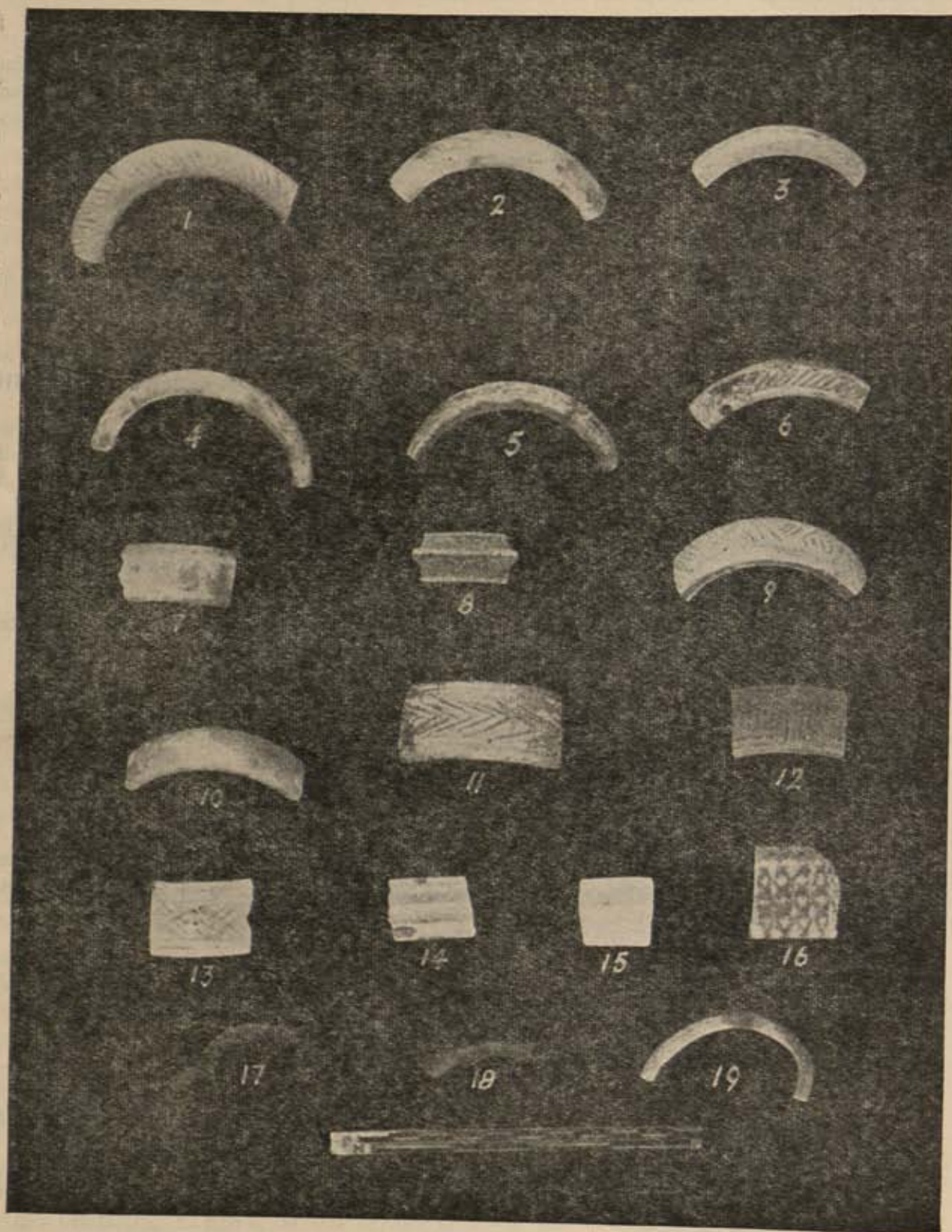
From Period IIB were recovered only 28 bangles of which four are of single variety with round section. The multiple pressed bangles have two or three rings pressed together. Five of the bangles are treated with a buff (three) or red (two) slip and painted with black oblique strokes all around. In one case the short strokes look like dots over red slip on the exterior.

Shell bangles are exceptionally rare as only two examples were found from the excavations. Both the fragments come from Period IIB and are too fragmentary to be illustrated. The rarity of shell bangles or any other article of the material perhaps suggests the non-availability of the raw material locally.

In all four copper bangles were recovered from the excavations of which two are from unstratified deposits. One bangle comes from Period I, while another is from Period IIA. Of the two bangles from unstratified levels one had a circular section while the other had flatish section. Besides there were recovered three copper rings, two from Period IIA and one from Period IIB.

FAIENCE BANGLES (Pl. XXIV)

1. Fragment of a faience bangle, circular in section, sky blue, decorated with oblique lines on exterior. From an early level of Period IIB (MTL-1, 503).
2. Fragment of a faience bangle, planoconvex in section, sky blue glazed white, decorated on exterior with oblique lines forming alternate opposed triangles. From an early level of Period IIB (MTL-1, 456).
3. Fragment of a faience bangle, planoconvex in section, sky blue, decorated on exterior with oblique lines. From an early level of Period IIB (MTL-1, 428).
4. Fragment of a faience bangle, planoconvex in section, sky blue glazed white, decorated on exterior with parallel horizontal lines superimposed at intervals by ovaloid pallets having oblique lines in a circle. From an early level of Period IIB (MTL-1, 427).
5. Fragment of a faience bangle, planoconvex in section, sky blue with white glaze, decorated with converging lines on the exterior. From a mid level of Period IIA (MTL-1, 302).
6. Fragment of a faience bangle, triangular in section, sky blue, decorated with oblique line either side of the ridge forming the chevron pattern. From an unstratified deposit (MTL-1, 643).
7. Fragment of a faience bangle, elliptical in section, sky blue, decorated with cog-wheel design and oblique lines on either side on the exterior. From an unstratified deposit (MTL-1, 37).
8. Fragment of a faience bangle, ridged externally, triangular in section, sky blue, decorated with oblique line on either side of the ridge and parallel lines on edges. From an unstratified deposit (MTL-1, 15).
9. Fragment of a faience bangle, oblate in section, light blue with white glaze and decorated on exterior with horizontal lines superimposed by zigzag line. From an early level of Period IIB (MTL-2, 286).
10. Fragment of a faience bangle, oblate in section, light blue and decorated with wavy lines on the exterior. From an unstratified deposit (MTL-1, 646).
11. Fragment of a faience bangle, oblate in section, light blue, decorated with chevron design enclosed by horizontal lines. From a mid level of Period IIB (MTL-1, 317).
12. Fragment of a faience bangle, flattened oblate section, light blue, decorated with oblique strokes dividing panels of horizontal lines enclosing oblique strokes. From an unstratified deposit (MTL-1, 39).



Faience bangles : 5 Period IIA; 1-4, 9, 11, 17 and 18 Period IIB and others unstratified

13. Fragment of a faience bangle, externally flattened section, light blue and decorated with criss cross design inbetween horizontal lines. From an unstratified deposit (MTL-1, 40).

14. Fragment of a faience bangle, white glazed, externally corrugated. The ridges are decorated with chevron design. From an unstratified deposit (MTL-1, 22).

15. Fragment of a faience bangle, white glazed, bearing a mild rib on the exterior. From an unstratified level.

16. Fragment of a faience bangle, flattened in section, light blue, decorated on exterior with chequered pattern giving the impression of knobbed design. From an unstratified deposit (MTL-1, 708).

17. Fragment of a faience bangle, heart shaped, thin circular in section, green. From a mid level of Period IIB (MTL-1, 315).

18. Fragment of a faience bangle, planoconvex in section, light blue, decorated with converging oblique strokes. From an early level of Period IIB (MTL-1, 379).

19. Fragment of a faience bangle, thin heart shaped, triangular in section, light blue. From an unstratified deposit (MTL-1, 306).

TERRACOTTA BANGLES (Pl. XXV)

1. Terracotta bangle, three rings pressed together, rectangular in section, decorated with black oblique strokes on exterior. From a late level of Period IIA (MTL-1, 417).

2. Fragment of a terracotta bangle, oval in section, top flattened. From a late level of Period IIA (MTL-1, 526).

3. Fragment of a terracotta bangle, two pressed together, squarish in section, painted on exterior with oblique strokes. From an early level of Period IIB (MTL-2, 346).

4. Fragment of a terracotta bangle, two rings pressed together, squarish in section, painted in black oblique strokes on exterior. From an early level of Period IIA (MTL-2, 411).

5. Fragment of a terracotta bangle, circular in section, painted in black dots on exterior. From an early level of Period IIB (MTL-1, 400).

6. Fragment of a terracotta bangle, round in section. From a lower level of Period IIA (MTL-1, 558).

7. Fragment of a terracotta bangle, oblate in section, painted in black strokes. From an early level of Period IIA (MTL-1, 559).

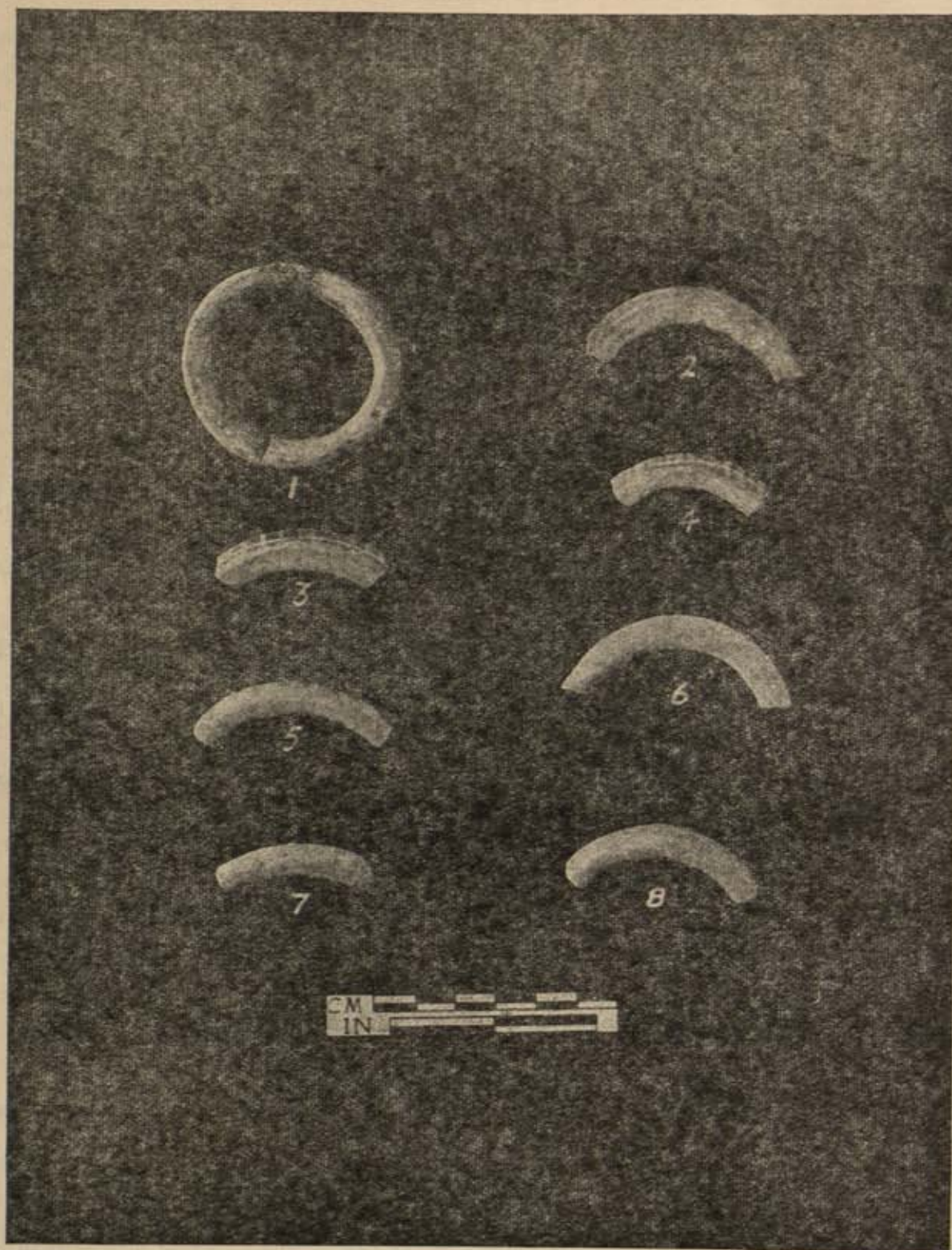
8. Fragment of a terracotta bangle, two rings pressed together, rectangular in section, painted on exterior with oblique strokes. From a late level of period IIA (MTL-1, 380).

IVORY PINS (Pl. XXVIA)

Two fragmentary pins of ivory were recovered from the site, one from Period IIA and the other from Period IIB.

(Pl. XXVI B)

A few other faience objects were also recovered from the site. Among these mention may be made of a decorated faience handle of a cup (Pl. XXVIB, 1), a broken decorated faience marble (Pl. XXVIB, 2) and a miniature faience pot (Pl. XXVIB, 3).



Terracotta bangles : 1, 2, 4, 6, 8 Period IIA, 3 and 5 Period IIB

8. CONCLUSIONS

The excavation at Mitathal has thrown meaningful light on some of the archaeological problems. It provided a continuous sequence of cultures ranging from Late Siswal to Mitathal IIB (c. 2000 B.C.—1500 B.C.) at a single site and has for the first time revealed the evidence for the survival of the Siswal culture side by side with the Harappan. Mitathal also yields the first stratigraphic evidence for the survival and transformation of the Harappa culture which explains the emergence of the enigmatic Bara ware, and points to the ultimate devolution of the culture to Ambkheri (OCP). The discovery of the Copper objects and the Cemetery H elements in the upper levels attest the contacts of the Mitathal IIB with the contemporary cultures in the adjoining regions.¹³⁴

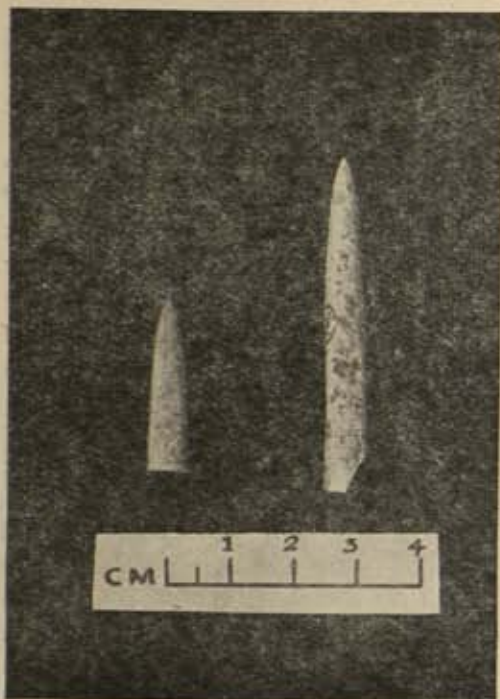
Survival of the Siswal Culture :

The Late Siswal culture of Mitathal I has provided the first evidence of the survival of Siswal culture in North India. The typical ceramic industry; mud bricks (30×20×10 cm.); terracotta disc missiles with tapering ends; clay bangles painted in black, and truncated biconical clay beads provide an unmistakable evidence of its genetic relationship with Kalibangan I. But its changed character is marked by the sturdier fabric, austere shapes and designs, monochrome black painted pottery and the absence of microlithic blades.

The concomitance of the Late Siswal with the Harappa culture is evidenced by the association of a few mature Harappan ceramic types like the dish, vase and beaker, and other finds like the triangular cakes, ivory pins, etc., with the Late Siswal assemblage of Mitathal I.¹³⁵ It is likely that the colonisation of Kalibangan, Rakhishahpur and Banawali by the Harappans coincided with the decline of the Siswal culture in the region which continued to survive side by side with the former.¹³⁶ There is a marked contrast between the Late Siswal Ware characterised by coarse fabric, slow wheel potting, luted necks, greyish core and distinct typology and the sturdy fast wheel-turned Harappan black on red ware. Again, the Late Siswal structures, mud brick sizes, disc missiles, bangles and beads are quite distinct from those of the Harappan. The distinct features of the Late Siswal elements also survive in Mitathal IIA. The above facts preclude the possibility of any direct genetic relationship between the Siswal and the Harappa cultures.¹³⁷ The Harappa culture seems to have arrived here in a fully developed form from outside, possibly from West Panjab, along the southern land-route. In the present state of our knowledge it is difficult to see "Early Harappa" in Kalibangan I or the Siswal culture, suggested by Mughal.¹³⁸

Emergence and transformation of the Provincial¹³⁹ Harappa Culture :

Another thing that the Mitathal excavation brings to light is the emergence of the provincial composite Harappa culture in Mitathal IIA. It marks the expansion of the township over the twin sites. The extensive structural remains of sun-dried bricks and the staggered streets are similar to those at Kalibangan.¹⁴⁰ The dearth of burnt brick structures and drainage system distinguish it from the classical Indus sites.¹⁴¹ The other distinguishing features of Mitathal IIA are the lack of variety in ceramic shapes and designs; inferior fabric, treatment of surface and decoration; absence of typical glossy red or buff slip, the classical shapes such as the 'S' shaped painted vase, handled cup and the scored goblet, painted designs such as the fish, peacock, deer, birds, tree, plantain, petalled flower, crow feet in loops, contiguous circles, intersecting circles, heart design, and the cross hatched double axe,¹⁴² long



A. Ivory pins (Mitathal II)



C. Storage Jar (Rakhi Shahpur)



B. Faience objects : (Mitathal II)

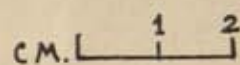
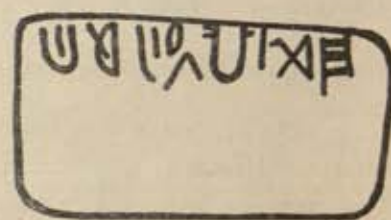


Fig. 16 Terracotta seal (Rakhi Shahpur)

carnelian beads,¹⁴³ seals, sealings, etc. Besides these, the chert weights and blades, paste beads, shell bangles and copper objects are also rare. It is significant that the metal objects are made of pure copper.¹⁴⁴ The above evidences show that Mitathal IIA may at best represent a late mature phase of the Harappan culture in this region.

The survival of Late Siswal potsherds and antiquities in Mitathal IIA indicates the fusion of these non-Harappan and pre-Harappan elements with the late mature Harappa culture. It is this composite character which distinguishes Mitathal IIA Harappan from the classical Harappan¹⁴⁵ and marks the transitional character of the culture in this easterly province.

Mitathal IIB is marked by the transformation of the provincial Harappa culture. But the material repertoire, such as the mode of town—planning, mud brick masonry, toys and pottery, continues to be of the same tradition.

The decline of the culture is evidenced by the poorer architecture and municipal standards, and deterioration in the lapidary skill, manufacture of toys and stone weights. In pottery the mature Harappan shapes such as the beaker, perforated jar and the dish with nail-head rim have fallen out of use. There is modification in the shapes of storage jar with flanged rim and small vase with raised neck and disc base. The tall dish on stand becomes somewhat squat and its drum has given place to a prominent flange (See Fig. 13, 94). The tapering rim of the sturdy dish on stand develops into a drooping rim (Fig. 13, 92).

Though the composite character of the ceramic industry is retained in this phase, the Siswal tradition undergoes further transformation and loses its distinctive character in fabric, surface treatment and potting. The shapes are now fewer and the incised designs both on the interior and exterior of vessels 'reminiscent of Fabrics A, B and D' persist. The painted designs, however, show resurgence of the Siswal style.

Thus it may be seen that the Harappa culture has been considerably transformed, both in material content and style, by Mitathal IIB times. On the whole, there is a general decline in material prosperity, and a tendency is noticed towards ruralisation. This seems to have been a widely spread phenomenon in the later stages of the Harappa culture of the Indo-Gangetic Divide, Ganga-Yamuna Doab and perhaps also of the southern Panjab (West Pakistan), manifested in regional patterns.¹⁴⁶

Relationship of Mitathal IIB and the Bara wares

The genesis of the Bara ware has posed a problem since its discovery in early fifties. Initially, Y.D. Sharma, the excavator of the site, saw a degenerate Harappa ware in it, though certain painted designs recalled decoration on the pre-Harappan Kalibangan I ware.¹⁴⁷ On a recent reappraisal he felt that "Bara is a single culture site, with Harappan contacts limited to the upper levels. In the lower phase the pottery is all non-Harappan and pre-Harappan in so far as the tradition in Sutlej Valley is concerned."¹⁴⁸

But a comparative study of the Bara and Mitathal IIB pottery reveals close family likeness between the two assemblages in technique, typology and decoration. The scarcity of the classical Harappan shapes and the occurrence of evolved types is a common feature of the two. Besides, the pottery of both the sites represents the composite character resulting from the fusion of the Harappan and the surviving Siswal/Kalibangan I ceramic traditions.¹⁴⁹ A list of the corresponding pottery types and

designs from Mitathal and Bara is given below :

<i>Mitathal IIB Ware</i> ¹⁵⁰	<i>Bara Ware</i>	<i>Puratattva 5,</i>
Fig. 8, 1. Jar with beaded rim.	Fig. 10, 11	
Fig. 9, 33. Vase with flaring rim.	Fig. 8,9	-do-
Fig. 10, 54. Bowl with everted rim and tapering sides.	Fig. 9,24	-do-
Fig. 10,55. Bowl with flaring rim.	Fig. 9,23	-do-
Fig. 11,63. Bowl with everted rim and sharp carinated shoulder.	Fig. 9,10	-do-
Fig. 11,71. Bowl with beaded rim and disc base.	Fig. 9,6	-do-
Fig. 11,75. Basin with undercut rim.	Fig. 8,2	do-
Fig. 12,80. Dish on stand with hooked rim and carinated shoulder.	Fig. 8,2	-do-
Fig. 12,90. Dish on stand with short projected rim.	Fig. 8,1	-do-
Fig. 13,91. Dish on stand with drooping rim.	Fig. 8,3	-do-
Fig. 13,97. Stem of Dish on stand with recurved base.	Fig. 8,4	-do-
Pl. X, 16. Hatched bipinnate leaves.	Pl. XIA	IA, 1954-5,
Pl. X, 18. Hatched leaf.	Pl. XIA	-do-
Pl. XI, 2. Cross hatched row of diamonds.	-do-	-do-
Pl. XI, 1. Hatched lozenges.	Fig. 8, 3	<i>Puratattva 5,</i>
Pl. XIV, 2-4. Horizontal grooves intersected by vertical, oblique or converging lines, groups of six oblique lines forming basketery design.	Pl. XI B.	IA, 1954-5,
Pl. XIV, 7-9. Groups of horizontal flowing grooves.	-do-	-do-
Pl. IX, 1. Cross-hatched hide design.	Fig. 10, 26.	<i>Puratattva 5,</i>
Pl. XIII, 2. Dots between horizontal lines.	Fig. 10, 20.	-do-
Pl. XIII, 8. Zig zag line between bands.	Fig. 10, 31.	-do-
Pl. IX, 8. Vertical lines bordering fronds.	Fig. 10, 16.	-do-
Pl. X, 17. Hatched fish design.	Fig. 10, 27.	-do-
Pl. XI, 3. Cross-hatched triangles.	Fig. 10, 19.	-do-
Pl. XIII, 11. Flowing horizontal lines.	Fig. 10, 19.	-do-
Pl. IX, 10. Ovals with fronds.	Fig. 10, 23	-do-

It would be evident from the above that Mitathal IIB and Bara ceramic assemblages have unmistakable affinity in types and painted or decorated designs. But the Bara ware has better levigated clay and smooth light or pale red slip as compared to the dull red slip on the Mitathal IIB ware. The painted designs are more frequent and varied at Mitathal than at Bara, while the incised designs are more common at Bara. These differences are mere regional variations and do not signify cultural distinction. The recent discovery of a Late Siswal ware site at Dagra,¹⁵¹ about 10 kms. west of Moga, on the old course of Sutlej, attests the commonness of the non-Harappan and Pre-Harappan ceramic tradition of the Sutlej Valley with that of the Sarasvati Valley. The Bara ware can hardly be derived from this non-Harappan tradition as postulated by Sharma,¹⁵² though the latter must have influenced the Harappan tradition in the Sutlej Valley as it did in the Sarasvati Valley. Thus the Bara ware seems to be no more than a counterpart of the Mitathal II B ware in the Upper Sutlej Valley.

Relationship of Mitathal IIB and the Ambkheri (OCP) wares

The ill preserved red wares, loosely called the "OCP", have been reported from more than 90 sites¹⁵³ since its first discovery in an archaeological context at Hastinapur.¹⁵⁴ Although most of these sites

are concentrated in the Ganga-Yamuna Doab, a few have also been reported from Panjab,¹⁵⁵ Haryana¹⁵⁶ and Rajasthan.¹⁵⁷ More than half a dozen of these sites have been excavated, the important ones of which include Bahadarabad,¹⁵⁸ Ambkheri,¹⁵⁹ Atranjikhhera,¹⁶⁰ Ahichchhatra,¹⁶¹ Saipai,¹⁶² etc.

A close study of the pottery types, so far illustrated from excavations and explorations, reveals that the so called "OCP" is not a homogenous group of pottery. Broadly speaking, it derives from two dominant ceramic traditions,¹⁶³ viz., (i) the Siswal and (ii) the Harappan. These traditions have coalesced in different proportions. On the basis of their respective dominance in different assemblages, the so called "OCP" may be divided into two groups, one which is represented at Bahadarabad, Atranjikhhera, Saipai, Lal Qila, Hastinapur, Ahichchhatra, etc., and that which comes from Ambkheri and other related sites (illustrated by Krishna Deva).¹⁶⁴ The two groups of "OCP" have been designated here as the Atranjikhhera (OCP) ware and the Ambkheri (OCP) ware respectively, after the representative sites.

The Ambkheri (OCP) ware bears close affinities with the Mitathal IIB ware in fabric and typology. A comparative study of the corresponding types of the two wares is given below.

<i>Mitathal IIB Ware</i> ¹⁶⁵		<i>Ambkheri (OCP) ware</i>	
Fig. 8, 2.	Jar with beaded rim.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 3,
Fig. 8, 3.	Storage jar with beaded rim	<i>Puratattva</i> 5,	Fig. 7, 1 (Lal Qila).
Fig. 8, 5.	Jar with outcurved bevelled rim.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 3.
Fig. 8, 12.	Vase with out-turned beaded rim, blunt carinated shoulder.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 2d.
Fig. 8, 17.	Vase with beaded rim, high concave neck.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 2C.
Fig. 9, 33.	Vase with flaring rim.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 1C
Fig. 9, 35.	Vase with flanged rim, high neck and ovaloid body.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 1a
Fig. 9, 37.	Thin vase or flask with flaring rim.	<i>Puratattva</i> 5,	Fig. 2, 11 (Ambkheri).
Fig. 11, 73.	Basin with flaring, undercut rim and tapering sides.	<i>Puratattva</i> 5,	Fig. 2, 13 (Ambkheri).
Fig. 11, 74.	Basin with out-turned rim tapering sides.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 20
Fig. 11, 75.	Basin with undercut rim.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 25
Fig. 12, 80.	Dish on stand with hooked rim, carinated shoulder.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 22
Fig. 12, 81.	Dish with thick projected rim and carinated shoulder.	<i>Potteries in Ancient India</i> ,	T. 20a
Fig. 12, 86.	Dish with projected rim, carinated shoulder.	<i>Potteries in Ancient India</i> ,	T. 7B
Fig. 12, 90.	Dish on stand with short projected rim.	<i>Potteries in Ancient India</i> ,	T. 7A
Fig. 13, 91.	Dish on stand with short drooping rim.	<i>Potteries in Ancient India</i> ,	T. 9c
Fig. 13, 92.	Dish on stand with drooping rim.	<i>Puratattva</i> 5,	Fig. 2, 15 (Ambkheri)
Fig. 13, 97.	Stem of dish on stand with recurved base.	<i>Potteries in Ancient India</i> ,	K. Deva, T. 8, 8c
		<i>Potteries in Ancient India</i> ,	T.C,

The above typological comparison shows that the Ambkheri (OCP) ware is closely related to the Mitathal IIB ware. The Ambkheri (OCP) ware also represents a composite ceramic industry derived

from the Harappan and the Siswal traditions and the Harappan tradition dominates both in fabric and typology. The survival of a few Harappan shapes in original and others in modified forms in Ambkheri (OCP) were very much simulate to the Mitathal IIB ware.¹⁶⁶ Similarly the few devolved Siswal shapes in the former ware correspond to those in Mitathal IIB ware. But the dish on stand with drooping rim, the vase with flanged rim, the squat 'S' shaped vase and the dish on stand with undercut rim at Ambkheri represent more devolved features than those of the Mitathal IIB ware. Thus on typological grounds the Ambkheri (OCP) ware marks a further stage of transformation of the composite Harappa culture in the Ganga-Yamuna Doab.

Relationship of Mitathal IIB and the Cemetery H Wares

Very little is known about the material culture, origin, extent and chronology of the Cemetery H culture. So far it is recognised only from three sites, two in the lower Hakra (old Sarasvati) and one at Harappa on the Ravi, all in Panjab part of West Pakistan.¹⁶⁷ Similarities of the Cemetery H ware in shapes and designs have been pointed out with the pottery from Dher Majra,¹⁶⁸ Bara,¹⁶⁹ etc. in the upper Sutlej Valley. A comparative study of the Cemetery H and Mitathal IIB wares suggests quite a few common types and painted designs between the two as given below :

*Mitathal IIB Ware*¹⁷⁰

Fig. 12, 88 & 88A

Fig. 12, 89A

Fig. 12, 84

Fig. 9, 37

Pl. X, 17

Dish on stand with sharp carinated shoulder and flanged stem.

Dish on stand with clubbed rim.

Plate or lid with tapering rim.

Rim of thin flask.

Hatched fish or leaves painted in black.

Cemetery H Ware

Fig. 1.22 *Puratattva* 5,

Fig. 1.21 —do—

Fig. 1a, 33 —do—

Fig. 1a, 3-4 —do—

Fig. 2, 12 —do—

The cylindrical storage pits in Mitathal IIB levels also recall their counterparts in the Cemetery H culture¹⁷¹. More recently, Cemetery H influences have been noted in the ceramics of Sanghol I¹⁷², Daulatpur I¹⁷³, Ambkheri¹⁷⁴ and Chandigarh.¹⁷⁵ Thus the Cemetery H elements seem to be widely distributed and are associated with the late-degenerate composite Harappan culture complex in north India. Its influence, however, seems to wane east of the Sutlej Valley.¹⁷⁶

A closer study of the Cemetery H culture reveals a composite character mainly derived from the Harappan and the non-Harappan pre-Harappan culture related to Siswal/Kalibangan I complex. The counterparts of Kalibangan I ware in the Cemetery H culture are represented by the storage jars with flanged rim and ring base (*Puratattva* 6, Fig. 1, 1-4, 6 and 7), vase with rusticated exterior (*Puratattva* 6, Fig. 1, 14), small vase with ring base (*Puratattva* 6, Fig. 1a, 12), the stag design with muzzle head (*Puratattva* 6, Fig. 2, 11), the bifold plant like design (*Puratattva* 6, Fig. 2, 7), the plant motif (*Puratattva* 6, Fig. 2, 11), the hatched fish (*Puratattva* 6, Fig. 2, 12) and the stylised animal head with horns (*Puratattva* 6, Fig. 1a, 14)¹⁷⁷. On the other hand the Harappan inspiration of some of the Cemetery H pottery types, like bowl or dish on stand with moulding, large lid with handhold, saucers, dishes and slender vases or flasks, has been very aptly suggested by Sankalia¹⁷⁸. But the devolved typology of the Cemetery H pottery, its stratigraphic position succeeding the mature Harappa culture at the type site, and its association with Mitathal IIB suggest a late date for Cemetery H culture. The above facts seem to suggest a synthetic phenomenon for Cemetery H culture, corresponding to Mitathal IIB culture complex, manifested in the lower Sarasvati, Sutlej and Ravi Valleys¹⁷⁹. The presence of the Cemetery H elements in North India might indicate the scattering of these people from the lower Sarasvati basin as a result of the growing desiccation of the lower and middle parts of the basin¹⁸⁰, or the pressure of new comers from farther west¹⁸¹.

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144. The chemical analysis of the copper objects from Mitathal revealed that the Harappans at Mitathal followed the metallurgical tradition of the Late Siswal people.
145. The mature Harappan levels at Mohenjodaro and Harappa are largely free from the pre and non-Harappan elements. At Kalibangan the pre-Harappan elements survived only upto the middle of the Harappan levels of Period II.
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175. Lalman, 'Discovery of Ancient Chandigarh', *VII*, Vol. IX, ii (Sept. 1971), PP. 368-73.
176. It was observed by the author in course of his explorations in the Sarasvati-Yamuna Valleys in Haryana.
177. *IA.*, 1962-63, pp. 20-31.
178. Sankalia, H.D., 1972, *op. cit.*
179. The disintegration of the Harappa culture reveals several regional patterns emerging as composite phenomena in Sind, ancient Uttarapatha, Madhyadesha and Gujarat, represented respectively by the Jhukar, Cemetery H, Mitathal IIB and Lothal B, etc. It seems to revert back to the pre-Harappan pattern of regional manifestation, suggested by Allchin, Bridget and Raymond in *The Birth of Indian Civilization*, Suffolk, 1968, pp. 100-25.
180. Suraj Bhan, 1971, *op. cit.*
181. The distribution pattern of the PGW in the Sarasvati-Yamuna Valleys reveals that these people avoided the area of concentration of the Mitathal IIB and late-degenerate Siswal wares and broke new ground perhaps by clearing jungles particularly along the Sarasvati and its tributaries, the Kurukshetra region and along the Khadar bed of Yamuna. The complementary distribution also points to a partial overlap of the latter cultures by the former.

APPENDIX A

Chemical Analysis of Mitathal Copper Objects

By K.T.M. Hedge and S.N. Pande
The M.S. University of Baroda, BARODA.

Mitathal is a unique site. The excavator's spade here has revealed for the first time, material remains of the Late Siswal, Late Siswal in association with Harappan and late Harappan in association with the Copper Hoard tools in a stratified context¹. Among these material remains were thirteen copper objects. As these objects were archaeologically significant, the excavator kindly sent them to the Department of Archaeology and Ancient History, M.S. University of Baroda, for analytical study. Seven of these objects were selected for this purpose. They are being discussed below :

Description of the objects selected for Analysis :

1. The ring from the Late Siswal level. It was recovered from MTL-I, layer 22, at a depth of 4.65 m. It is a small ring circular in cross section. It was heavily corroded and broken into two pieces. It measured 2 cm. in diameter and 4 mm in thickness. It weighed 2.8 gms. and bears the registration No. MTL-I, 562. It was the only metal object recovered from the Sothi levels.

2. The ring from the Late Siswal Harappan level (Pl. XVIII, 3). It was recovered from MTL-I, in a pit sealed by layer 7, at a depth of 2.28m. It is also circular in cross-section, measures 3.8 cm. in diameter and 7 mm. in thickness and weighed 14.8 gms. It bears the registration No. MTL-I, 304.

3. The copper wire from the Late Siswal Harappan level (Pl. XIX, 1). It was recovered from MTL-I, from a pit sealed by layer 14, at a depth of 3.08 m. It is rectangular in cross-section and measures 5.1cm. long and 2mm. in thickness. It weighs 1.5 gms. and bears the registration No. MTL-I, 522. This wire and the above ring were the only two metal objects recovered from the Sothi-Harappan levels at Mitathal.

4. The ring from the late Harappan and Copper Hoard level (Pl. XVIII, 2). It was recovered from MTL-I, layer 1, at a depth of 19 cm. It is also circular in cross-section. It measured 5 cm. in diameter, 5 mm. in thickness and weighs 11.98 gms. It bears the registration No. MTL-I, 275.

5. Another ring from the above level (Pl. XVIII, 4). It was recovered from MTL-I, layer 2, at a depth of 54 cm. It is a complete ring circular in cross-section. It measured 5.3 cm. in diameter 1.2 to 0.3 cm. in thickness and weighs 76 gms. As indicated by Lal², the unbroken condition of this ring is helpful in understanding how this and the rings described above were produced. This complete ring has a 'mouth' or opening. Where two ends of thick wire meet the mouth bears trimming marks. If these rings were cast, the trimming at the edges would have been unnecessary. Therefore, it is possible to deduce that these rings were produced from thick long metallic wires, circular in cross section and of requisite length. These wires were turned into the shapes of rings. The ring under discussion bears the registration No. MTL-I, 68.

6. The celt from the late Harappan and Copper Hoard level (Pl. XIX, 2). It was recovered from MTL-I, layer 3, at a depth of 64 cm. It is a flat celt with a square butt which is partially

1. Suraj Bhan, "Excavations at Mitathal (Hissar), 1968" *Jr. Haryana Studies*, Vol. 1, No. 1, 1968.

2. Lal, B.B., 'Further Copper Hoards from the Gangetic Basin and Review of the Problems', *Ancient India*, No. 7, 1951.

damaged. The cutting edge of the axe is slightly broader than the butt end. Its sides are straight. It is greatly splayed out and bevelled at the cutting edge. It is 8 cm. long, 5.3 cm. broad at the cutting edge and 4.2 cm. at the butt end. It is thickest at the butt end measuring 1 cm. and weighs 118 gms. It bears the registration No. MTL-I, 75.

7. The *parasu* from the late Harappan and Copper Hoard level (Pl. XIX, 3). The unusually shaped implement looks like a chopper. It was recovered from MTL-I, layer 3, at a depth of 0.38 cm. It is broken into three pieces. When joined together the implement measured 15 cm. long. It has a straight back and a concave cutting edge. At the middle it measures 2.2 cm. broad while at the edges 3.5 cm. It weighs 64.05 gms. It bears the registration No. MTL-I, 129.

Chemical Analysis :

Small sample pieces measuring 1 cm./2 mm./2 mm. were cut from each of the above objects for analytical study. Samples were cut from the butt ends of the celt and the *parasu*. All the objects were heavily corroded and covered with corrosion incrustation and silicious and earthy accretions. Therefore, the samples cut from the objects were chemically treated to remove these accretions and sound core of the metal was selected for analytical study. Results obtained are given below :

Sr. No.	Object	Cultural level	Cu	Sn	Pb	Fe	Ni	Co	As	Bi	Sb	Ag	Au	Mn	Mg	Total
1.	Ring	Late Siswal	98.33	—	—	1.26	tr	—	—	—	—	—	—	—	—	99.59
2.	Ring	Late Siswal	98.35	—	—	1.20	tr	—	tr	—	—	—	—	—	—	99.55
3.	Wire	Late Siswal	98.57	—	—	1.13	tr	—	—	—	—	—	—	—	—	99.70
4.	Ring	Late Harappan-Copper Hoard	98.43	—	—	1.14	tr	—	tr	—	—	—	—	—	—	99.57
5.	Ring	Late Harappan-Copper Hoard	98.64	—	—	1.12	tr	—	—	—	—	—	—	—	—	99.76
6.	Celt	Late Harappan-Copper Hoard	98.31	—	—	1.19	tr	—	—	—	—	—	—	—	—	99.70
7.	Parasu	Late Harappan-Copper Hoard	98.48	—	—	1.15	tr	—	—	—	—	—	—	—	—	99.63

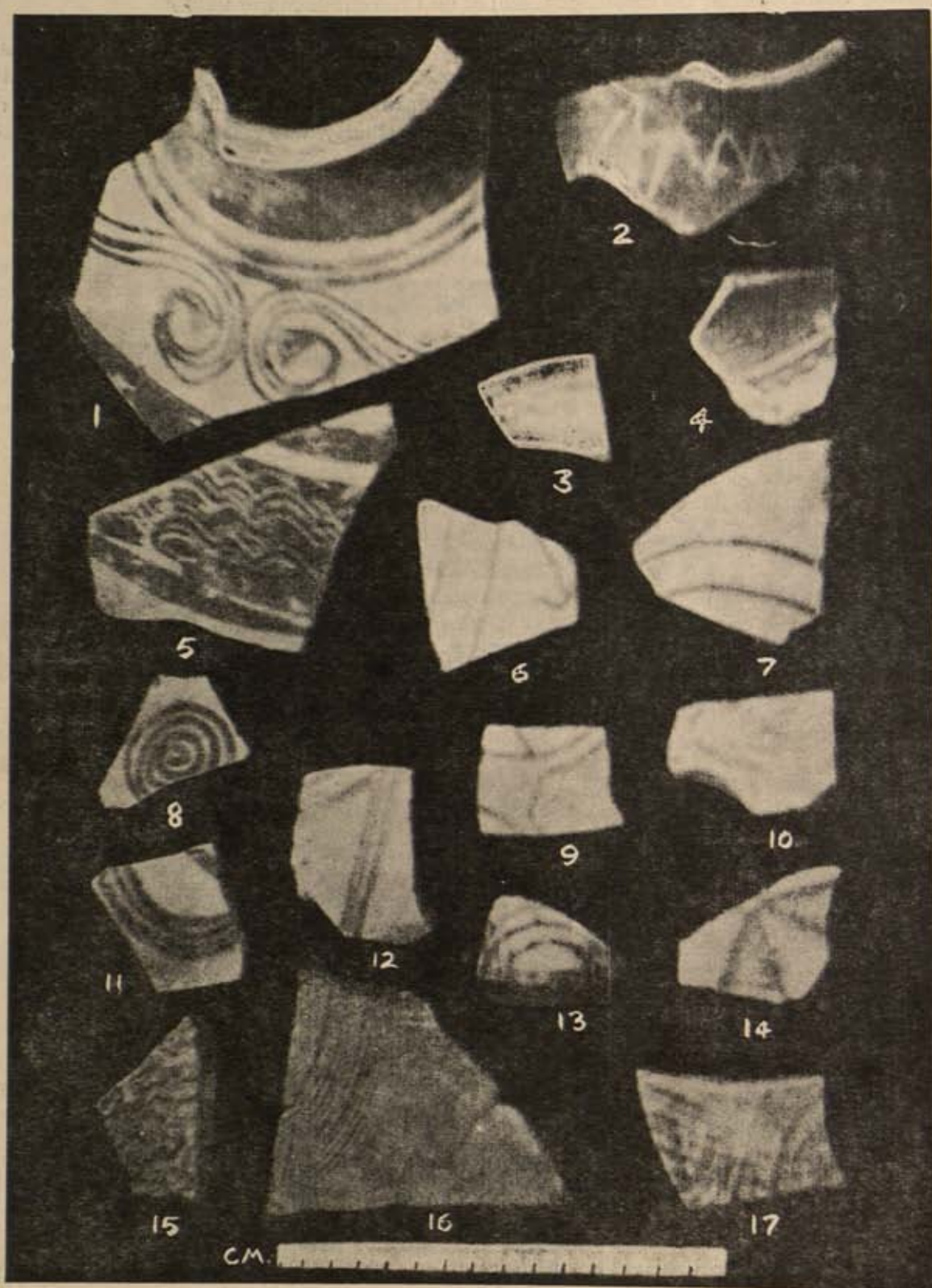
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The analytical data above show that all the objects were made of unalloyed copper. The small quantity of iron and negligible quantities of nickel and arsenic in them were derived from the copper ore smelted to extract the metal. As these objects had to be returned early they could not be subjected to spectrometric and metallographic studies. These studies could have supplemented the analytical data above and enabled us to trace the source of copper ore. And their metallographic examination would have enabled us to understand how actually these useful objects were produced from the extracted ingot: were they cast or wrought, if cast, what was the technical level of casting; if wrought, was it above the recrystallisation temperature of copper or below it, were the bevelled cutting edges of the celt and *parasu* produced by forging or were they shaped by the casting mould? Such studies have been carried out on Chalcolithic copper and bronze objects excavated from

Ahar³, Somnath⁴, Langhnaj⁵, Navdatoli⁶ and Chandoli⁷. These studies have brought to light many interesting details regarding the metallurgical skill of the Chalcolithic copper smiths⁸.

However, in spite of the limited nature of the above analytical study, a few interesting observations are possible. Purity of copper in all the objects, is above 98 per cent. This is equivalent to present day 'blister copper' extracted after bessemerisation of the matter. This is significant. It shows that right from the Sothi period, an advanced stage in extractive metallurgy was reached and it was maintained through the Copper Hoard period.

3. Hegde, K.T.M., 'Technical Studies in Copper Artifacts Excavated from Ahar' in *Excavations at Ahar* by H.D. Sankalia, *etal*, Poona 1969.
4. Hegde, K.T.M., 'Metallurgical Studies in Copper Artifacts excavated from Somnath', in *Somnath* by R.N. Mehta, *etal*, Baroda 1971.
5. Hegde, K.T.M., 'Metallurgical Studies in Langhnaj Copper Knife', in *Langhnaj* by H.D. Sankalia, Poona, 1965.
6. Hegde, K.T.M., 'Metallurgical Studies in Copper Artifacts from Navdatoli', in *Navdatoli* by H.D. Sankalia, *etal*,
7. Hegde, K.T.M., 'Studies in Copper Objects Recovered from Chandoli', in *Chalcolithic Chandoli*, by S.B. Deo and Z.D. Ansari, Poona, 1965.
8. Hegde, K.T.M., 'Technical Studies in Chalcolithic Period', *Copper Metallurgy in India*, Ph.D. Thesis, M.S. Univ. of Baroda, 1965.



*Rahhi Shahpur, Kalibangan I and Late Siswal wares
(Fabric A, 1-14; Fabric B, 15, and Fabric D, 16)*

APPENDIX 'B'

Rakhi Shahpur (Rakhigarhi)—A new Harappan twin mound

Rakhi Shahpur, popularly known as Rakhigarhi¹ (Figs. 17 & 18), is perhaps the most extensive of the known Harappan sites in India. By its strategic location, dominating the fertile Indo-Gangetic Divide, the site seems to command a paramount position in the expansion of the Harappa Culture in North India. The dichotomous plan, indicated by the twin mounds and the surface features, sturdy black on red ware, toys, ornaments and burnt-brick structures are typical of the classical sites. Its location some 350 Kms. south-east of Harappa, 190 Kms. east of Kalibangan and 80 Kms. to the east of Banawali², might suggest Rakhi Shahpur to be the easternmost provincial capital³ of the Harappans.

The site was first shown to the writer by Acharya Bhagwan Dev ji in 1964. Consequently its mature Harappan character and the dichotomous plan were recognised. The site was re-examined by the author in 1973 at the instance of certain fellows of the Archaeological Society of India at the Annual Conference held at Kurukshetra in 1972. The explorations besides confirming my earlier views about the nature of the site brought to light other interesting features. Hence the brief account of the site.

The Site :

The ancient site lies in the revenue jurisdiction of the present twin villages of Rakhi Shahpur and Rakhi Khas (29°16' N. Lat. and 76°10' E. Long.) in the Hansi Tehsil of Hissar District about 130 kilometers in the north-west of Delhi. It is approached by a metalled road from Delhi via Hansi, Narnaund, etc.

The site comprises extensive ruins cut up into five parts broadly falling into a twin-mound complex nearly two kilometers in circumference. The site lies on the dried up old course of Drisadvati, now recognised only by a slight depression in the fields to the east. The western mound (called here Rakhi Shahpur-1) is smaller and lower, while the eastern mound (Rakhi Shahpur-2) is larger and higher. The maximum height of the site is approximately 17 meters above the general ground level. Rakhi Shahpur-2 is largely covered by the present twin villages except the northern and western extremities. Rakhi Shahpur-1 is unoccupied but for a few temporary dumps of cow-dung cakes. It is oblong in shape, the longer axis being north-south, and laterally divided into two parts separated by a gap of over 30 meters, while Rakhi Shahpur-2 is oval in plan.

1. Suraj Bhan, 'The Dawn of Civilisation in Haryana', *Haryana Studies in History and Culture* 1968, pp. 1-5.
2. The site of Banawali, previously called Vanawali, was discovered by the author in 1965. The ancient site lies 14 kms. to the north-west of Fatehabad, a Tehsil Head Quarter of Hissar District, on the right bank of the *Rangoi nadi*, the dried up course of the ancient Sarasvati (Fig. 17). The site is a twin mound and has yielded Siswal, mature Harappan and Mitathal IIB wares. The western mound is oblong and lower than the eastern. The site dominates the lower Sarasvati valley in Haryana and seems to have played significant part in the colonisation of the Sarasvati basin by the Harappans (See Suraj Bhan *Ibid*, pp. 1-5).
3. Although Kalibangan has been suggested to be the easterly capital of the Harappans, the discovery of Rakhi Shahpur further east leaves little doubt to the paramount position of the latter in whole of North India. B.B. Lal and B.K. Thapar, 'Excavations at Kalibangan; New Light on Indus Civilisation,' *Cultural Forum*, July, 1967, pp. 78-88.

The Culture Sequence

The cultural sequence at the site could be assessed by seraping a section of a square pit (20' × 20 ft. and 25 ft. deep) dug in the *Nath* monastery on Rakhi Shahpur-2 for constructing a step-well and from a rain-gully cut deep into the deposits on Rakhi Shahpur-1. As noticed in the cutting of the step well, the earliest occupation on Rakhi Shahpur-2 begins with the Harappa culture overlying the yellow silt forming the natural soil. The 8 ft. thick Harappan deposit on the eastern slopes of the site is capped by a 6 ft. post-Mughal accumulation. On Rakhi Shahpur-1 a few sherds of early Siswal⁴ ware were recovered from a section of rain-gully below the Harappan mud brick platform. A few such sherds were also picked up from the surface of this mound. Thus the remains at the site may be broadly classified into three cultures, viz., (A) Kalibangan-I culture, (B) Harappa culture and (C) the post-Mughal culture. The description of the last phase is not attempted here as it is very recent and has nothing to do with our problem.

A. The Kalibangan-I Culture :

The Kalibangan-I culture at the site is characterised by the ceramic industry (Pl. XXVII) and other finds so typical of the type site. The discovery of a few early Siswal sherds from below the Harappan platform on Rakhi Shahpur-1 suggests the existence of a pre-Harappan horizon at the site.

The Kalibangan-I ceramic industry comprises all the six Fabrics (A to F) of Kalibangan I ware. Fabric A (Pl. XXVII, 1-14) is the most common of all the Fabrics. The vessels of this Fabric are thrown on slow wheel as indicated by their irregular potting, have medium coarse fabric and are burnt to grey core. These are commonly painted with black designs over matt red surface. But some of the sherds also bear white designs in addition to black (XXVII, 3, 4, 6, 7, 9, 10, 12 giving a bichrome effect. Fabric B (Pl. XXVII, 15) is represented by the externally rusticated jars more or less in the manner of the 'Wet wares' of Baluchistan. Fabric C is marked by finer clay and red slip. Fabric D (Pl. XXVII, 16) is distinguished by the internally incised troughs. Fabrics E and F represent buff and grey wares respectively. The main shapes in the Siswal ware include vases with short rims, jars, bowls, basins, vases with loop-handles and ring-footed bowls. The painted designs are most common in Fabric A. These comprise (Pl. XXVII) broad bands; arcading design; alternately cross-hatched triangles; concentric arcs; loops with fronds; reserved slip design; flowing, oblique or horizontal lines, etc. The incised designs occur on the interior as well as the exterior of the vessels and are executed with a sharp edged multi-toothed tool. Besides, the cord design is found on some of the sherds and one of the sherds bears graffiti (Pl. XXVII, 2) also.

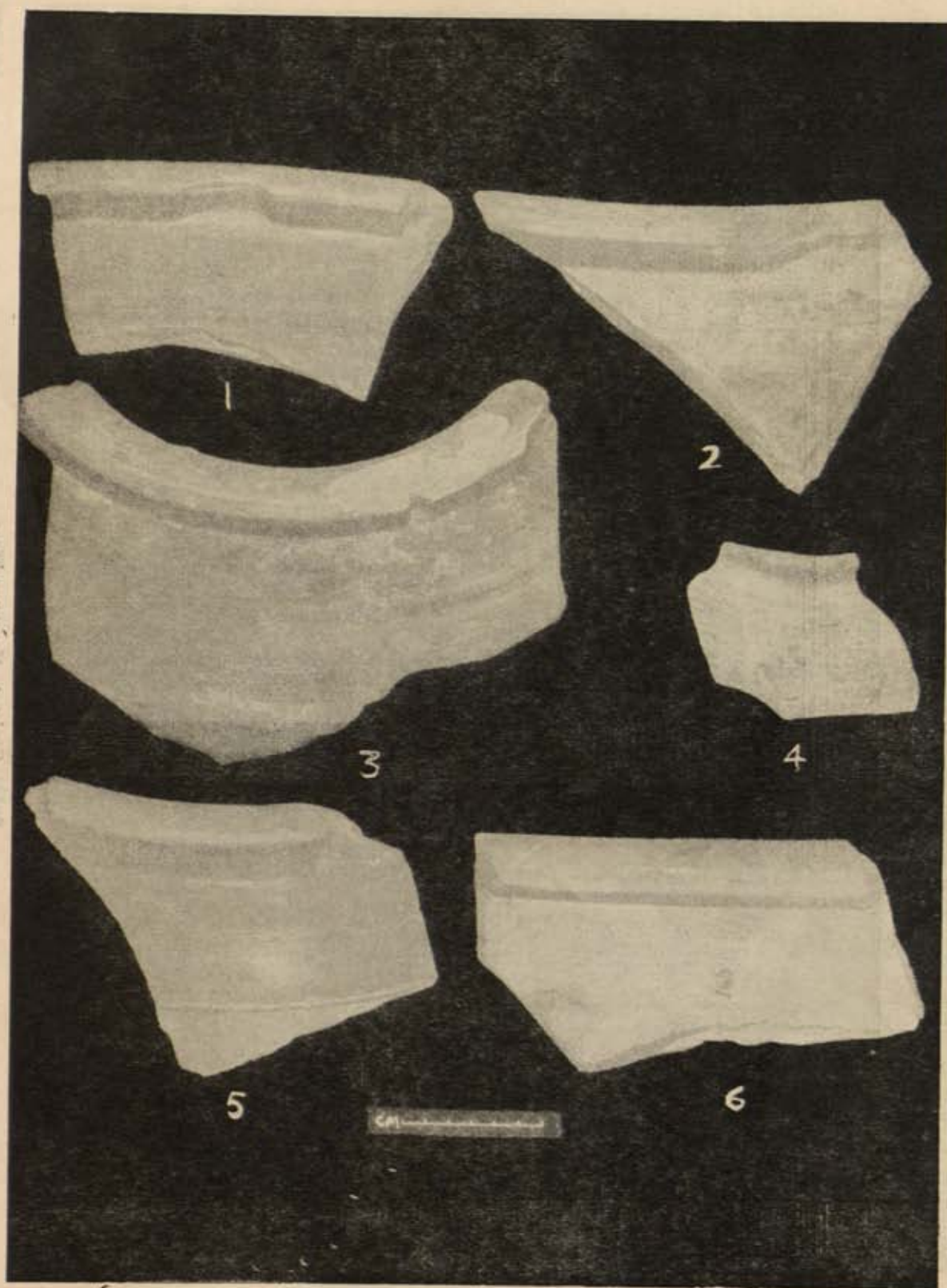
The other typical finds of the Kalibangan-I Culture include terracotta discs with tapering ends; bangles with single or multiple rings painted in black over matt red surface, and biconical truncated terracotta beads.

B. The Harappan Culture :

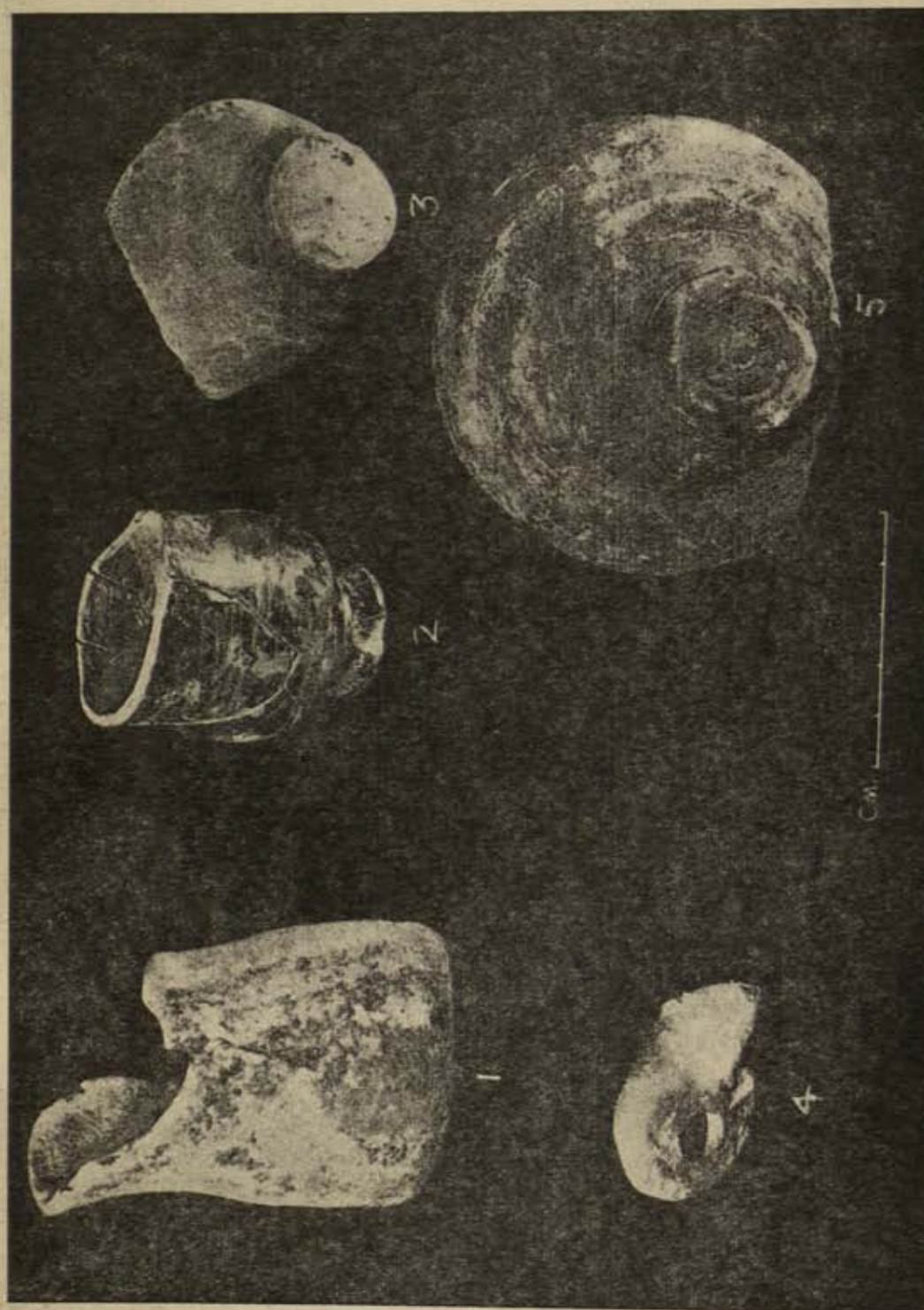
The next phase at the site is characterised by the Harappa Culture, marked by the extensive settlement laid on a dichotomous plan. Rakhi Shahpur-1, in all probability, represents the citadel mound divided into two parts as at Kalibangan, while Rakhi Shahpur-2 is the city site. On the surface of the southern half of the former mound were observed remnants of massive mud brick constructions at regular intervals recalling the platforms at Kalibangan-1⁵. In a rain-gully a mud brick platform is exposed to an approximate height of 15 ft. Although defence wall could not be detected on surface, its location is suggested by the rather steep edges and oblong plan of this mound. Remains of a similar platform were also found exposed on the city mound. Here were noticed 2'.4" wide walls of burnt or sun-dried bricks, laid in the typical English bond and sometimes preserved to a height of 6 to 8 ft. The alter-

4. Suraj Bhan, "Siswal: A Pre Harappan Site in Drisadvati Valley", *Puratattva* 5, 1971-72, pp. 45-46.

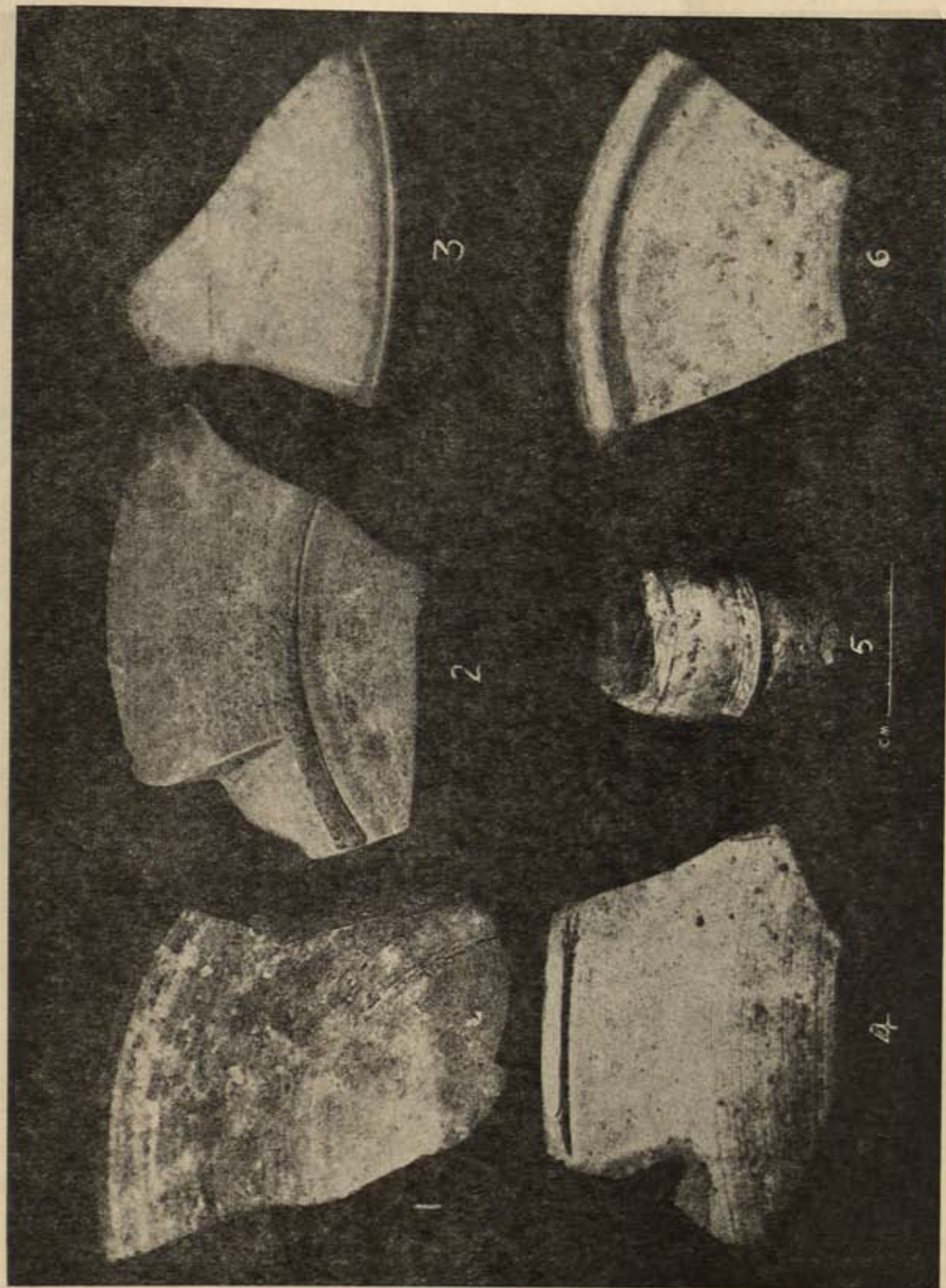
5. That the massive mud brick constructions at the site represent the platforms as at Kalibangan was suggested by B B. Lal on a subsequent visit to the site with the author.



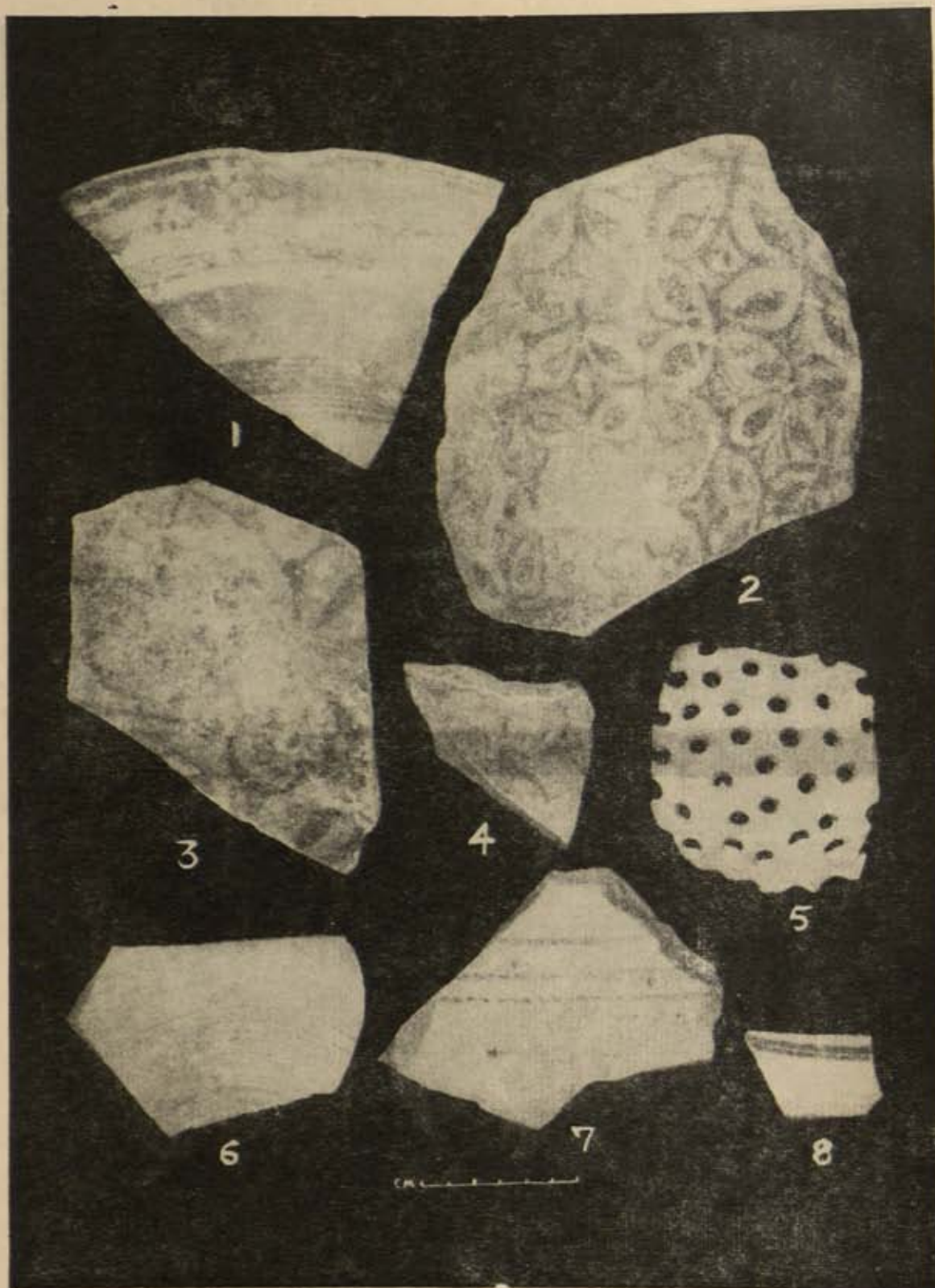
Rakhi Shahpur, Harappan Ware



Rakhi Shahpur, Harappan Ware



Rakhi Shahpur, Harappan Ware



Rakhi Shahpur, Harappan Ware

nating layers of ash and burnt clay nodules⁶ (mostly broken) inbetween two walls recall the metallised road at Kalibangan. The above complex significantly marks the highest portion of the city mound. The mud bricks at the site measure $26 \times 13 \times 6\frac{1}{2}$ cms., $30 \times 15 \times 7\frac{1}{2}$ cms; $34 \times 17 \times 8\frac{1}{2}$ cms., $36 \times 18 \times 9$ cms., $40 \times 20 \times 10$ cms. and $48 \times 24 \times 12$ cms.

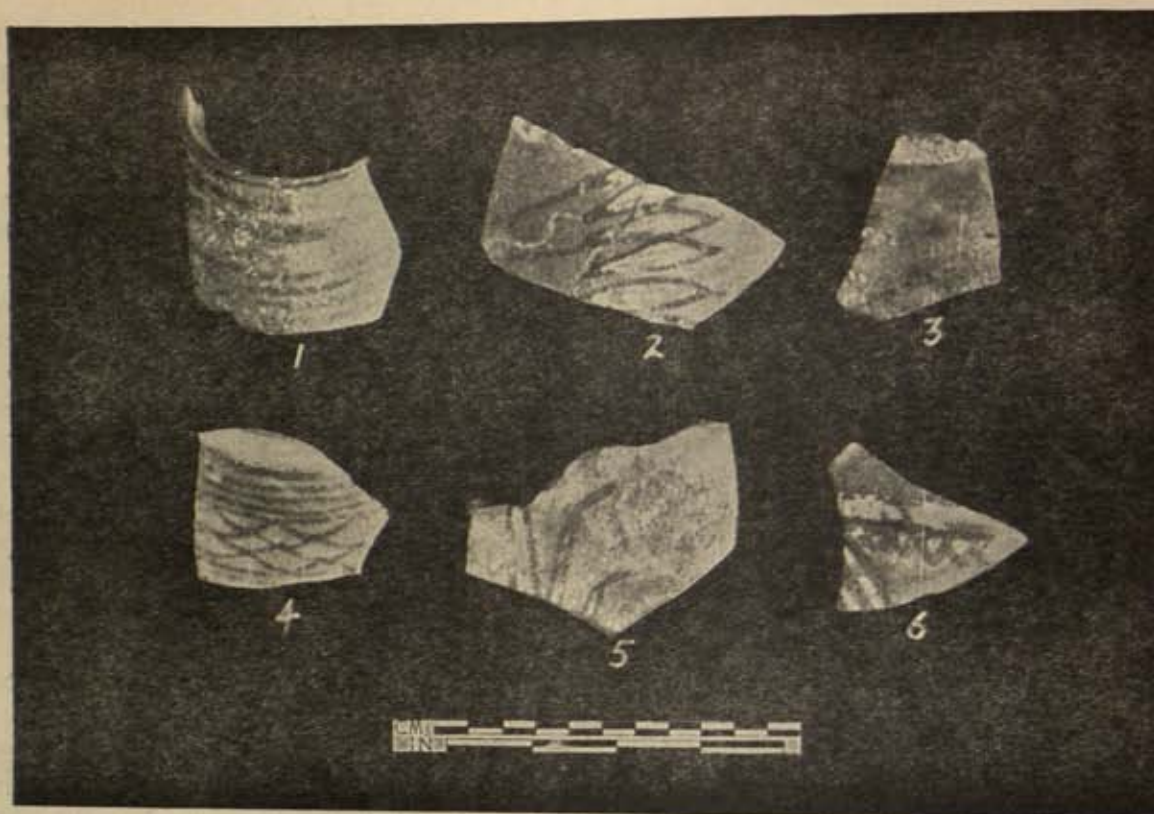
The Harappan pottery from the site represents a sturdy red ware made of well levigated clay and turned on wheel. Some of the pots are treated with its typically glossy red slip, while others have buff wash or have no slip. All the classical shapes like the perforated jar (Pl. XXXI); goblet (Pl. XXIX, 5); beaker (Pl. XXIX, 1); tall dish-on-stand with or without a drum (Pl. XXX); dish with nail-headed rim (Pl. IV, 4); storage jar with flanged rim and globular body (Pl. II, 9, Va); storage jar with wide mouth, flanged rim and convex profile (Pl. XXVIC); pyriform jar (Pl. XXVIII); 'S' shaped pointed vase (Pl. XXXI); small vase with a beaded rim, raised neck and globular body; vase with a painted base (Pl. XXIX, 3); basin with cut designs; basin with a flaring rim; handled cup (Pl. XXIX, 4), etc. The painted designs are executed in black over glossy red slip with classical Harappan motifs, viz., *Pipal* leaf, plantain leaf and intersecting circles (Pl. XXXI, 2-4) in addition to the common linear and geometric designs. The incised decoration includes cord marks (Pl. XXXI, 7); concentric grooves (Pl. XXXI, 6); nail marks; paring marks and cut designs. Besides, a few late Harappan shapes and externally decorated sherds were also picked up from the site.

The other finds of the period include triangular cakes; oblong, round or oval sling-balls; plumb-bob; spindle whorls; bangles and beads of terracotta and a chess board like design drawn on a brick piece. A seal (Fig. 16) bearing a line of Harappan characters incised on a rectangular terracotta tablet was discovered from the site by Acharya Bhagwan Dev and is now housed in the Jhajjar Museum. Besides, saddle-querns and mullers of stone, chert blades, steatite disc beads, faience beads and bangles, and beads of semi-precious stones comprise the other finds.

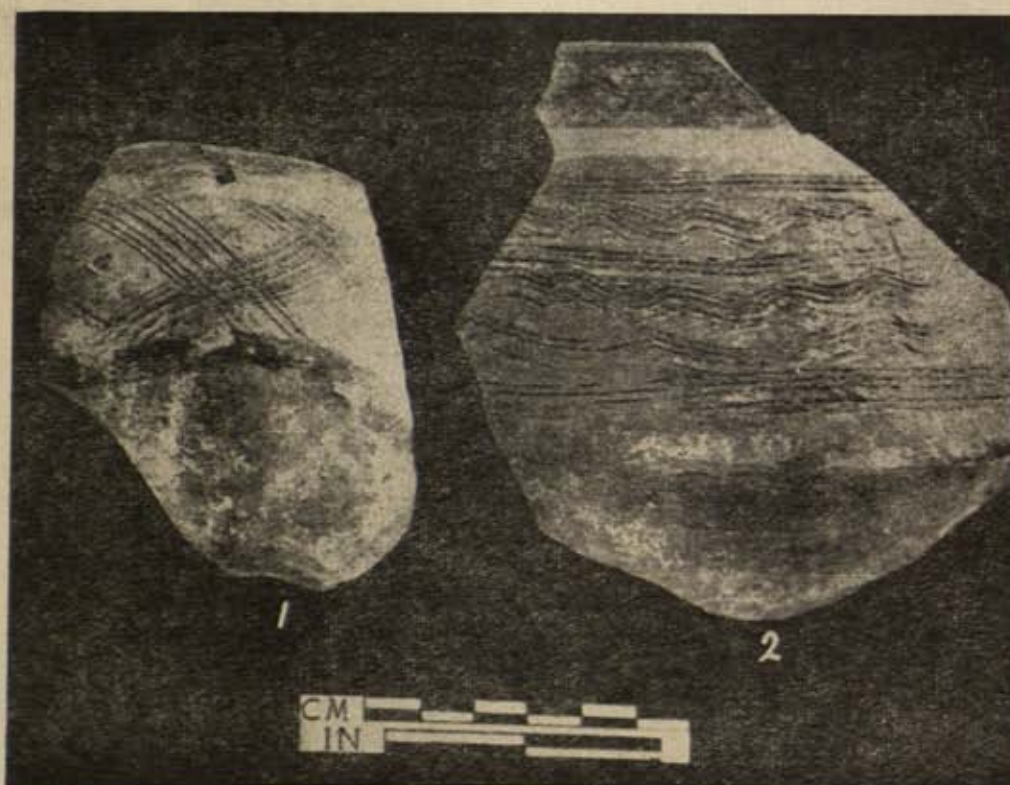
Thus the extensive twin mounds representing the dichotomous town plan; mud brick platforms; typical brick architecture; classical ceramic industry, antiquities and the script suggest Rakhi Shahpur to be a mature Harappan town site. A closer affinity of the Rakhi Shahpur ceramic industry with that of Harappa than that of Mohenjodaro is borne out by the use of glossy red slip and the dearth of buff ware, and indicates the possible source of the colonisers.

On the other hand, the mud-brick platforms, frequency of the sun-dried brick-structures, metallised road and the bifurcated citadel mound at Rakhi Shahpur recall the Kalibangan affinities.

6. The metallised road at the site was noticed by B.B. Lal.



A. Fabric A (black and white painted pottery) 1-3, 5-6 Siswal A; 4 unstratified



B. Fabric A (incised decoration on exterior) 2 Siswal A; 1 unstratified

APPENDIX C

A Note on the Excavation at Siswal

Although the excavation at Mitathal¹ and other explorations² in the Sarasvati basin in Haryana brought to light a new ceramic industry related to Kalibangan I ware, and now called the late Siswal ware, the extent of the former in our region and its stratigraphic relationships with the latter remained to be ascertained. The discovery of Mitathal I ware and the incised troughs, typical of Kalibangan I (Fabric D) ware from the surface of Siswal in 1968 pointed to the strategic importance of the site for determining a stratigraphic relationship between the two.

The ancient site lies about 300 meters to the north of the Siswal village (29°.10' N. Lat. and 75°.30' E. Long.) and 26 Km. to the west of Hissar on the left bank of the Hissar Major or the Chautang canal (See Fig. 20). It is a low mound (300x200 meters) rising to about two and a half meter and has been considerably levelled for cultivation by the owners M/S. Gopi Ram Godara Bisnoi and others of Siswal village. The old course of Drisadvati, identified with the Chautang, is perhaps traceable in the meandering depression south of the site. The wells cut into the dry bed have yielded considerable deposits of river sand.

A small trench (2x2 meters) was sunk on the top of the mound in the autumn, 1970³. It was excavated to a depth of two meters and the natural soil was reached at 1.25 meters. It comprised the yellow silt mixed with a considerable deposit of *kankar* at lower levels. The cultural debris was confined to five habitational layers with no trace of any structure. The deposit was, however, classified into two phases, viz., Siswal A and B, on the basis of the ceramic industry⁴. Siswal A is characterised by the Kalibangan I Ware⁵ occurring in layers two to five. Siswal B is distinguished by its evolved ceramic assemblage similar to that of Mitathal I. The latter occurred in the two uppermost layers, 1 and 1a and, on the surface.

The ceramic industry of Siswal is divisible into three groups. Siswal A yielded the Kalibangan I Ware, with all the typical Fabrics (A to F). Fabric A is painted with white pigment in addition to black. The internally incised trough, however, occurs only on the surface. In Siswal B, the late Siswal phase, are found both the Late Siswal and the Harappan wares. The former is marked by evolved Kalibangan I shapes bearing only black paintings. Although all the six fabrics survive in the ware, it lacks variety in shapes and designs and is generally sturdier and better potted than the Kalibangan I ware of the earlier phase.

(i) *Kalibangan I Ware*: The ceramic industry of Siswal A is broadly divisible into red, buff, grey, black-and-red and the hand-made dull red wares. The red ware comprises Fabrics A to D and the buff

1. Suraj Bhan, "The dawn of civilization in Haryana", *Haryana : Studies in History and Culture*, 1968, pp. 1-5, and "Excavation at Mitathal (Hissar) 1968", *Journal of Haryana Studies*, Vol. I, No. 1, 1969, pp. 1-15.
2. Suraj Bhan, *Ibid.*, 1968, pp. 1-5.
3. Suraj Bhan, "Siswal : A Pre-Harappan Site in Drisadvati Valley", *Puratattva* 5, 1971-2, pp. 44-46.
4. Suraj Bhan, *Ibid.*, Fig. 18
5. Indian Archaeology 1962-3, A Review, pp. 20-31; B.B. Lal and B.K. Thapar, "Excavations at Kalibangan, New Light on Indus Civilisation," *Cultural Forum*, July, 1967, pp. 78-88.

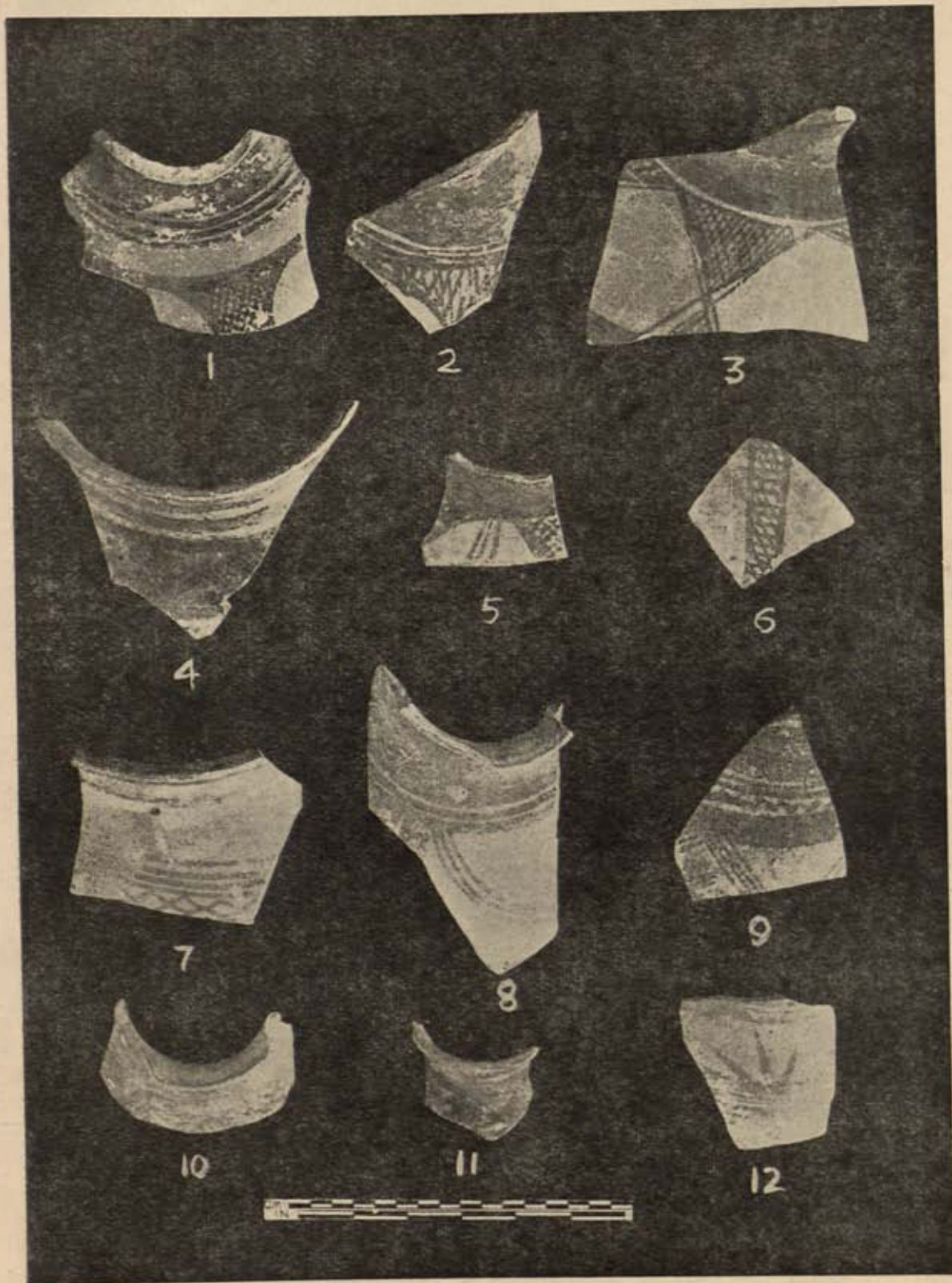
and grey wares represent Fabrics E and F respectively, are typical of Kalibangan I. Only one sherd of black-and-red ware has been found from the trench though the hand-made dull red ware is more frequent.

Fabric A (Pls. XXXII-XXXIV) is potted on a slow wheel and is generally thin and gritty. It has grey or red core. In a number of cases it is painted with white in addition to black over a matt red or pink surface. The main types include lota shaped vases and those with out-turned rim and carinated profile (Pl. XXXII-B, 2); loop handle vase with flaring rim; vases with flanged rim (Pl. XXXII A, 1), short out-curved rim and globular body (Pl. XXXIII, 4), vertical or collared rim, everted rim and raised neck; bowl with ring base (Pl. XXXII B, 1); medium-sized jar with wide (Pl. XXXIII, 4) or narrow mouth; cup with incurved rim, nail-headed rim and disc base, everted or flaring rim and pedestal base, etc. The vases at Siswal generally have wider mouths and the bowls are shallower as compared to the corresponding types from Kalibangan. Fabric B occurs in a limited quantity at the site. It is characterised by red ware of medium to thick section and medium coarse fabric, and is wheel thrown. The ware is distinguished by rusticated lower surface of jars (Pl. XXXV A, 6) and decorated with finger marks (Pl. XXXV A, 8). In a few cases knobbed designs are created with the help of fingers. The internally incised troughs of Fabric D have also rusticated lower portion. Fabric C (Pl. XXXIII and XXXIV) is a better potted red ware, treated with red slip and painted with black designs. The main types include lota shaped vase with flaring rim, jar with ledged neck, vase with flanged rim, pedestal footed vase and vase with ring or flat base. Fabric D is distinguished by a thick sturdy red ware thrown on wheel and burnt to a red colour. The main types include sturdy storage jars and incised troughs (Pl. XXXV A, 1-5, 7), all from surface. The outturned grooved rim of incised troughs is distinguished from the beaded rim of those from Kalibangan I. These troughs are generally rusticated on the exterior as in Fabric B. Fabric E is distinguished by the buff slipped pottery and is confined to a few sherds at Siswal. Fabric F is characterised by its grey colour. It includes vases with out-turned or externally grooved collared rim and a disc base. Fabric E and F can hardly be distinguished from the red ware Fabrics but for their colour.

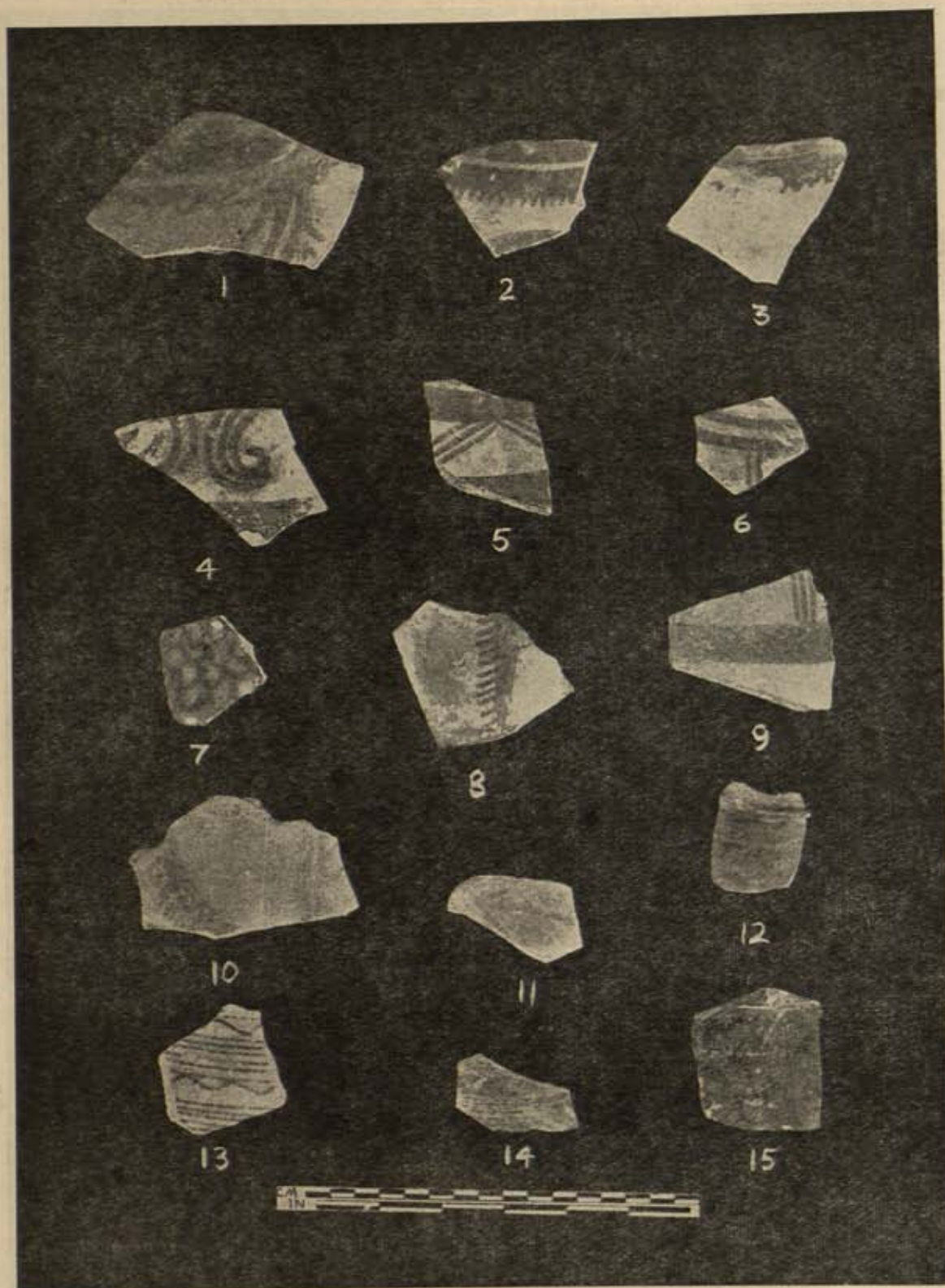
The black and red ware is represented by a single fragment of bowl with blunted out-turned rim and carinated shoulder, burnt to black interior and red but black topped exterior. Besides, a few sherds of hand made dull red ware were also recovered from the site. The fabric is medium coarse and burnt to dull red colour. The main types include dough plates and a crucible.

The pottery is invariably decorated with painted designs (Pls. XXXII-XXXIV) except in the case of Fabric F, black and red and hand made dull red wares. Fabric A is most profusely painted. The painting is generally executed at the rim, neck and shoulder of the vases, jars, cups, bowls, etc; on the exterior. The bowls are also painted on the interior. The painting is generally executed in black or chocolate over dull red or pinkish matt surface. The use of white pigment in addition to black produces the bichrome effect as at Kalibangan. Although the overall pattern of painted designs shows individualistic features, the design elements are mostly common between Siswal and Kalibangan. But the former has lesser variety as compared to the latter. The main designs at Siswal include block bands, horizontal lines, zigzag horizontal or vertical lines, curvy lines, converging oblique strokes, suspended loops, fish scales, cross-hatched diamonds, opposed triangles, ovals, arcading designs, sigmas, fish, arrow, etc. The naturalistic designs such as the birds, plants, moustache-like bifold design, flower and the *Trisūla*-like motifs of Kalibangan I are conspicuous by their absence at Siswal.

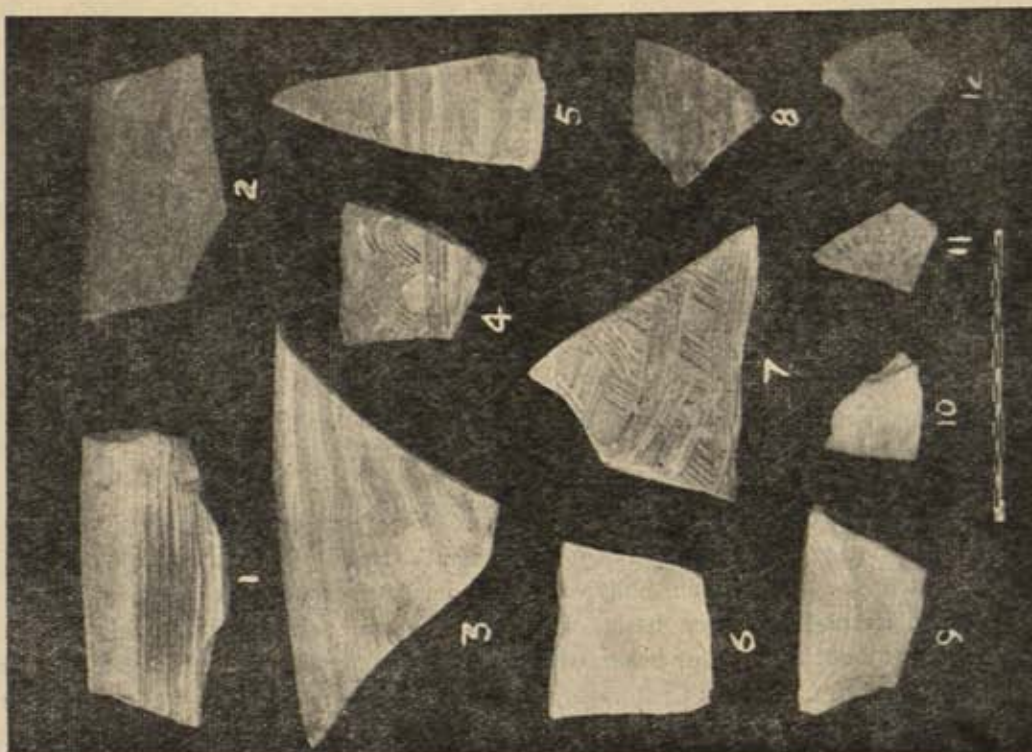
The incised decoration more commonly occurs in Fabric D, though a number of sherds are also decorated in Fabric A. The decoration in case of the former is confined to the interior of the troughs, while the latter are decorated on the exterior (Pl. XXXII B, 2). The main designs include linear



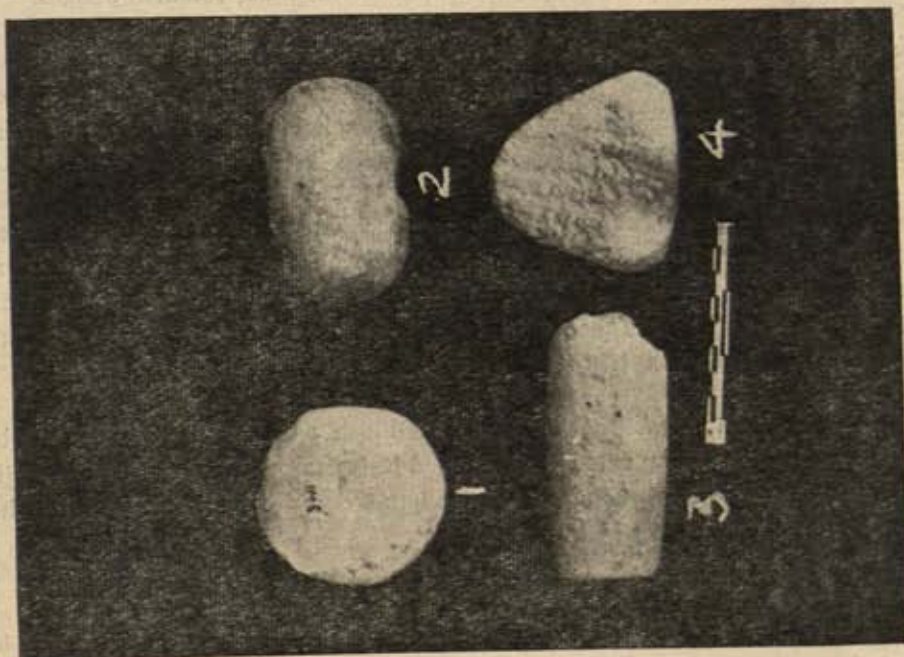
Siswal A, 4 and 11; others unstratified: 1-6, 8, 10, 12 Fabric A, 7 and 11 Fabric C,



Siswal A, 6, 7, 11-14; unstratified 15 (2-10 Fabric A, 11-14 Fabric C, 15 Harappan)



A. Decorated Pottery, 1-2 unstratified,
8 Fabric B, 1-5, 7; Fabric D, 6, 9-12 Harappan.



B. TC objects, 1-4 unstratified.

and geometric patterns consisting of horizontal, flowing and oblique grooves, latticed design, chevron design, cord design, etc. The linear designs are executed with the help of sharp toothed comb-like instruments having 4, 6, 7 or 8 teeth. The use of bamboo chips is also attested by wide grooves in Fabric D. The decoration on Fabric D troughs is on the whole inferior in execution than at Kalibangan. A variety of motifs such as oblique strokes, oval designs, etc., superimposed upon horizontal grooves in case of troughs at Kalibangan are conspicuous by their absence at Siswal. The incised designs are generally executed on unslipped matt surface. But in a few cases these are drawn over white slip or black block band to produce a reserved slip effect.

(ii) *The Late Siswal Ware* : The Late Siswal Ware is characterised by evolved types, austerity in shapes and designs, the absence of the use of white pigment in painting and the sturdy nature and better potting of the otherwise Kalibangan I industry. It retains all the Kalibangan I Fabrics though the bulk is constituted by Fabrics A and C. Fabric E and the hand made dull red ware are rare, while the black and red ware is not met with.

The main shapes which characterised the Late Siswal Ware include medium sized vases having thickened out-turned rim and tapering sides; jars with flaring but externally blunted or grooved rim; jars with high necks, projected rim and bulbous body; cups with incurved or convex sides, bowl with flat top, bevelled or flaring rim, and bowls or basins with nail-head rim and projected undercut rim in Fabric A; jar with ledged neck, bowl or basin with flaring, thick projected or projected undercut rim and dish with projected rim in Fabric C; storage jar with ledged concave neck and clubbed rim, jar with flaring rim, trough with or without grooves, dish or basin with projected rim and carinated shoulder in Fabric D; jars with flaring and oblique cut rim, dish on stand with projected rim and pedestal footed vessel in Fabric F.

The pottery is painted in black or chocolate over red or pinkish surface with linear designs. The use of white pigment is conspicuous by its absence. The painted designs are limited and lack variety. The most common motif is a block band at the rim, neck or shoulder on the exterior of vases. The horizontal, flowing or curvy lines, oblique strokes, loops and fronds are the other common designs.

The incised decoration consists of groups of generally shallow and irregularly drawn lines on the interior of the troughs of Fabric D and horizontal or flowing scorings on the exterior of Fabric A vessels. Broad parallel bands separated by mild ridges running horizontally or in wavy manner occur on the rusticated exterior of Fabric B jars. A few of the sherds bear graffiti marks also.

(iii) *The Harappan Ware* : The Harappan pottery is limited in number and confined to storage jar with flanged rim and ledged neck, 'S' shaped jar with flanged rim, vase with footed or narrow pointed base, perforated jar, dish, dish on stand with short out-curved rim and broad squat stem of dish on stand. The pottery is made of medium fabric thrown on fast wheel and treated with bright red slip in case of the storage jar and with light red slip in case of other vessels.

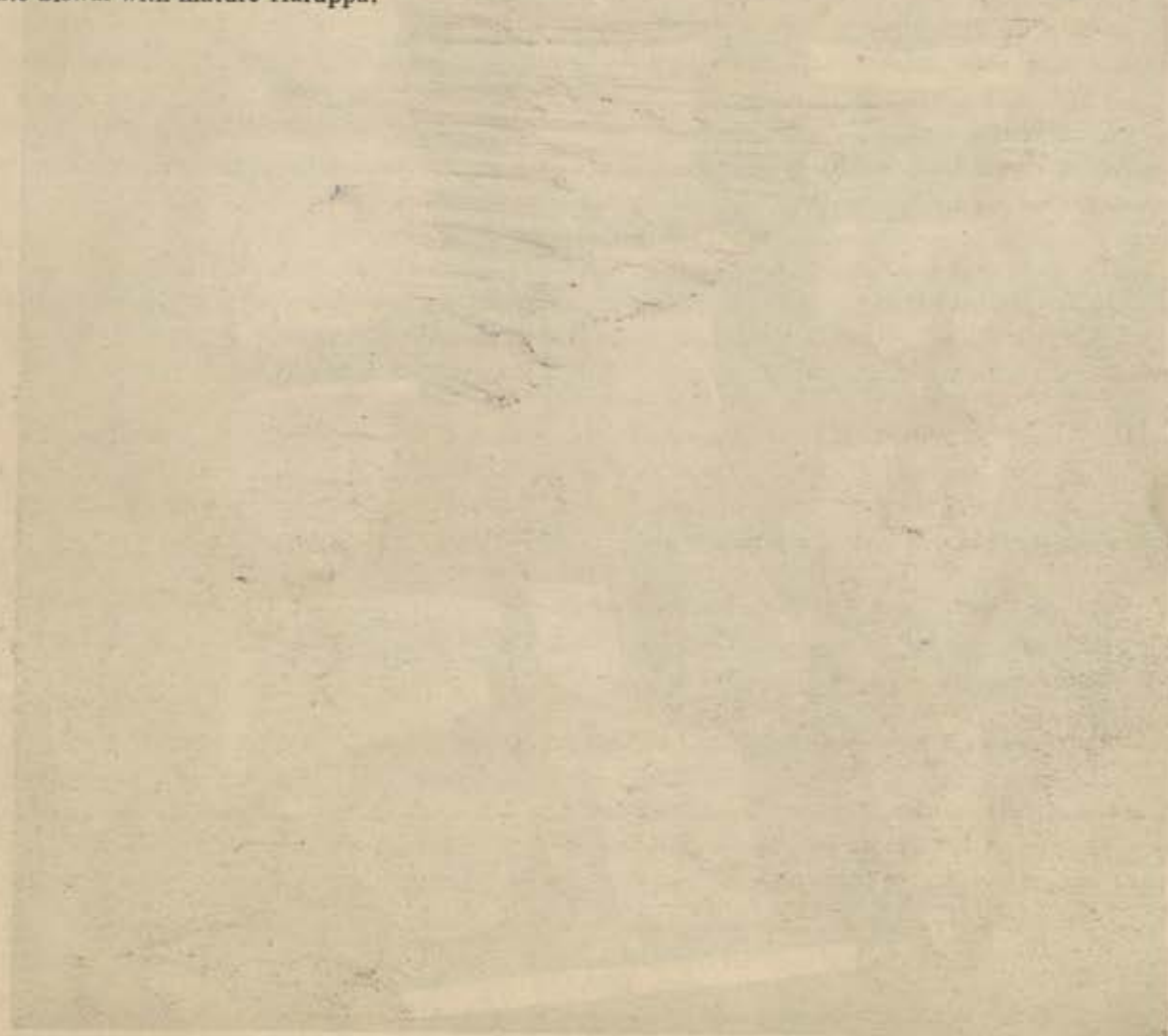
The pottery is generally plain. The storage jar and dish on stand are painted in black horizontal bands over red. A few sherds are painted with hatched leaf designs over bright red slip (Pl. XXXIV, 15), while a few others are decorated with concentric grooves or cogged designs on the inner surface (Pl. XXXV A 9-12).

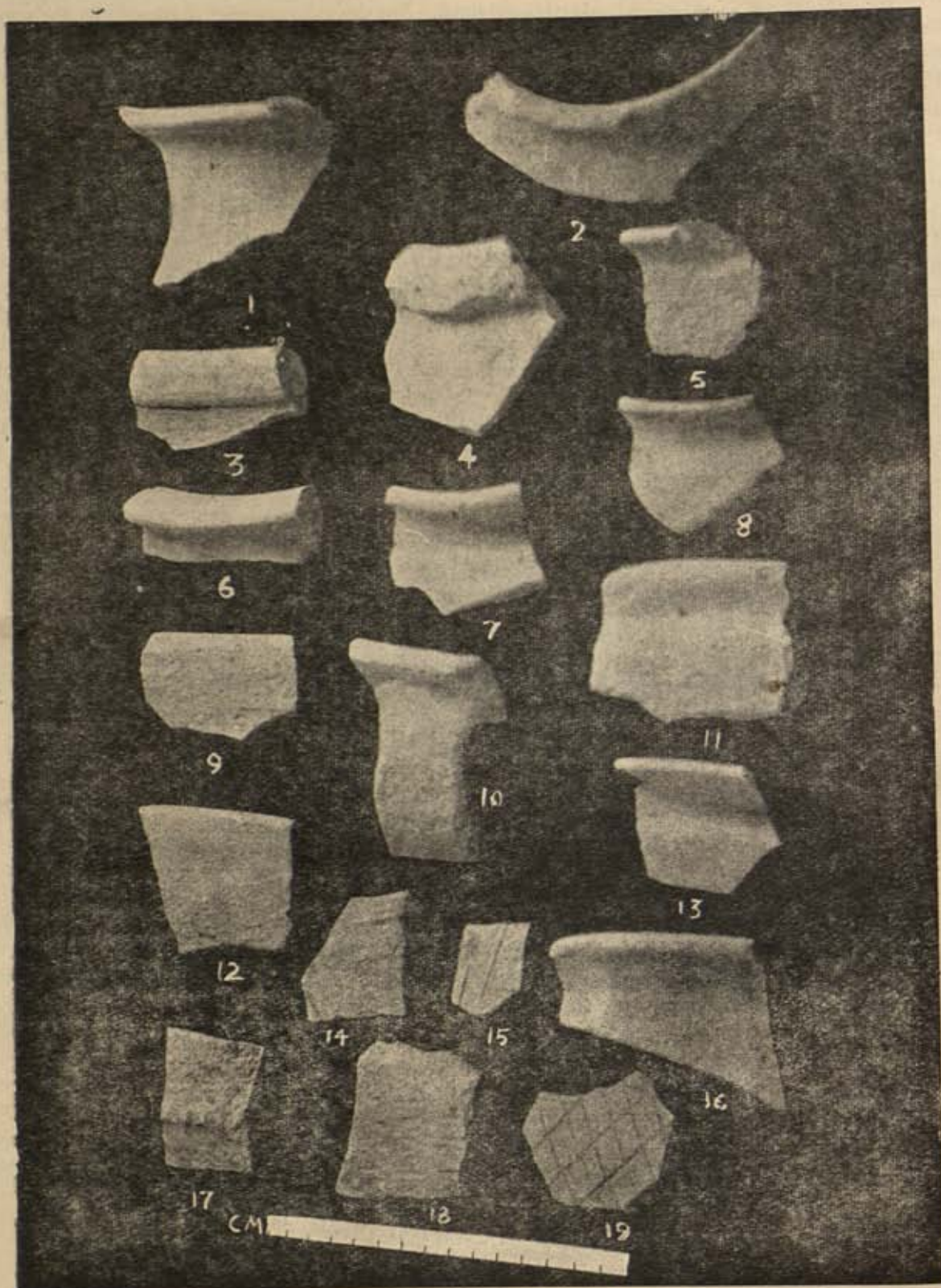
Other finds.

There have been discovered no smaller antiquities from the excavation at Siswal. However, 20 finds were collected from the surface. These include a saddle quern and a pestle of stone, four pieces of

bangles, three beads, two oblong sling balls, five discs with tapering ends and four triangular cakes of terracotta. No blades or copper objects were obtained. But the use of copper is attested by the copper oxide sticking to a crucible. The flat stone quern and the pestles are made of white spotted red sand stone. The quern is broad and has convex lower base. The muller has flat rubbing face and tapering ends.

The terracotta bangles include single as well as multiple bangles painted with black oblique strokes on the exterior as in Mitathal I. The terracotta beads are biconical truncated as in Mitathal I. The terracotta sling balls are oblong in shape bearing finger pressed marks on sides in the typical Harappan style. The terracotta disc with tapering ends and finger tip marks in the middle on either side are characteristic of the Siswal Culture. At Mitathal the discs show a clear cut evolution till these become broad and flatish with generally planoconvex section bearing a finger tip impression on the convex side. The Siswal variety is small but thick, a typical feature of early types. The terracotta triangular cakes have rounded corners and are medium sized and thick. In one case it bears impression of a mat woven with fibre ropes (Pl. XXXV B, 4). All the finds except perhaps the terracotta oblong sling balls and the triangular cakes, can be safely assigned to the Siswal culture on typological grounds. The association of a few Harappan sherds and other finds attest a contact between the two cultures and concomitance of the Late Siswal with mature Harappa.





Degenerate Siswal and associated wares.

APPENDIX D

Transformation of the Siswal culture and the OCP Problem

A clear evidence for the survival of the Siswal culture was provided by the Mitathal¹ and Siswal² excavations. The association of a few Harappan potsherds, terracotta cakes, sling balls, etc., in the otherwise non-Harappan assemblages of Mitathal I and Siswal B revealed the concomitance of the Late Siswal culture and the mature Harappan culture³, the latter known from Kalibangan II, Rakhi Shahpur and Banawali in the region. But the excavation at Mitathal suggested that the Siswal culture was ultimately absorbed by the Harappan in Mitathal IIA Period. This was further borne out by the emergence of the composite Harappa Culture in North India as attested at Bara, Alamgirpur, Bargaon, Sanghol, Chandigarh and Daulatpur. Yet the recent explorations in parts of Rohtak, Delhi and Gurgaon regions have thrown significant light on the further survival and ultimate transformation of the Siswal culture into the Atranjikhra (OCP) culture.

The survey was carried out by the author in September, 1973 in south-eastern parts of Haryana along the lower courses of Drain No. 8 and Sahibi Nadi in Rohtak and Gurgaon Districts on the west of the Aravallis and along the Indri and Ujina drains on the east, down to Dondal, about 100 kms. south of Delhi. Drain No. 8 has been cut through the *Dābar* depression which divides the sandy tracts of Gurgaon from the *Bāngar* (old alluvium) of Rohtak and Delhi. The local tradition avers that the Yamuna once passed along Gurgaon, Sohna, Dondal, etc., into Bharatpur District crossing the Aravallis from west to east through the 5 mile wide Sohna Gap. The Indri and Ujina drains partly run through this depression. Although it was not within my means to ascertain the truth of the tradition, the existence of fine grey silt deposits in the depression, the occurrence of a chain of ancient sites along it and contours showing a gradient from Gurgaon to Sohna and farther east of the Aravallis rule out the impossibility of such a hypothesis. The recovery of a skeleton of an undomesticated elephant from the alluvium of this depression at Ohtha⁴ gives an insight into the ecological conditions of this tract of land in the sub-recent times. It is interesting to note that linguistically and culturally both these depressions broadly demarcate *Ahīrwatī* and *Mewāt* from *Bāngar* and *Braj* zones.

The explorations placed on the map 25 new sites, 15 of which showed pre-PGW affiliation. These pre-historic sites are broadly classified into two groups, distinguished by the predominance of the Harappan or the Siswal elements, though the concomitance of the two is attested on almost all the sites in different proportions. Of these, Harappan sites included Lohat (Teh. Jhajjar, Dist. Rohtak) near Dhansa and Bassi (Teh. and Dist. Gurgaon) near Gurgaon, and represent respectively the Mitathal IIA and IIB ware sites. The remaining non-Harappan sites yielded what we may call the Degenerate Siswal ware anticipating the following discussion. Most of these sites except Munkola 1 and 2 are generally flat mounds submerged in the sandy dunes or sandy benches and could be hardly detected but for the potsherds lying thinly scattered on the surface. It is interesting that these sites were never reoccupied, unlike the PGW sites, which have an almost continuous occupation in the subsequent times. In one or

1. Suraj Bhan, 'Excavation at Mitathal (Hissar) 1968', Jr. of Haryana Studies, Vol. 1, No. 1, 1969, pp. 1-15.

2. Suraj Bhan, "Siswal : A Pre-Harappan site in Drisadvati Valley", *Puratattva* 5, 1971-2, pp. 44-6.

3. Suraj Bhan, "Spread and Sequence of Pre-Historic cultures in the Sarasvati Basin",

Radio Carbon and Indian Archaeology Bombay,—1972, pp. 252-63.

two cases the sites were only indicated by the potsherds found mixed in the yellow clay forming the embankments of the Ujina drain. A list of the pre-PGW sites explored in this region is given below :

	<i>Site</i>	<i>Teh.</i>	<i>Dist.</i>	<i>Ware</i>
1.	Badli	Jhajjar	Rohtak	Degenerate Siswal
2.	Lohat	—do—	—do—	Late Mature Harappa
3.	Bhadsa	—do—	—do—	Degenerate Siswal
4.	Dhansa 1	U.T.	Delhi	—do— —do—
5.	Dhansa 2	U.T.	Delhi	Late and Degenerate Siswal
6.	Munkola-1	Gurgaon	Gurgaon	Degenerate Siswal
7.	Munkola-2	—do—	—do—	Late and Degenerate Siswal
8.	Bassi	—do—	—do—	Late Harappa
9.	Alduka	Noh	—do—	Degenerate Siswal
10.	Sultanpur	—do—	—do—	—do—
11.	Mundehta	—do—	—do—	—do—
12.	Papra	Firozpur Jhirka	—do—	—do—
13.	Mamluka	—do—	—do—	—do—
14.	Luhinga	—do—	—do—	—do—
15.	Gokulpur	—do—	—do—	—do—

All the non-Harappan sites are characterized by a worn out medium thick red ware. But that this ware was treated with red slip and painted with black bands, atleast in some cases is attested by a few better preserved sherds. The fabric is generally medium coarse, and the pots have burnt to red or grey core as in the Late Siswal ware. A few sherds of grey ware are also met with in the same medium coarse fabric comparable to Fabric F of the Siswal ware. The pottery is generally wheel thrown though the use of slow wheel and the luting of the neck, the characteristic technique of the Kalibangan I ceramic tradition still persists. The rusticated exterior of certain vases and their decoration with mild ridges done by fingers (pl. XXXVI, 14) recall Fabric B of the late Siswal ware. Incised decoration both on the interior and exterior (pl. XXXVI, 15-19) of the vessels done with sharp edged tool in the Siswal fashion is also attested. The main shapes include vases with out-curved featureless rim (Pl. XXXVI, 2, 5), out-turned bevelled rim (Pl. XXXVI, 7 and 8); basin with flaring rim (Pl. XXXVI, 11, 13, 16); bowl with convex sides and blunted rim (Pl. XXXVI, 9); bowl with tapering sides and blunted rim (Pl. XXXVI, 12); vase with broad flat loop handle of rectangular section (Pl. XXXVI, 10). A few Mitathal IIB sherds such as vase with flanged rim (Pl. XXXVI, 1), storage jars with collared rim (Pl. XXXVI, 3) or with beaded rim sitting on the expanding shoulder (Pl. XXXVI, 4), and a dish on stand with drooping rim are almost invariably associated with all these sites and indicate the concomitance of the two ceramic traditions.

Although the non-Harappan pottery of these sites misses the characteristic look on account of the worn off surface, but on closer scrutiny it reveals close relationship with the Siswal or derivative wares in typology, fabric, firing, potting, rustication and incised decoration. While the rusticated, internally incised and grey ware sherds unmistakably recall the B, D and F Fabrics of the Siswal tradition respectively, the bulk of the red ware could well go with Fabric A. Besides the pottery, the minor antiquities associated with these sites, such as the terracotta disc with tapering ends from Dhansa-1, Alduka and Sultanpur, chalcedony flake from Dhansa-1, and rubber stones from Dhansa-1, Sultanpur and Munkola-2, bear out unmistakable relationship of these sites with the Siswal tradition.

5. The site was first explored by Silak Ram of the Kurukshetra University. But its true character could not be ascertained.

The ceramic industry of these sites has fewer shapes and is cruder than the Late Siswal ware, not to speak of the painted designs, so badly missing here due to the ill preserved surface of the pottery. Although the rudiments of most of the Kalibangan I Fabrics survive as indicated above, but these could no more serve as an instrument of classification for the ceramic industry now. The internally incised sherds show shallower grooves. The incised decoration on the exterior has become more varied. In the handled vase, the loop handle is further flattened over the Late Siswal shape. The above facts unmistakably show a degenerate stage of the Siswal culture. But a later stage for this ware than the late Siswal is more clearly suggested by the associated Mitathal IIB fossil types. Thus the explorations have provided an evidence for further survival and degeneration of the Siswal culture contemporaneously with the Late Harappa culture and with a limited influence of the latter in south-east Haryana. It may be reasonably called the Degenerate Siswal culture to distinguish it from the Late Siswal.

Although a clear typological evidence for the survival of the Siswal culture side by side with the Harappa culture has been revealed in our region, it need not give an impression that this phenomenon was confined to this part alone. A re-examination of the previously known late Siswal ware sites in the Sarasvati basin revealed that the flat loop-handled vase, the type fossil of the Degenerate Siswal ware, and the associated Late Harappan fossil types occur on at least 17 sites. Several of these sites have also yielded the externally incised sherds similar to those of the Degenerate Siswal ware. In a number of cases the Fabrics B, D or E are rare or are absent. The pottery from most of these sites, particularly in the central Yamuna Valley, is also ill preserved. Thus, it is evident that the transformation of the Siswal culture was a widely spread phenomenon all over lower Haryana, the zone of its concentration.

Relationship with the OCP

The genetic relationship of the OCP of *Doab* with the Sarangpur ware of pre-Harappan tradition had been suggested by the author on typological grounds earlier.⁶ But the omnibus label of OCP being given to all sorts of pottery by archaeologists primarily guided by the state of preservation of the wares made the problem more confused. I had suggested on typological grounds the classification of the so called OCP into two broad groups, viz., (A) OCP (Ambkheri) and (B) OCP (Atranjikhara) after the type sites representing the characteristic ceramic complexes of the two groups⁷. I had also pointed out that the OCP (Ambkheri) concentrated mainly in the northern *Doab*, represented a mere degenerate stage of the Mitathal IIB ware, a composite late Harappan ceramic complex. The OCP (Atranjikhara) on the other hand represented a different tradition which was more common in the central *Doab* and the adjoining parts of Rajasthan and U.P. In view of certain typological similarities between the Kalibangan II/Siswal wares and the OCP (Atranjikhara), and the concentration of the Siswal ware sites in lower Haryana adjoining central *Doab*, the probability of the genetic relationship between the Siswal culture and the so called OCP had been raised.⁸ The discovery of the Degenerate Siswal ware sites in south-eastern Haryana bridged the geographical and chronological gap between the Late Siswal culture and the OCP. A mere look at the Degenerate Siswal ware would convince one of its close affinities with the OCP (Atranji-khara) now better illustrated from Bahadarabad and Saipai.

Both the assemblages are ill preserved black on red ware complexes⁹ generally thrown on wheel and burnt to grey core in a number of cases¹⁰. Almost all the typical shapes of the OCP have their counterparts in the DSW or are derivable from the Siswal tradition. Both the OCP and the DSW assemblages are associated with a few Mitathal IIB (Late Harappan) types. A comparative study of the typology of OCP with DSW is given below :

6. Suraj Bhan, "New Light on the ochre colour ware culture". *The Research Bulletin (Arts) Punjab University*, No. LVII (III) 1967, pp. 1-9.
7. Suraj Bhan, comments on OCP, *Puratattva* 5, 1971-2, pp. 16-21.
8. Suraj Bhan, *Ibid.*, 1971-2, pp. 16-21.
9. B.B. Lal, "A Note on the Excavation at Saipai" *Puratattva* 5, 1971-2, pp. 46-49.
10. The author examined this feature in the OCP of Bahadarabad, Atranjikhara and Saipai personally.

Fig. 21, 15	Puratattva 5	Vase with out-turned rim from Saipai	DSW (Pl. XXXVI, 5)
Fig. 21, 11	-do-	Vase with flaring rim from Saipai	DSW (Pl. XXXVI, 2)
Fig. 21, 16	-do-	Vase with flanged rim from Saipai	DSW (Pl. XXXVI, 1)
Fig. 21, 20	-do-	Flat loop handle of basin from Saipai	DSW (Pl. XXXVI, 10)
Fig. 5, 111	-do-	Bowl with thickened rim from Hastinapur.	DSW (Pl. XXXVI, 9)
Fig. 14, 19	-do-	Storage jar from Bahadarabad	Late Siswal, (<i>Puratattva</i> 5; Fig. 18, 2)
Fig. 21, 7	-do-	Pedestal base of dish from Saipai.	Late Siswal, (<i>Puratattva</i> 5; Fig. 18, 15)
Fig. 13, 4a	-do-	Deep dish (with pedestal base) from Bahadarabad.	Late Siswal, (<i>Puratattva</i> 5; Fig. 18, 11)
Fig. 13, 3	-do-	Bowl with ring stand from Bahadarabad.	Kalibangan I (<i>IA</i> , 1962-3, Fig. 3, 18)
Fig. 14, 18	-do-	Bowl with blunted convex rim from Bahadarabad.	Late Siswal, (Mitathal IIA, Fig. 7, 22A)
Fig. 21, 17	-do-	Lid with central knob and round bottom from Saipai.	Kalibangan I (<i>IA</i> , 1962-3, Fig. 8, 10)
Fig. 7, 4	-do-	Loop handle vase from Lal Qila.	Siswal, (<i>Puratattva</i> 5; Fig. 18, 5)
Fig. 14, 17	-do-	Vase from Lal Qila with out-curved thickened rim from Bahadarabad.	Late Siswal, (Mitathal I Fig. 5, 7)
Fig. 6, 18	-do-	Pan with handle from Atranjikhhera.	Kot Diji I (PA, 2;)
Fig. 6, 15	-do-	Incised slashes on exterior from Atranjikhhera.	Late Siswal (Mitathal IIA Pl. VII, 9) and DSW (Pl. XXXVI, 18)
Fig. 6, 17	-do-	Incised criss-cross design on exterior from Atranjikhhera.	DSW (Pl. XXXVI, 19)
Fig. 13, 14	-do-	Internally incised design from Bahadarabad.	Siswal, (<i>Puratattva</i> 5, Fig. 18, 9)
Fig. 6, 19	-do-	Lipped bowl from Atranjikhhera.	Sarangpur (<i>RBPU (Arts)</i> 1967 Fig. 3, 16)
Fig. 6, 12	-do-	Dish on stand from Atranjikhhera I	Late Harappan (Common Type)
Fig. 7, 22	-do-	Dish on stand with drooping rim from Lal Qila.	Late Harappan (Mitathal IIB, Fig. 13, 92)
Fig. 6, 6	-do-	Vase with flanged rim from Atranjikhhera.	Late Harappan with DSW, (Pl. XXXVI, 1)
Fig. 6, 2	-do-	Vase with beaded rim from Atranjikhhera.	Late Harappan (Common Type)
Fig. 13, 8	-do-	Globular vase with flat base from Bahadarabad.	Late Harappan (Bara., <i>Puratattva</i> 5, Fig. 9, 9, 13-15)
Fig. 7, 1	-do-	Large jar with beaded rim sitting on the shoulder from Lal Qila.	Late Harappan with DSW (Pl. XXXVI, 4)
Fig. 7, 3	-do-	Vase with beaded rim, raised convex neck and globular body from Lal Qila.	Late Harappan (Bara., <i>Puratattva</i> 5, Fig. 9, 14)

The above comparative study of OCP types suggests that most of the OCP types have close affinities with the DSW or its parent industry. The characteristic Late Harappan types associated with the OCP are also found with the DSW and bear out their concomitance.

The above discussion shows that the OCP of the Atranjikhhera, Saipai and Bahadarabad group of sites is identical with DSW and for that reason is genetically related to the Siswal culture. Secondly, its poor material equipment suggests a degenerate stage of the culture. The concomitance of the DSW/OCP and Mitathal IIB types assigns the late Harappan chronological context for the DSW. Thus there is evidence for a wide spread existence of the Degenerate Siswal culture in North India.

It may be incidentally pointed out that the association of the "OCP" with the "Copper Hoards" and the absence of the latter from the DSW sites need not obsess us too much for the following reasons. Firstly because there have been reported a number of "Copper Hoard" tools including the harpoon, antennae sword, long celts and spear heads from south-eastern districts of Haryana, the zone of the DSW. Secondly, it is in this region (near Narnaul) that copper ores are locally available. The discovery of the Siswal and DSW sites on the dry course of Dohan¹², a nadi passing through the Narnaul region, might hint the possibility of a movement of the Siswal folks in the Copper belt hardly 40 miles south.

11. The tools are housed in the Jhajjar Museum, Information from Swami Omanand, Gurukul Jhajjar, Haryana.

12. The sites were discovered by Mr. Mange Ram, my student at the Kurukshetra University.

APPENDIX E

Distribution of Prehistoric sites in the Sutlej-Yamuna Basin

The Sutlej-Yamuna Divide was first placed on the prehistoric map of India by the discovery of a Harappan site at Kotla Nihang Khan near Ropar in 1929¹. But the region hardly attracted the attention of archaeologists till the early fifties when excavations were undertaken at Dher Majra², Ropar³, Bara⁴ and Slaura⁵ in the upper Sutlej Valley, and a broad sequence of cultures was provided for North India. About this time were also explored several Harappan⁶, and other sites traditionally connected with the *Mahabharata* in the Sutlej-Yamuna basin⁷. But a detailed survey of the region was carried out by the present writer from 1961 onwards⁸. As a result, 262 prehistoric sites were discovered or re-examined⁹ in the region. The limited excavations at Mitathal¹⁰, Siswal¹¹ and Daulatpur¹², and the section scraping at Rakhi Shahpur¹³ and Sarangpur¹⁴ further refined and supplemented the sequence of Late prehistoric cultures in North India (Fig. 17 page 119). The work suggests a bilineal growth of cultures¹⁵ ultimately supplanted and/or assimilated by the black and red ware and/or PGW cultures as given below :

- Period I. Kalibangan I and Sarangpur cultures.
- Period II. Mature Harappa and Late Siswal cultures.
- Period III. Late Harappa and Degenerate Siswal (DSW) cultures.
- Period IV. Black and red ware and Painted Grey Ware cultures.

The distribution of late Prehistoric sites (See Fig. 16) has broadly defined the various cultural entities and points to the following tentative conclusions :

1. In the whole of the Indo-Gangetic Divide the Sarasvati Valley seems to have been most thickly populated during the late Prehistoric times having 148 settlements out of a total of 262. Next

1. Vats, M.S., Kotla Nihang, *ARASI* (1929-30), pp. 131-2.
2. Pruffer, Olaf, 1952, *Interim Report on the excavations carried out at Dher Majra*, Calcutta.
3. *Indian Archaeology-A Review*, 1953-54, New Delhi, pp. 6-7 and 1954-55, pp. 9-11; Sharma, Y.D., 1956, "Past Patterns in living as unfolded by excavations at Ropar", *Lalit Kala*, Nos. 1-2, 1955-56, pp. 121-21.
4. *Indian Archaeology-A Review*, 1954-55, New Delhi, pp. 1-10, Sharma, Y.D., 1964, 'Proto-historic remains', *Archaeological Remains, Monuments and Museums*, New Delhi, pp. 11-13 and, 1965, comments on A. Ghosh's paper on 'The Indus civilization : Its Origins, Authors, Extent and Chronology', *Indian Prehistory* : 1964, Poona, pp. 131-35.
5. *Indian Archaeology-A Review*, 1954-5, New Delhi, pp. 9-11.
6. *Indian Archaeology-A Review*, 1953-54, New Delhi, p. 38; Dikshit, K.N., 1967, 'Exploration along the Right Bank of River Sutlej in Punjab', *Journal of Indian History*, Vol. XLV, Part II, pp. 561-8, and 1961, 'Nature of Harappan Wares in Sutlej Valley', *Potteries in Ancient India*, Patna, pp. 56-66.
7. Lal, B.B., 1954-55, 'Excavation at Hastinapur and other Explorations in the Upper-Ganga and Sutlej Basins 1950-52', *Ancient India*, Nos. 10-11.
8. See relevant issues of *Indian Archaeology-A Review*, Suraj Bhan, 1968, 'The Dawn of Civilization in Haryana', *Haryana : Studies in History and Culture*, 1968, pp. 1-5, and the Appendix, 1971-72, comments on OCP, *Purātattva*, 5, pp. 16-20, and 1973, 'Spread and Sequence of Pre-Historic Cultures in the Sarasvati Basin', *Radio-Carbon and Indian Archaeology*, Bombay, 1973, pp. 252-63.
9. See list on pp. 122-26.
10. Suraj Bhan, 1961, Excavations at Mitathal (Hissar), 1968, *Journal of Haryana Studies*, 1, 1, pp. 1-15.
11. Suraj Bhan, 1971-72, 'Siswal : A Pre-Harappan Site in Drisadvati Valley', *Purātattva* 5, pp. 44-46.
12. *Indian Archaeology-A Review*, 1957-58, pp. 18-20.
13. See Appendix B, pp. 94-101
14. Suraj Bhan, 1967, 'New Light on the Ochre-Coloured Ware Culture', *Research Bulletin (Arts)*, Panjab University, No., LVII (III), Chandigarh, 1967, pp. 1-9.
15. Suraj Bhan, 1973, *op. cit.*

comes the Yamuna Valley with 56 sites, closely followed by of the Sutlej Valley with 42 sites. In the Sabi Valley, however, only 16 sites have come to light so far. It seems to have had a little attraction for the colonisers.

2. The Sarangpur ware¹⁶ occurs on three sites only, all situated on the Ghaggar and its westerly tributaries, while the Kalibangan I (Siswal) Ware is found in the Drisadvati, Sarasvati and Yamuna (westerly course) Valleys¹⁷. To the Siswal people, the Drisadvati Valley probably had greater attraction, as indicated by the discovery of 9 sites as against only two each in the other valleys. The distribution of the ware in the parts of Hissar, Rohtak and Jind districts of Haryana, contiguous to North Rajasthan, suggests that the Kalibangan I colonisers had immigrated from North Rajasthan. In the north, the provenance of the ware extends to Jind-2(160).

3. The Late Siswal Ware seems to thin out in the Drisadvati and Sarasvati Valleys. It disperses along the Ghaggar and Sutlej Valleys on the west, and in the east, along the westerly and middle courses of Yamuna and the Sabi Valley. Its northern-most limit is marked by Dharmheri 2 (40) in Patiala district, while the eastern by Sultanpur (256) in Nuh tehsil of Gurgaon district.

4. The superimposition of the Harappan settlement over Kalibangan I (Siswal) deposits at Rakhi Shahpur and the invariable association of the Harappan and the Late Siswal elements suggest that both the latter cultures were concomitant in the region. The existence of the imposing Harappan twin-mound sites of Rakhi Shahpur and Banawali¹⁸ in the heartland of the Late Siswal Culture shows the dominance of the former over the latter culture. In the Sutlej Valley, the mature Harappan site of Kotla Nihang Khan lies near Ropar under the shadow of the Siwaliks. These sites mark the first phase of the Harappan expansion.

The late mature Harappan sites extend in the south-east, farther into the Westerly Yamuna and the Sabi Valleys, and in the west into the Sutlej Valley. There has been discovered mature Harappan Ware at only ten sites in the region.

5. The Mitathal IIB Ware has been recovered from 86 sites. This preponderance of the Late Harappan ware is observed particularly in the Drisadvati, westerly Yamuna, Sutlej and Sarasvati Valleys. It also extended into the Ghaggar and its tributaries and penetrated into the Siwaliks in the Sirsa Valley¹⁹, and in the Gangā Yamunā Doab²⁰ where no mature Harappan site has been found so far.

Over eight times preponderance of Mitathal IIB over the mature Harappan sites, and its vast expansion, suggest a second influx of the Harappans.²¹ Their impoverished condition and poor taste shows that they had migrated as refugees²², disrupted from their original home farther south-west due to human or natural causes.

6. The Degenerate Siswal Ware has been found at 28 sites in this region. The invariable association of Mitathal IIB Ware with the DSW, indicates their concomitance. The occurrence of a few

16. Suraj Bhan, 1967, *op. cit.*, Mughal, M.R. relates it to early Jalilpur and Gumla periods in his personal communication.

17. Suraj Bhan, 1971-72, *op. cit.*, Fig. 22.

18. Suraj Bhan, 1968 *op. cit.*, and 1972, *op. cit.* The site has been spelled as Vanawali in previous publications.

19. Sankalia, H.D., 1962 *Prehistory and Protohistory in India and Pakistan*, Bombay, pp. 155-8.

20. *Indian Archaeology—A Review*, 1958-59, New Delhi, pp. 50-55, 1967-8, pp. 47-48; Sharma, Y.D., 'Copper Hoards and Ochre coloured Ware in Ganga Basin,' *Summaries of Papers, International Conference on Asian Archaeology*, New Delhi, 1961, pp. 54-60, 1964, *op. cit.*, 1965, *op. cit.*, Deshpande, M.N., 1961, Comments on A Ghosh's paper (1964) *op. cit.* pp. 127-21., Dikshit, K. N., 1970, 'Harappa Culture in Western Uttar Pradesh,' *Bulletin of the National Museum* No. 2, New Delhi, pp. 21-28, and Sankalia H.D., *ibid*, pp. 56-9.

21. Suraj Bhan, 1973, *op. cit.*

22. Suraj Bhan, 1973, *op. cit.*

SARASVATI BASIN (HARYANA) DISTRIBUTION OF:

KALIBANGAN I & LATE SISWAL WARE

MITATHAL II B WARE

HARAPPA WARE

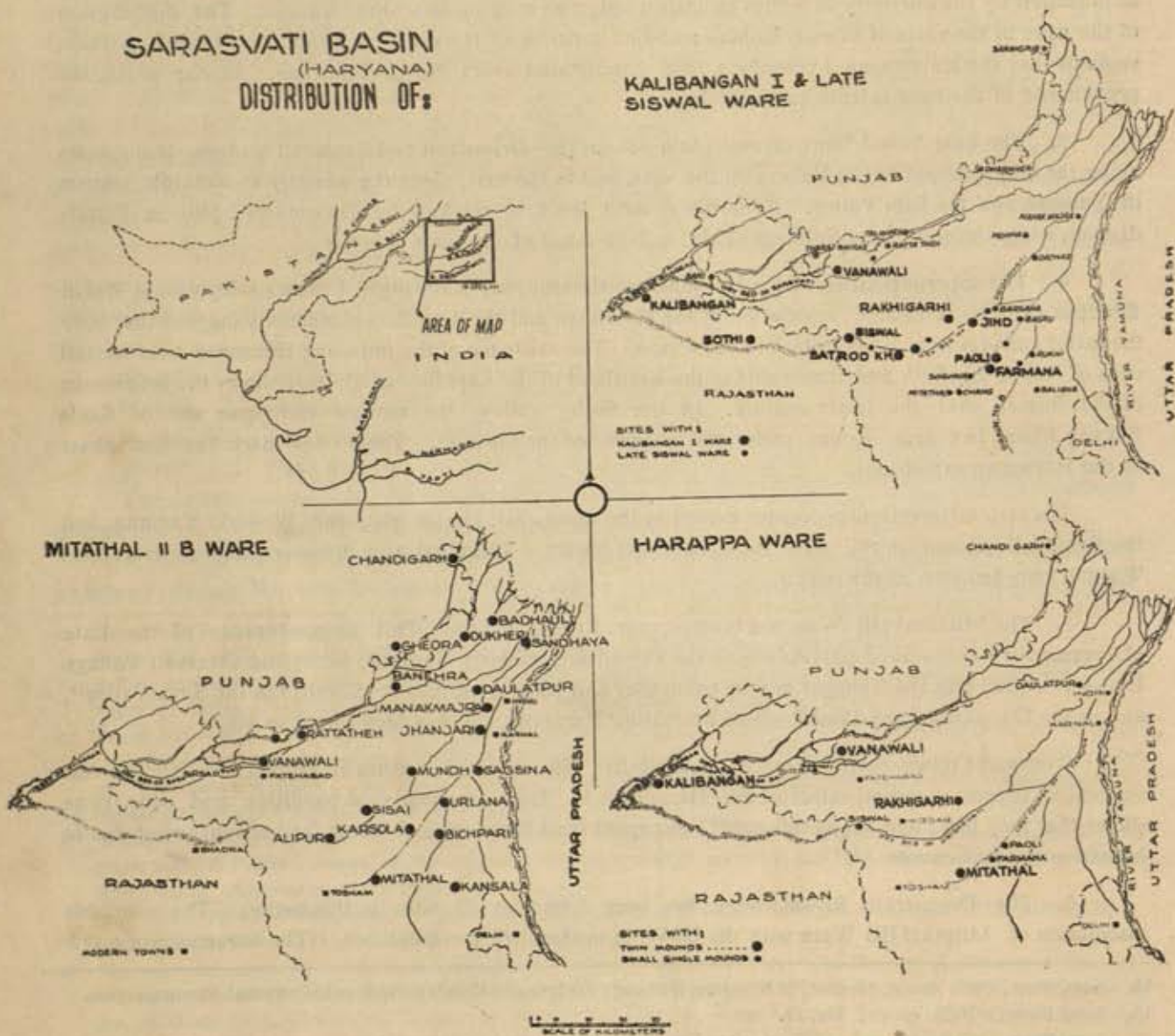


Fig. 16

prominent Mitathal IIB sites among the more numerous but inconsequential DSW sites, shows that the Harappans continued to dominate the DSW people in that region. If the pre-eminence of Alamgirpur²³ and Bargaon²⁴ is any guide, the Harappan domination also partly extended over the OCP (the same as DSW) in the Gangā-Yamunā. Doab. (for expansion of cultures in North India, see Fig. 18).

7. The Painted Grey Ware has been found on 134 sites in this region. The sites are generally small and concentrated mainly in the Sarasvatī and its upper tributaries, holy Kurukshetra region and the easterly Yamunā (*Khadar Course*) Valleys. In the Drisadvatī Valley the PGW sites occur along the easterly boundary of the holy Kurukshetra region, which seems to mark a corridor between the Sarasvatī and the easterly Yamunā Valleys. The occurrence of PGW, and the absence of Mitathal IIB and DSW along the easterly Yamunā, show that the PGW people were the first colonisers of the Valley. In the Sutlej Valley, the PGW occurs mainly on the upper course. It is less preponderant on the Lasara Nalla, and Ghaggar and its western tributaries. In the westerly and middle Yamunā, lower Drisadvatī, Dohan, and Sabi Valleys, it is rare and late, if not absent.

The predominance of the PGW in the Sarasvatī Valley, holy Kurukshetra region and the easterly Yamunā Valley, and its comparative absence from the lower Drisadvatī, westerly and middle Yamunā and Sabi valleys in the south-east and the Ghaggar Valley in the west, is significant as it indicates a pattern of colonisation different from that of the Mitathal IIB and the DSW. Was it due to the fact that the PGW people followed the line of least resistance by occupying the tracts almost free from the Mitathal IIB and DSW elements, or was it due to the hydrographical changes which resulted in the desiccation of other regions. The allusions to *Kurujāngala* and *Khāṇḍava* forests, occupying the tracts south of the Kurukshetra, in early Indian literature,²⁵ are of significance in this regard.

RELATIVE SEQUENCE OF SARASWATI-GANGA PLAINS

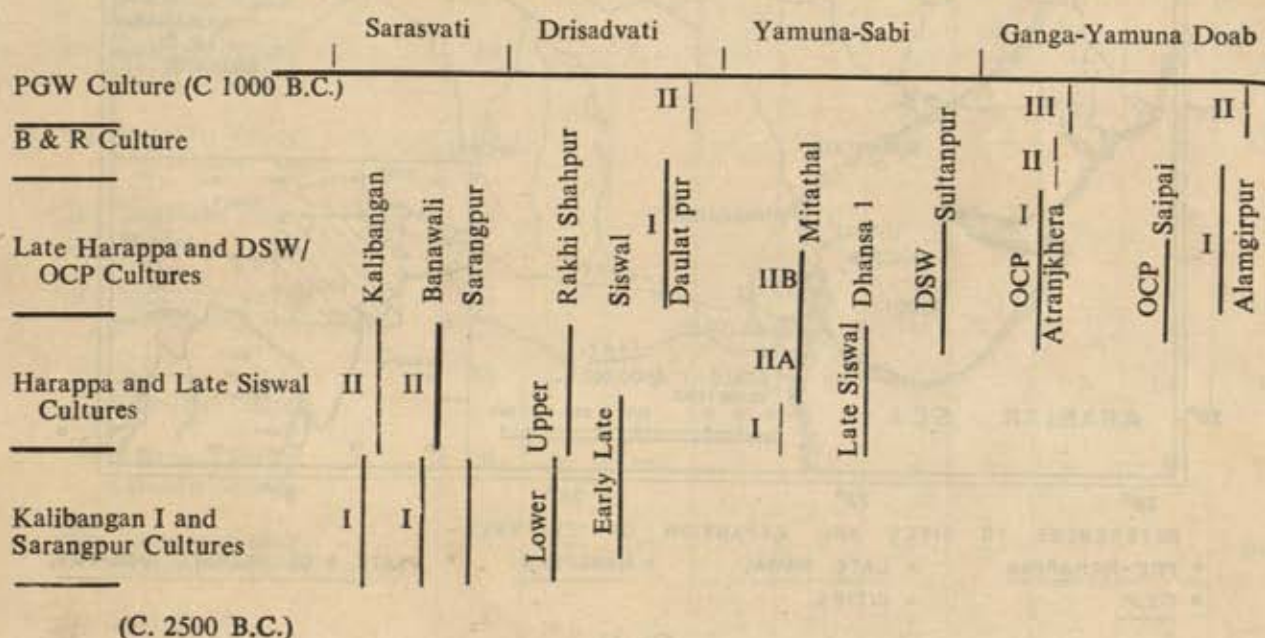


Fig. 17

23. *Indian Archaeology-A Review*, 1958-9, New Delhi, pp. 50-5.

24. *Indian Archaeology-A Review*, 1963-64, New Delhi, pp. 56-57.

25. Law, B.C., *Historical Geography of Ancient India*, Paris, 1954.

Expansion of Prehistoric Cultures in North India

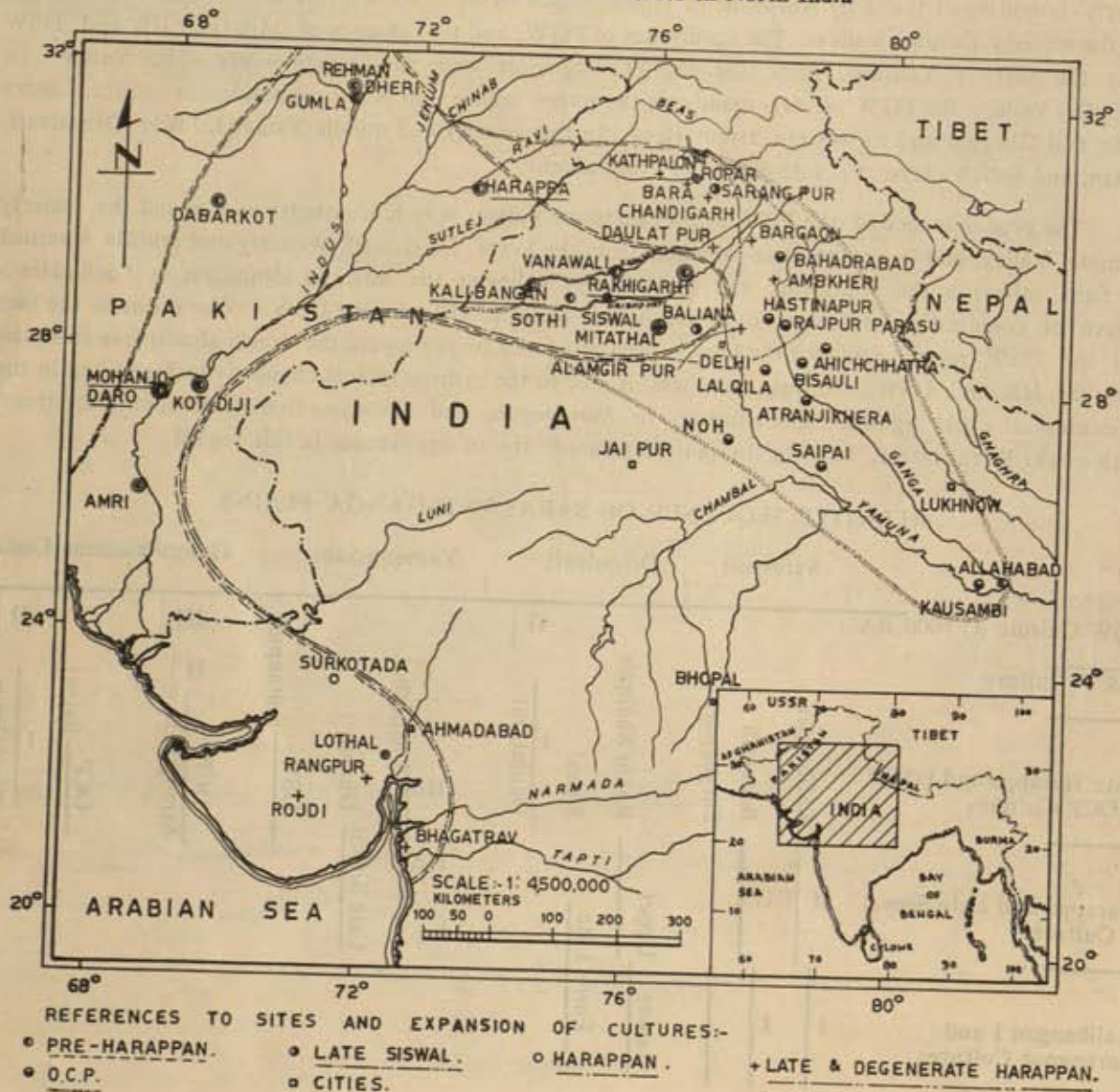


Fig 18

Distribution of Prehistoric Sites in the Sutlej-Yamuna Basin

Sarangpur culture sites=SRP

Early Siswal sites=S

Late Siswal culture sites=LS

Degenerate Siswal sites=DS

Copper Hoard sites =C

Harappan Sites=H

Late mature Harappan sites=LH

Mitathal IIB (Late Harappan) Sites=M

Painted Grey Ware sites=P

River Valleys	Sites	SRP	S	LS	DS	C	H	LH	M	P
A (i) Sutlej Valley (Main)	30	—	—	1	—	—	1	5	11	16
(ii) Sutlej Valley (Lasara Nalla)	12	—	—	—	—	—	—	—	10	4
B (i) Ghaggar Valley (Main)	9	1	—	2	—	—	—	—	5	3
(ii) Ghaggar Valley (Jainti Devi Ro)	3	1	—	—	—	—	—	—	1	1
(iii) Ghaggar Valley (Patiala Nadi)	9	1	—	—	—	—	—	—	5	3
(iv) Ghaggar Valley (Tangri Nadi)	10	—	—	—	—	—	—	—	2	8
C (i) Sarasvati Valley (Markanda Nadi)	18	—	—	—	—	—	—	—	4	15
(ii) Sarasvati Valley (Main)	46	—	2	1	1	—	1	—	9	37
(iii) Sarasvati Valley (Drisadvati dry bed)	53	—	9	6	10	—	1	—	17	22
D (i) Yamuna Valley (Westerly course)	22	—	2	4	4	1	—	1	14	1
(ii) Yamuna Valley (Middle course)	8	—	—	1	2	—	—	—	4	2
(iii) Yamuna Valley (Khadar or easterly course)	16	—	—	—	—	—	—	—	—	16
E (i) Sabi Valley (Dohan dry bed)	4	—	—	2	—	1	—	—	2	—
(ii) Sabi Valley (Main)	12	—	—	2	4	1	—	1	2	3
(iii) Sabi Valley (Indri-Ujina drain)	10	—	—	1	7	—	—	—	—	3
Total	262	3	13	20	28	3	3	7	86	134

List of Prehistoric sites

A. (i) Sutlej Valley (Main)	Tehsil	District	Culture
*1. Raja Sirkap	Faridkot	Faridkot	LH
2. Dargu	Moga	—do—	LS
*3. Madiala Kalan	Ludhiana	Ludhiana	M
*4. Daheru	—do—	—do—	LH
*5. Manupur	—do—	—do—	LH
*6. Kheri Nudh Singh	—do—	—do—	LH
*7. Dhuleta	Phillaur	Jullundur	P
*8. Katpalon	—do—	—do—	M, P
*9. Sapota	—do—	—do—	P
*10. Apra	—do—	—do—	P
*11. Ashaur	—do—	—do—	P
*12. Nagar	—do—	—do—	M, P
*13. Slaura	Ropar	Ropar	P
*14. Bara	—do—	—do—	M
*15. Kotla Nihangkhan	—do—	—do—	H
*16. Ropar	—do—	—do—	LH, P
*17. Bikkun (Dher Majra)	—do—	—do—	M
*18. Kotli	—do—	—do—	M
*19. Talpura	—do—	—do—	P
*20. Dhang	—do—	—do—	M
*21. Merhanwala	—do—	—do—	M
*22. Manguwal	—do—	—do—	P
*23. Baddi	—do—	—do—	P
24. Manikpur	—do—	—do—	M
*25. Baterla	Kharar	—do—	P
*26. Rahon	—do—	—do—	P
27. Patharheri	—do—	—do—	P
28. Singh	—do—	—do—	P
*29. Chamkaur	—do—	—do—	M, P
*30. Hawara	—do—	—do—	M
(ii) Sutlej Valley (Lasara Nalla)			
31. Rohira	Dhuri	Sangrur	M
32. Mohammadpur	—do—	—do—	M
33. Bhudan	Malerkotla	—do—	M, P
34. Mandiyan Theh	Amloh	Patiala	P
*35. Seal	Patiala	—do—	P
36. Dadheh	Samrala	Ludhiana	M, P
*37. Suhavi	—do—	—do—	M
*38. Sanghol	—do—	—do—	M
*39. Mathan	—do—	—do—	M
40. Harnauli	Ropar	Ropar	M
41. Kainor	—do—	—do—	M
42. Bara Samana	—do—	—do—	M
B. (i) Ghaggar Valley (Main)			
43. Theraj	Bhatinda	Bhatinda	SRP
44. Hirke	Fatehabad	Hissar	M
45. Kaulgarh	—do—	—do—	P
46. Bhiwani Khera	—do—	—do—	P
47. Talwara	—do—	—do—	LS, P
48. Rattakhera	Guhla	Kurukshetra	M
49. Dharmheri-1	Patiala	Patiala	M
50. Dharmheri-2	—do—	—do—	LS, M
51. Sasi	Guhla	Kurukshetra	M
(ii) Ghaggar Valley (Jainti Devi Ki Ro)			
52. Bassi	Sarhind	Patiala	M

*The sites marked with asterisk mark were discovered by others.

53. Khanpur	Kharar	Ropar	P
54. Kharar	—do—	—do—	SRP

(iii) Ghaggar Valley (Patiala Nadi)

55. Gheora	Patiala	Patiala	M
56. Chadiala	Kharar	Ropar	P
57. Nagiari	—do—	—do—	P
58. Kurda	—do—	—do—	M
59. Kurdi	—do—	—do—	M
60. Chandigarh-1	Union Territory	Chandigarh	M
*61. Chandigarh-2	—do—	—do—	M
62. Lohara	Kharar	Ropar	P
*63. Sarangpur	—do—	—do—	SRP

(iv) Ghaggar Valley (Tangri Nadi)

64. Segta	Ambala	Ambala	P
65. Malaur	—do—	—do—	P
66. Lakhnaur	—do—	—do—	P
67. Miriapur	—do—	—do—	P
68. Balana	—do—	—do—	P
69. Kalon	—do—	—do—	P
70. Kohri	—do—	—do—	P
71. Dukheri-1	—do—	—do—	M
72. Dukheri-2	—do—	—do—	M
73. Kardhan	—do—	—do—	P

C. (i) Sarasvati Valley (Markanda Nadi)

74. Mohanpur	Ambala	Ambala	M
75. Bodha	—do—	—do—	M
*76. Bibipur Kalan	—do—	—do—	P
*77. Gudana	—do—	—do—	P
*78. Hamirpur	—do—	—do—	P
*79. Jalkheri	—do—	—do—	P
*80. Lukhi	—do—	—do—	P
*81. Mehawa Kheri	—do—	—do—	P
*82. Murthala	—do—	—do—	P
*83. Ramsaran-Majra	—do—	—do—	P
*84. Sasa Talbedi	—do—	—do—	P
85. Thol	—do—	—do—	P
86. Sadhora	Naraingarh	—do—	P
87. Kodasan	—do—	—do—	P
88. Badhauli-1	—do—	—do—	M
89. Badhauli-2	—do—	—do—	P
90. Tandwal	—do—	—do—	M. P
91. Naraingarh	—do—	—do—	P

(ii) Sarasvati Valley (Main)

92. Bani	Sirsa	Hissar	LS, P
93. Kariwali-1	—do—	—do—	P
94. Kariwali-2	—do—	—do—	P
95. Kariwali-3	—do—	—do—	P
96. Nakora	—do—	—do—	P
97. Rania-1	—do—	—do—	P
98. Rania-2	—do—	—do—	P
99. Hamayunkhera	—do—	—do—	P
100. Ratta Tibba	Fatehabad	—do—	P
101. Banawali	—do—	—do—	S, H,
102. Burj	—do—	—do—	M. P.
103. Chimun	—do—	—do—	DS

* The sites marked with asterisk mark were discovered by others.

104. Ghaswa-1	Tohana	Jind	M
105. Ghaswa-2	-do-	-do-	P
106. Ghaswa-3	-do-	-do-	S
107. Rupanwali-1	-do-	-do-	P
108. Rupanwali-2	-do-	-do-	P
109. Ratta Theh	-do-	-do-	P
110. Monak	Sunam	Sanrur	P
111. Ghamoor Ghat	-do-	-do-	P
112. Mandavi	-do-	-do-	P
113. Paind	-do-	-do-	P
114. Bakraha			P
*115. Theh Polar	Kaithal	Kurukshetra	P
116. Rasulpur Mughal	Guhla	Kurukshetra	P
117. Banehra-1	-do-	-do-	M
118. Banehra-2	-do-	-do-	M
119. Kariala	-do-	-do-	P
120. Staur	-do-	-do-	P
121. Jorasi Khurd	Thanesar	-do-	M
122. Chimarheri	-do-	-do-	P
123. Morthali	-do-	-do-	P
*124. Pehova	-do-	-do-	P
125. Arnai	-do-	-do-	P
*126. Asthipur	-do-	-do-	P
127. Sarsa Bhor	-do-	-do-	P
*128. Raja Karna ka Qila-1	-do-	-do-	M
129. Raja Karna ka Qila-2	-do-	-do-	P
130. Khairi	-do-	-do-	P
131. Mustafabad	Jagadhari	Ambala	P
*132. Deen	-do-	-do-	P
*133. Kalkhera	-do-	-do-	P
*134. Khera	-do-	-do-	P
*135. Mahbubnagar	-do-	-do-	M
*136. Sand	-do-	-do-	M P
*137. Kalait	Narwana	Jind	
(iii) Sarasvati Valley (Drisadvati dry bed)			
138. Siswal	Hissar	Hissar	S, LS
139. Saleemgarh	-do-	-do-	S
140. Matershiam	-do-	-do-	S
141. Shahpur	-do-	-do-	S
142. Patan	-do-	-do-	LS
143. Satrod Khurd	-do-	-do-	LS
144. Satrod Khurd-2	-do-	-do-	LS
145. Satrod Khurd-3	-do-	-do-	S
146. Alipur Kharar-1	-do-	-do-	LS, M
147. Alipur Kharar-2	-do-	-do-	S
148. Alipur Kharar-3	-do-	-do-	S
149. Hansi	-do-	-do-	P
150. Sisai-1	Hansi	-do-	DS
151. Sisai-2	-do-	-do-	DS
152. Sisai-3	-do-	-do-	DS
153. Data	-do-	-do-	DS
154. Pali	-do-	-do-	DS, P
155. Rakhi Shahpur-1	-do-	-do-	S, H
156. Rakhi Shahpur-2	-do-	-do-	LS
157. Ittal	Jind	Jind	P
158. Sangatpura	-do-	-do-	M
159. Jind-1	-do-	-do-	P
160. Jind (Bir)-2	-do-	-do-	S
161. Khokhari-1	-do-	-do-	M, P
162. Khokhari-2	-do-	-do-	M, P
163. Manoharpur	-do-	-do-	DS
164. Barsana-2	-do-	-do-	DS

165. Jiwankhera	Jind	Jind	M
166. Malarkhera	-do-	-do-	M, P
167. Berikhera	-do-	-do-	M
168. Ritauli	Kaithal	Kurukshetra	M, P
169. Hallan	-do-	-do-	P
170. Popdan	-do-	-do-	P
171. Mundh-1	-do-	-do-	P
172. Mundh-2	-do-	-do-	M
173. Rajaund	-do-	-do-	P
174. Jatheri	-do-	-do-	M, P
175. Mohna	-do-	-do-	DS
176. Asandh	-do-	-do-	P
177. Rattak	-do-	-do-	P
178. Uplana	-do-	-do-	M
179. Dachar	Karnal	Karnal	DS
180. Nisang-1	-do-	-do-	P
181. Nisang-2	-do-	-do-	M
182. Maudi	-do-	-do-	M
183. Sambhi-1	-do-	-do-	M
184. Sambhi-2	-do-	-do-	P
185. Bahola	-do-	-do-	M, P
186. Pujam	-do-	-do-	M, P
*187. Amin	-do-	-do-	P
188. Manak Majra	-do-	-do-	DS
189. Daulatpur	Thanesar	Kurukshetra	M, P
190. Ladwa	-do-	-do-	P
D (i) Yamuna Valley (Westerly course)			
191. Tigrana	Bhiwani	Bhiwani	LSM
192. Mitathal	-do-	-do-	LS, LH, M, C
193. Chang	-do-	-do-	LS, M
194. Singhwa	Hansi	Hissar	DS
*195. Seman	Gohana	Sonepat	P
196. Farmana-1	-do-	-do-	S
197. Farmana-2	-do-	-do-	DS
198. Paoli	Jind	-do-	S
199. Karsola	-do-	-do-	DS
200. Morkhi	-do-	-do-	DS
201. Baghru	-do-	-do-	LS
202. Urlana (Kalan)	Panipat	Karnal	M
203. Gagsina	-do-	-do-	M
204. Kachhwa	-do-	-do-	M
205. Nidana	-do-	-do-	M
206. Bari Bhaini-1	-do-	-do-	M
207. Bari Bhaini-2	-do-	-do-	M
208. Shamgarh	-do-	-do-	M
*209. Jhanjhari	-do-	-do-	M
210. Ramba-1	-do-	-do-	M
211. Ramba-2	-do-	-do-	M
212. Kheri (Man Singh)	-do-	-do-	M
(ii) Yamuna Valley (Middle course)			
213. Gangana	-do-	-do-	M
214. Bichpari	-do-	-do-	M
215. Rukhi	Gohana	Sonepat	LS
216. Sanghi	Rohtak	Rohtak	DS
*217. Rohtak	-do-	-do-	M
*218. Baliana	-do-	-do-	DS, P
*219. Kansala	-do-	-do-	M
*220. Bahadurgarh	-do-	-do-	P
(iit) Yamuna Valley (Khadar or Easterly Course)			
221. Bansantaur	Jagadhari	Ambala	P
222. Sugh	-do-	-do-	P

*223.	Jagadhari	Jagadhari	Ambala	P
224.	Damla	—do—	—do—	P
225.	Ghespur	Thanesar	Kurukshetra	P
*226.	Panipat	Panipat	Karnal	P
227.	Gumad	Sonepat	Sonepat	P
228.	Akbarpur Barotha	Sonepat	Sonepat	P
*229.	Khera Kalan	U.T.	Delhi	P
*230.	Badli ki Sarai	—do—	—do—	P
*231.	Tilpat	Ballabgarh	Gurgaon	P
*232.	Sihi	—do—	—do—	P
*233.	Bhadasa	Ferozpur Jhirka	—do—	P
*234.	Malab	Nuh	—do—	P
*235.	Gohana	—do—	—do—	P
*236.	Bahmni Khera	Palwal	—do—	P
E. (i)	Sabi Valley (Dohan drybed)			
*237.	Dadri	Dadri	Bhiwani	LS,C
*238.	Manhairu	—do—	—do—	LS
*239.	Misri	—do—	—do—	M
*240.	Jhinjar	—do—	—do—	M
(ii)	Sabi Valley (Main)			
*241.	Rewari	Rewari	Mahendragarh	C
*242.	Badli	—do—	—do—	DS
243.	Badhsa	—do—	—do—	DS
244.	Lohat	—do—	—do—	LH
245.	Dhansa-1	U. T.	Delhi	LS, DS
246.	Dhansa-2 & 3	U. T.	Delhi	DS
247.	Munkola-1	Gurgaon	Gurgaon	M
248.	Munkola-2	—do—	—do—	LS
249.	Mohammadheri	—do—	—do—	P
250.	Khedki Majra	—do—	—do—	P
251.	Bassi	—do—	—do—	M
*252.	Gurgaon	—do—	—do—	P
(iii)	Sabi Valley (Indri-Ujina drains)			
253.	Gangauli	Nuh	Gurgaon	P
254.	Alduka	—do—	—do—	DS
255.	Kurthala	—do—	—do—	P
256.	Sultanpur	—do—	—do—	LS, DS
*257.	Autha	Firozpur Jhirka	—do—	P
258.	Mundehta	—do—	—do—	DS
259.	Papra	—do—	—do—	DS
260.	Mamluka	—do—	—do—	DS
261.	Luhinga	—do—	—do—	DS
262.	Gokulpur	—do—	—do—	DS

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