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BY  
N.R. BANERJEE  
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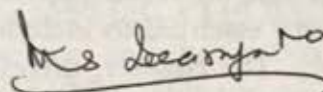
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## FOREWORD

In its drive to clear the backlog of pending Reports on the Excavations, Archaeological Survey of India, has pleasure in presenting the Report of Excavations at Nagda, by Dr. N.R. Banerjee, an esteemed former colleague in the Archaeological Survey of India. Dr. Banerjee has spared no pains to come to Delhi a couple of times, and to take meticulous care in seeing the volume through the Press. The volume speaks volumes of his efforts.

Although Nagda was excavated in mid-fifties, we felt that the Report should be placed before the scholarly world, for the results of excavations are quite relevant even to this day in interpreting the chalcolithic culture of our country. In fact, we feel that all the unpublished Reports should be printed irrespective of when the sites were excavated, for scholars to use the findings and to draw their own conclusions. Dr. Banerjee, however, has ensured that the results of the excavations, are put in their proper perspective in his lengthy introductory Preface. In this he has analyzed the results of researches, ever since Nagda was excavated, and how Nagda has still retained its important place in the chalcolithic horizon of India. We do hope that this publication will be well received by the scholars.

Archaeological Survey is indeed grateful to Dr. Banerjee for taking immense pains in going through the text and illustrations once again, and seeing the volume through the press. I am particularly grateful to him for sparing the time, even in his retirement, and for staying in Delhi to check the proofs. My own colleagues, Shri K.N. Dikshit, Director (Publications), Shri Dorjee, and Shri Padhy of the Publication Branch have put in a great deal of effort. M/S. VAP Enterprises deserve to be congratulated for bringing out the book in an attractive form.



(M.S. Nagaraja Rao)

Director General

Archaeological Survey of India

New Delhi

15.11.86



## PREFACE

I am glad that the report on the excavations at Nagda, which was written by me and submitted to Shri A. Ghosh, the then Director General of the Archaeological Survey of India, in 1961, more than 25 years ago, is at last seeing the light of day. Though it was made almost ready for the press as far back as 1967 by the late A. Ghosh, his then impending retirement in March 1968 may probably have stood in the way of its being sent to press during his tenure as Director General. Thanks to the drive and perspicacity of Dr. M.S. Nagaraja Rao, the present Director General, the report was retrieved from limbo and now it is before the public.

In fact, it was indeed necessary to place the finds discovered by the excavations on the site before the public for whatever they are worth, to enable them, particularly the scholars in the field of archaeology, to study them and to evaluate and assess the conclusions drawn in the light of the growing volume of archaeological evidence. This lacuna has at long been filled.

Nagda was the third major chalcolithic site, other than those of Harappan association, to be excavated by the Survey, the other two, namely, Maski, District Raichur, Karnataka, and Prakash, District East Khandesh, Maharashtra, having been earlier excavated under B.K. Thapar. The reports of the excavations were published in the Survey's bulletin, *Ancient India*, nos. 13 and 20 & 21, respectively.

In the fitness of things I had written a chapter on previous work done on the problems of the chalcolithic culture in central India and the Deccan as well as the associated cultures elsewhere in India, both preceding and succeeding them, with a view to placing Nagda in a proper chronological and cultural perspective. I learnt, however, upon my return to India, after a six-year long deputation in Nepal as Archaeological Adviser to His Majesty's Government of Nepal, between 1966 and 1972, that Shri Ghosh had desired this chapter to be somewhat reduced in volume and re-written, and the part on the other associated cultures to be omitted. I felt on reconsideration that the entire chapter could be dropped altogether as it was not very essential to include such details in an excavation report and informed the Survey accordingly. The chapter, therefore, was dropped from the present report in the interest and hope of an early publication of the basic parts of the report.

Though a substantial volume of work has since been done on a number of chalcolithic sites in central India and the Deccan during the intervening years after the excavations at Nagda, I have not made any attempt, except marginally, often in foot notes, to revise the report for more than one reason. First of all, there is no change in the basic data from Nagda, and there is, therefore, no scope for revision in the concerned parts. The part dealing with a comparison of painted designs on pottery could, however, be revised, but that would not have



changed the basic character of the data, though such a treatment would have enlarged the body of the report. Already the chapter on pottery is the largest, and I felt that it need not be made more ponderous. It would also have further delayed the publication of the report. There are, however, some aspects of interpretation which have indeed been affected by recent discoveries, especially the Carbon-14 determinations of chronology on several associated sites. Without a reference to some of these matters and without a discussion of some basic issues in the light of recent finds, the report would indeed be incomplete. The following pages are, therefore, addressed to this task. I have seen no reason, however, to change the chronological table as originally formulated by me earlier on empirical and conventional grounds.

Some of the problems that remain to be solved in regard to the post-Harappan or the so-called ( in the absence of a better appellation) later chalcolithic cultures, particularly the Malwa phase, which the chalcolithic remains at Nagda represent, are who the people are behind the culture phase, where they came from, on the presumption that they may represent a new people, and the source or sources of inspiration of the various strains that constitute the web of the chalcolithic cultures of the successive phases. The subsequent excavations, principally, at Ahar and Gilund in the Banas valley, Rajasthan, Kayatha in Malwa, not far from Nagda, in Madhya Pradesh, and Daimabad, in Maharashtra, have helped to establish firmly the sequence of cultures in western and central India and the Deccan. The sequence found at Daimabad is as follows (S.A. Sali, *Daimabad*, 1976-79, New Delhi, 1986):

PERIOD I.	Savalda Culture,
PERIOD II.	Late Harappan Culture,
PERIOD III.	Daimabad Culture, dominated by buff and cream coloured pottery,
PERIOD IV.	Malwa Culture, and
PERIOD V.	Jorwe Culture.

The Carbon - 14 dates presently available for the successive cultures are as follows:

Sample no. PRL - 429 from Savalda has given the date for the earliest cultural phase at Daimabad as  $3490 \pm 220$  B.P., working out to *circa*  $1540 \pm 220$  B.C. The earliest date for the succeeding Late Harappan cultural phase at Daimabad is yielded by sample no. PRL - 426, and it has given the date as  $3710 \pm 210$  B.P. or  $1760 \pm 210$  B.C. The earliest date of the Daimabad phase yielded by PRL - 428 is  $3500 \pm 140$  B.P. or  $1550 \pm 140$  B.C. The Daimabad phase overlaps with the succeeding Malwa culture at the site, and the Carbon - 14 date yielded by sample no. PRL - 412 is  $3250 \pm 110$  B.P. or  $1390 \pm 110$  B.C. It is also observed that the Malwa phase overlaps with the succeeding Jorwe phase, and the sample no. PRL - 411 has yielded the date of  $3320 \pm 100$  B.P. or  $1370 \pm 100$  B.C. for this phase.

There are of course several other dates available. For instance, the earliest date available for Savalda Culture is B.S.  $3590 \pm 90$  ( $3695 \pm 95$ ) B.P., working out to 1745 B.C. and, with Masca correction, to 2110 B.C.



Thus on the basis of the PRL set of dates obtained from Daimabad we obtain a time bracket of  $1390 \pm 110$  B.C. -  $1370 \pm 100$  B.C. for the Malwa phase at the site. This is too short a time span for the Malwa phase to be generally applicable to the time span of the Malwa culture in general, or even to the phase of this culture at Nagda.

Robert H. Brunswing, as pointed out by Sali, has sought to date the Mature Harappa and the Late Harappa cultures to *circa* 2500 – 2200 B.C., and 2200 – 2000 B.C. respectively ("Radio-Carbon dating and the Indus Civilization", *East and West*, 1975, Vol. 25, 1-2, pp. 111-45).

A perusal of the chapter on Chronology in S.A. Sali's recent report on Daimabad (*Daimabad 1976-79*, New Delhi, 1986) indicates that there is a discrepancy between the thermo-luminescence dates and the Carbon - 14 dates for the Late Harappan phase at Daimabad; and, even among the Carbon dates some of the dates of the earlier levels of the Malwa phase are found to be later than the dates of the later levels of the succeeding Malwa phase. This only points to the anomalies and hazards of absolute reliance on the modern methods of dating archaeological cultures. Nevertheless, steering clear of controversy, Sali has sought to assign the following dates to the different cultural phases revealed by the latest excavations at Daimabad.

- I. Savalda Culture – 2200–2000 B.C.
- II. Late Harappan Culture – 2000–1800 B.C.,
- III. Daimabad Culture - 1800 – 1600 B.C.,
- IV. Malwa Culture – 1600 – 1400 B.C., and
- V. Jorwe Culture – 1400 – 1000 B.C.

Kayatha, a site in the Malwa region, in the neighbourhood of Ujjain, Madhya Pradesh, has been excavated quite intensively, first by V.S. Wakankar and later by M.K. Dhavalikar and Z.D. Ansari, and as a result of these extensive works we are now in a better position to consider the chronological position of the successive cultures that flourished on the site from the earliest occupation onward. Dhavalikar and Ansari (*Excavations at Kayatha*, Poona, 1975) have indicated the following cultural and chronological sequence at Kayatha (see also D.P. Agrawal and Sheela Kusumgar, *Prehistoric Chronology and Radiocarbon Dating in India*, Delhi, 1974).

- I. Kayatha Culture – *c.* 2000–1800 B.C.,
- II. Ahar Culture – *c.* 1700–1500 B.C.,
- III. Malwa Culture – *c.* 1500–1200 B.C.,
- IV. Early Historic Culture – *c.* 600–200 B.C., and
- V. Sunga – Kushana – Gupta Cultures – *c.* 200 B.C. – A.D. 600.

Incidentally, it may be pointed out that the Kayatha culture at Kayatha, which is also the earliest cultural level on the site, is different from any other chalcolithic culture on the sub-



continent. It is also entirely, but strangely, absent from Nagda.

The Ahar culture which is dated on this site (Kayatha) between 1700 and 1500 B.C. (or 2000—1400 B.C. according to Agrawal and Kusumgar) has been dated by Sankalia, on the site bearing the name (*Excavation at Ahar*, 1961-62, Poona, 1979 and Sankalia, *Prehistory and Protohistory in India and Pakistan*, Poona, 1963), between 1900 (or 1800) and 1200 B.C. It is followed immediately by the Iron Age culture, without the intervention of Malwa or Jorwe cultures on this site, though Malwa and Jorwe cultures are observed on many sites such as Daimabad and Inamgaon. But at Ahar there is a long gap between the Malwa culture and the next succeeding early historic period.

Navdatoli on the Narmada in the Malwa zone has a long Malwa phase in Period III and it has been dated to *circa* 1500 — 1300 B.C. The Malwa culture at Eran in District Sagar in Madhya Pradesh has been dated to *circa* 1500 and 1000 B.C., with a possible extension up to 800 B.C. (Agrawal and Kusumgar, op. cit.) or even 600 B.C. Some Jorwe elements have also infiltrated into Nagda justifying its continuance till a late date as assigned and explained below.

Nagda was excavated at a time when it had not become customary to collect materials for Carbon — 14 dating, and hence we have no means of dating the various cultural horizons at Nagda on the basis of scientific analysis now in vogue. The earliest date suggested for the chalcolithic Period I at the site is, however, in consonance with the dating arrived at for the commencement of Malwa culture on other sites on the grounds of similarity of cultural materials and the thickness of cultural strata. Reasons must now be adduced for assigning a date as late as 800 B.C. for the end of the Malwa phase at Nagda in addition to those stated in the chapter on Chronology. It may be observed that the deposits of Period I were capped by a black sticky layer which has been hesitantly attributed by Dr. B.B. Lal to waterlogging. The succeeding phase of cultural life at Nagda (Period II) is characterized by several features which were common to Period I. This would indicate that there was continuity of occupation and the time-lag between the two was short, though a new element, namely, iron was introduced at the very beginning of the Period II. The date of the introduction of iron in northern India, in spite of rather tall claims to the contrary, could not have been very much earlier than about 750 B.C., as the evidence of the author's excavations Ujjain has shown (*The Iron Age in India*, Delhi, 1965). In view of the availability of divergent dates of the earliest occurrences of iron in different cultures and parts of the Indo-Pakistan sub-continent, the old theory of a single centre of its origin and diffusion therefrom in space and time over the entire region has had to be given up. If, therefore, the beginning of Period II at Nagda, marking also the introduction of iron on the site, has to be pushed back to, say, 1200 or 1300 B.C., the difficulty of explaining the stagnation of the pattern of living over a period of 800 years from *circa* 1300 B.C. to 500 B.C., even after the discovery or invention of iron, cannot be overcome or wished away. Furthermore, regardless of some of the inconsistencies of the dates as obtained from Carbon - 14 determination, it may be pointed out that the time bracket for the chalcolithic or any other



culture for that matter on any one site may not be applicable to the concerned cultural phase on all other sites as the duration of occupation may vary. In this context attention may be drawn to Sankalia's caution upon the methods of dating to be used in archaeology (*Indian Archaeology To-day*, Delhi, 1979, p. 96) indicating the necessity of an all-sided study involving 1) archaeomagnetism, (2) racemixation, (3) study of grains and (4) ethno-archaeological study together and in co-ordination.

As to who the Malwa chalcolithic people were and where they came from, we have as yet no answer. M.K. Dhavalikar who has made an intensive study of the subject in recent years, expresses his helplessness in the following words (*Essays in Indian Protohistory*, Delhi, 1979, edited by D.P. Agrawal and D.K. Chakrabarti, pp. 242 - 243) :

"We absolutely do not know anything about the authors of the Malwa Culture. They too appear to have come from outside", and he repeats the views of H.D. Sankalia, S.B. Deo and Z.D. Ansari (*Chalcolithic Chandoli*, Poona, 1971), identifying them with any of the following people: (a) people from West Asia, or Iran, (b) the Bhils and other aboriginal tribes and Sanskrit speaking people, (c) an hitherto unidentified people and (4) yet another group of primitive people. The suggestions are, to say the least, entirely speculative. It is not understood why we have always to think of settlers *en masse* from elsewhere for any new cultural trait, and why the established dwellers at a site cannot pick up ideas from other sources, which are existing contemporaneously with them, or even long afterwards, as ideas have also been stated to have a capacity for lying dormant in human mind for long periods before coming to flower again. Dhavalikar has gone ahead and hazarded, speculatively again, to attribute the Malwa and other chalcolithic cultures of central and western India and the Deccan to influences from Western Asia such as may have infiltrated through the north-western regions of the sub-continent, if not along with the Vedic Aryans. We have no concrete evidence so far for such a movement to have taken place.

That the ideas float in the air and are transmitted to distant areas long after they have sprouted at one source through trade and other contacts, if not actual migration of people, is known. The phenomenon of the violin-shaped terracotta mother goddess described on pages 225, 227, 229, 268-69 below can only be cited in support of the theorizing attempted here. While the characteristic form occurs first in the neolithic context in Europe, and would go back to *circa* 6000 B.C. at the earliest, it appears in the upper levels of Period I at Nagda for the first time, as far as known till to-day, in the Indian context. We would not, however, be justified in attributing the phenomenon to any kind of folk movement from the direction of Europe *en masse*, or establishing a chronological equation either. In any case the chronological incompatibility itself would only point to the mode of transmission of the idea and form as suggested above, if the original idea and visual form are indeed to be traced to neolithic Europe.



Sankalia has drawn our pointed attention to the parallelism that existed between eastern Iran and West-Central India in the form of comparable vessels or bowls (goblets) with footed stands and painted channel-spouted bowls occurring in the chalcolithic levels at Rangpur (II C) and Maheshwar - Navdatoli. ("New Light on the Indo- Iranian or the Western Asiatic Relations between 1700 and 1200 B.C.", *Artibus Asiae*, XXVI, pp. 312-32).

On the basis of the very limited publication earlier of the materials from Nagda (*Indian Archaeology 1955-56 - A Review*, pp. 11-19), D.P. Agrawal has drawn attention to the similarity of the terracotta spindle whorl in Nagda from the Malwa levels (Agrawal and Kusumgar, *op. cit.*, 1974, p. 110) to those from Troy (*Indian Archaeology 1961-62 - A Review*, p. 50). The specimen (fig. 49, 7, p. 49) has parallels at Anau in Soviet Central Asia, near Ashkabad in Turkmenia, and nearer home at Ahar. The subject has also been dealt with in general by D.P. Agrawal and Kusumgar (*op. cit.*, pp. 105-111).

If we were to look at the sequence of neolithic-chalcolithic cultures in Andhra Pradesh, Karnataka and Tamilnadu and examine the chronological position in regard to each cultural horizon in these areas we would get nearly comparable results bearing on the chronology of the chalcolithic and iron age cultures at Nagda as well. The characteristic sequence of cultures for south India was first established by the 1947 excavations at Brahmagiri in District Chitaldrug, Karnataka. There we found a neolithic Stone Axe (IA) culture at the lowest level, followed by the same cultural complex but modified by the occurrence of microlithic blades and objects of copper at the upper levels (IB). This culture was followed by the iron-using megalithic culture, with an overlap, as exemplified first at Brahmagiri. Subsequently this phenomenon has been observed at several other sites in south India. We have now Carbon - 14 dates also for the different cultural levels. Steering clear of divergences, it can be generally stated that the Stone Axe IA (Neolithic) culture can be dated between c. 2450 and 1900 B.C., and the next succeeding phase (IB) can be dated between 1900 and 1000 B.C. The site at Hallur, in District Dharwar, Karnataka, has yielded a couple of dates for the phase of overlap of the neolithic - chalcolithic culture with the megalithic culture. These dates are (TF-573)  $2905 \pm 100$ , and (TF-570)  $3055 \pm 105$  B.P., working out to  $955 \pm 100$  and  $1105 \pm 105$  B.C. (M.S. Nagaraja Rao, *Protohistoric Cultures of the Tungabhadra Valley*, Delhi, 1984, pp. 14-15, and Agrawal and Kusumgar, *op. cit.*, 1974, p. 72). This is the earliest date known for the phase of overlap between the neolithic - chalcolithic culture on the one hand and the megalithic culture on the other. It may, however, be stated in this context that the neolithic - chalcolithic phase of south India is not to be equated culturally or chronologically with the Jorwe phase of the central Indian and Deccan chalcolithic cultures.

Until the recovery of firm dates for the overlap phase of the megalithic and neolithic chalcolithic cultures at Hallur, the beginnings of the megalithic culture in south India were assigned a date between *circa* 700 and 200 B.C. But the discovery of iron objects first at Nagda in the post-chalcolithic cultural horizon and then in association with the Painted Grey Ware at



Ujjain, established for iron an earlier date in northern India than that known then in the south. The rather rudimentary stage of iron in its earlier phases in northern India as exemplified by the objects at Nagda and the comparatively richer repertoire of iron objects in the south Indian megaliths encouraged the formulation of a theory of diffusion of iron from a northern source (N.R. Banerjee, *The Iron Age in India*, Delhi, 1965). The idea was strengthened by the subsequent discovery of iron in association with the Painted Grey Ware at several sites, especially at Atranjikhhera in District Etah, U.P with a date (TF-191) of  $1025 \pm 110$  B.C. But the consideration that it is "a divergent date and does not fit in with other consistent dates" (D.P. Agrawal and Sheela Kusumgar, *op. cit.*, p. 132) made a difference to the interpretation on the evolution of iron, in spite of the valuable evidence from Nagda where iron objects occur from the very beginning of Period II. Now that the dates of the Painted Grey Ware have been placed between *circa* 800 and 400 B.C., on the basis of Carbon dates, discounting the discordant testimony of a single date from Atranjikhhera, Hallur would claim precedence over any other known site in the Indo-Pakistan sub-continent as having yielded the earliest known evidence of iron in India.

M.D.N. Sahi has pointed to a discrepancy in the interpretation of the evidence of iron at Ahar ("Iron at Ahar", *Essays in Indian Protohistory*, pp. 365-66) and sought on the basis of the evidence thus adduced to attribute a date of *circa* 1300 B.C. for the beginning of iron on the site. But as the evidence appears to be vitiated by the occurrence nearby of pits, it has to be discarded for the present. Under the circumstances Hallur holds the fort for having produced the earliest evidence of iron in India so far (M.S. Nagaraja Rao, "Earliest Iron-using People in India and the Megaliths", *Kusumanjali*, C.Sivaramamurti Commemoration Volume, 1986, p. 25).

The date for the commencement of Period II at Nagda is relatable in this context to the dates of the cultural level associated with iron at nearby Ujjain and other Painted Grey Ware sites in north India in general. Needless of say, the date of the Painted Grey Ware and associated cultural level has now been revised to *circa* 800-400 B.C., and this date bracket is broadly applicable to Period II at Nagda, as otherwise worked out in the chapter on Chronology.

As regards the date of the commencement of Period III at Nagda, it may be pointed out that Carbon-14 dates have consistently indicated a date bracket of 500-50 B.C. for the prevalence of the N.B.P. Ware (Agrawal and Kusumgar, *op. cit.*, 1974, pp. 135-38). In this context it may be pointed out that one of the N.B.P. Ware dates for Kayatha, namely, TF-394, is *circa* 600 B.C. The date of a sample (TF-409) from Ujjain is  $450 \pm 95$  B.C. Even a site like Ahichchhatra, which is away from the nuclear zone of the N.B.P. Ware, has yielded a date (TF-311) of  $475 \pm 105$  B.C. Even if the discordant evidence of Noh, in District Bharatpur, Rajasthan, which produces a very early date (TF-994-685  $\pm 105$  B.C.) is disregarded, a date around *circa* 500 B.C. for the beginning of Period III at Nagda as proposed by me would appear as reasonable.



The importance of the evidence of two violin-shaped terracotta human figurines at Nagda (see pages 227, 229, 268 and 269) cannot be overemphasized. Apart from their link with Iran and neolithic Europe, they seem to have given a concrete shape to a conventional form of the mother goddess in the protohistoric and early historic periods in India as the comparable shape has been found at many other sites in India, namely, Kayatha, (*The Vikram*, 1967, pl. 17), Tripuri (M.G. Dikshit, *Tripuri - 1952*, 1955, pp. 96-97, pl. XXXIII, 1st cent. A.D.), Timbarva (R.N. Mehta; *Excavations at Timbarva*, p. 23, fig. 11, nos. 7 and 171 and fig. 12), Ujjain (in Periods I and II), and Nevasa (Sankalia and others, *From History to Prehistory at Nevasa*, pp. 399-400, fig. 179, nos 3 and 4), besides Bilawali (see page 34), District Dewas, Madhya Pradesh. Such objects have also been reported from the Gandhara graves in Pakistan. It may be mentioned in passing that though P.K. Agrawala first drew our attention to this figure and attributed it to chalcolithic assemblage the lack of any feminine character on the figure, and the absence of any chalcolithic level in the excavated areas of Bilawali (*Indian Archaeology 1962-63 - A Review*, pp. 6-7) were not observed by him.

It is well known that punch-marked coins constitute a problem to numismatists in regard to their chronological position. The find of a single punch-marked coin of copper in the upper levels of Period II may, therefore, be significant.

In this context it may further be stated that similar evidence of the occurrence of punch-marked coins in stratified horizons either below the levels of the N.B.P. Ware or in association with it has been reported from other sites too. For instance, the evidence of the find of 3 silver punch-marked coins in association with iron arrowheads, terracotta seals bearing the tree-in-railing and left armed *swastika* symbols, besides a legend in characters of the 3rd century B.C. at Awra, District Mandasor, Madhya Pradesh, (*Indian Archaeology 1959-60 - A Review*, p. 24) may be considered in this context. The N.B.P. Ware occurs in the uppermost levels of this phase.

I have differed with all due respects from the views of Dr. B.B. Lal in regard to the deposition of the black sticky layer over the deposits of Period I for the simple reason of the absence of any vegetable matter in the contents and the nature of cultural materials embedded in it. The consistency of the soil, cited by Dr. Lal, need not necessarily be attributed to water-logging. As a matter of fact waterlogging would result in some kind of gradation in the sizes of the grains in the soil, which in this case had not been indicated. Regardless of the circumstances of the formation of the soil in question, there is no difference in interpretation of the stratigraphic or cultural data.

The foregoing pages would indicate that it was indeed necessary to place all the evidence of stratigraphy, structural remains, the defences or remains thereof, pottery, microliths, copper and iron objects, beads, bangles and ear ornaments, terracotta human and animal figurines, objects of stone, the singular evidence of the copper punch-marked coin and the animal

remains etc. from the carefully excavated site of Nagda in the hands of the public even after the lapse of such a long period after the excavations. The adage 'better late than never' has proved true.

Thanks are due to Shri K.N. Dikshit, Director (Publications) of the Survey, and Shri Pravin Mehta of V.A.P. Enterprises, New Delhi, and his band of devoted staff for bearing with me, for without their active interest the book could not have been brought out so quickly, after it had been sent to press less than a year ago.

New Delhi,  
October 22, 1986

Nil Ratan Banerjee



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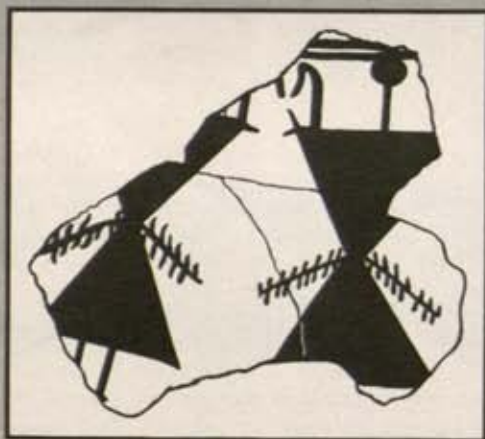
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# Nagda

1955-57



N R Banerjee

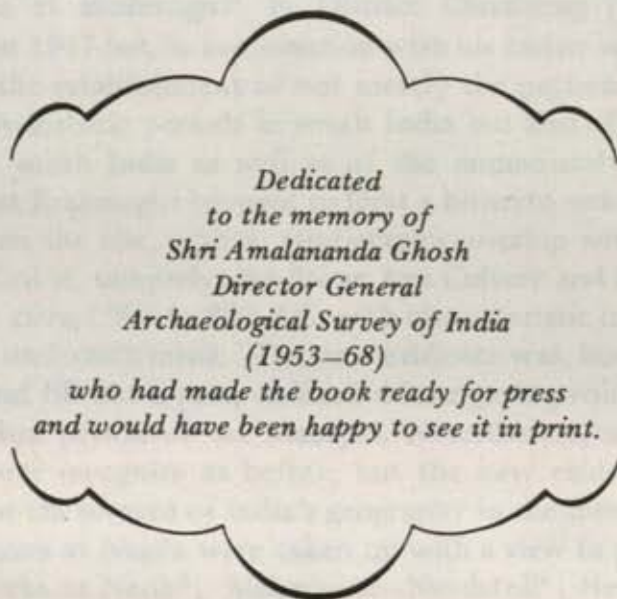
## COVER

It shows two dancing human figures painted in black in a stylized idiom upon a red ware sherd, inferably of a jar, found in an early level of Period I. (See fig. 52, no. 63 on p. 183, and description on p. 182. Nos. 64 and 64 a of fig. 52 may also be seen).

Stylized forms of dancing human figures painted on pottery occur on several other sites such as Navdatoli in Malwa, Anjira in Baluchistan (Pakistan), and even as far away as Tell Halaf in ancient Iraq.

Apart from reflecting upon the potters art they point, in all probability, to a popular pastime of group dancing as practised by the chalcolithic people of Malwa.





*Dedicated  
to the memory of  
Shri Amalananda Ghosh  
Director General  
Archaeological Survey of India  
(1953-68)  
who had made the book ready for press  
and would have been happy to see it in print.*

1. A brief report on the work has appeared in *Indian Archaeology* 25 (1969), p. 11-22.
2. R. S. Ghosh, *Excavations at Chandradwip*, 1967, *Archaeol. Surv. India*, no. 4, 1968.
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8. *Indian Archaeology* 1968-69, p. 11-22.
9. *Indian Archaeology* 1968-69, p. 11-22.
10. *Indian Archaeology* 1968-69, p. 11-22.

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## I. INTRODUCTORY



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The excavations at Nagda<sup>1</sup>, situated on the Chambal in District Ujjain, Madhya Pradesh (formerly Madhya Bharat in Central India) which form the subject matter of the report presented here were carried out by the Excavations Branch of the Archaeological Survey of India, under the author's direction, in two seasons, viz., in 1955-56 and 1956-57, respectively.

Wheeler's excavations at Brahmagiri<sup>2</sup> in District Chitaldrug (presently Chitradurga), Mysore (now Karnataka), in 1947 led, in combination with his earlier work at Arikamedu, near Pondicherry, in 1945, to the establishment of not merely the pattern of culture sequence in the proto-historic and early-historic periods in south India but also of a firm datum in respect of Roman contacts with south India as well as of the immediately antecedent megalithic culture. The excavations at Brahmagiri brought to light a hitherto unknown neolithic-chalcolithic culture, the earliest on the site, with a stratigraphic overlap with the succeeding megalithic culture. Wheeler called it, uniquely, the Stone Axe Culture and assigned to it a chronological datum ranging from *circa* 1000 to 200 B.C. with characteristic caution, notwithstanding the chances of making an understatement. The new evidence was, however, adequate enough to serve as a framework and fill out a part, at least, of the gaping void between the Harappan civilization and the historical period of the Mauryas. Nevertheless, intermediate landmasses continued largely to be *terra incognita* as before, but the new evidence held out hopes of further evidence on the vast chessboard of India's geography in the intermediate and neighbouring regions. The excavations at Nagda were taken up with a view to probing further into the problem, following the works at Nasik<sup>3</sup>, Maheshwar-Navdatoli<sup>4</sup>, Nevasa<sup>5</sup> and Ahar<sup>6</sup> in the intermediate years.

- 
1. A brief report on the work has appeared in *Indian Archaeology 1955-56 - A Review*, pp. 11-20.
  2. R.E.M. Wheeler, Brahmagiri an Chandravalli: 1947, *Ancient India*, no. 4, 1948.
  3. H.D. Sankalia and S.B. Deo, *Excavations at Nasik and Jorwe 1950-51*, (Poona), 1955.
  4. *Indian Archaeology 1953-54 - A Review*, p. 8; *Indian Archaeology 1957-58 - A Review*, p. 30. Sankalia and others, *Excavations at Maheshwar and Navadatoli (1952-53)*, Poona, Baroda, 1958; *Indian Archaeology - 1958-59 - A Review*, p. 30.
  5. *Indian Archaeology 1954-55 - A Review*, pp. 5-9; *Indian Archaeology 1955-56 - A Review*, pp. 8-11, Sankalia and others, *From History to Prehistory at Nevasa (1954-56)*, (Poona), 1960.
  6. *Indian Archaeology 1954-55 - A Review*, p.11; *Indian Archaeology 1955-56 - A Review*, p. 14; *Indian Archaeology 1961-62 - A Review*, pp. 45-50.
- Even though microlithic blades have not been found here, the culture represented at Ahar can broadly be included within the chalcolithic complex. Sankalia, Deo and Ansari, *Ahar 1961-62*, (Poona), 1969.

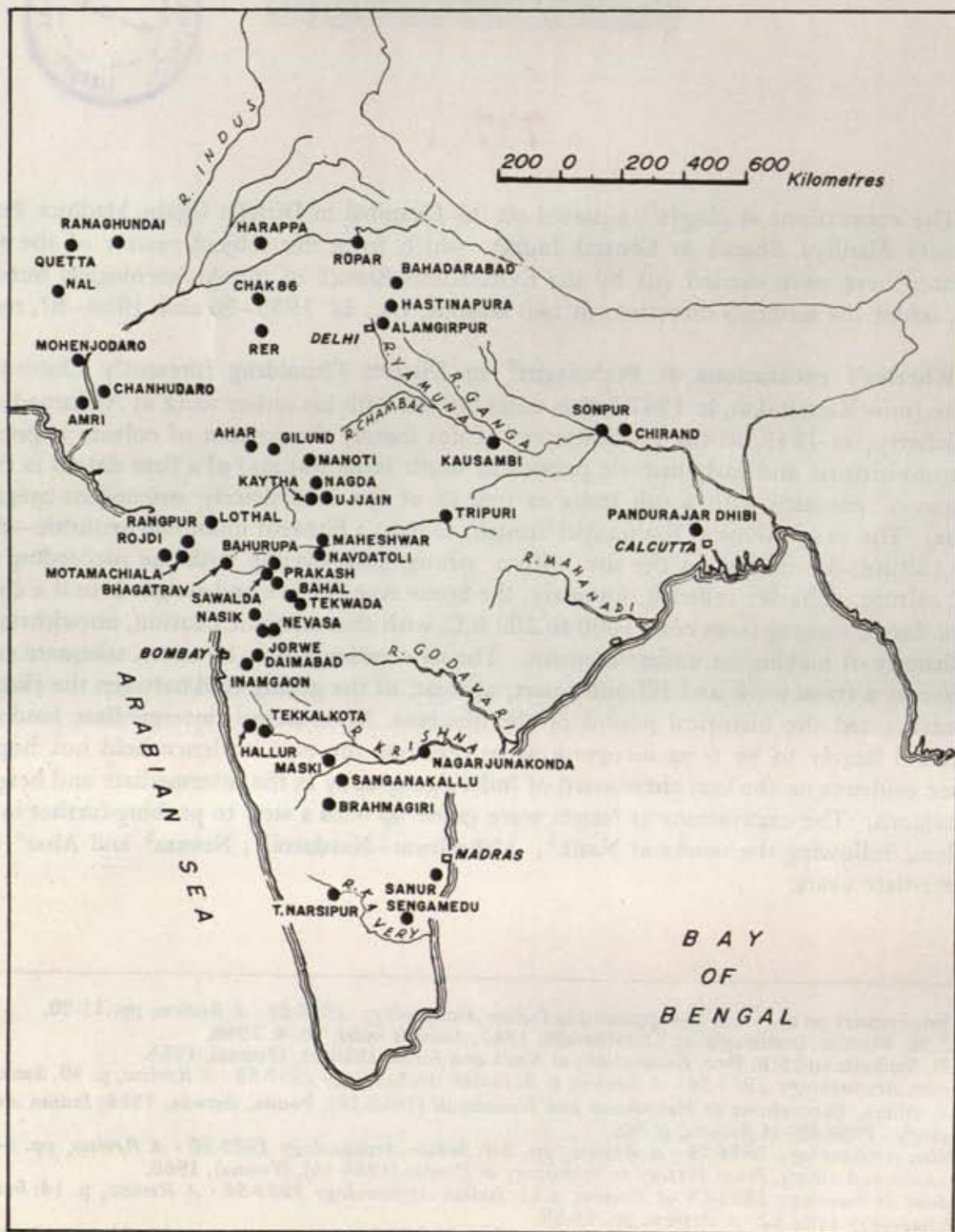


Fig. 1. Nagda 1955-1957: Principal sites mentioned in the report.



## II. ELEMENTS OF THE LATER CHALCOLITHIC CULTURES AS REVEALED BY EXCAVATIONS

The various excavations conducted by different agencies in central, western and southern India for solving the problem of the chalcolithic cultures have contributed to build up the nature of the chalcolithic civilization or cultures that grew on Indian soil simultaneously with the disappearance of the Indus Valley Civilization discovered at Harappa and Mohenjodaro and allied sites (fig. 1). The expanse of this culture itself is for ever widening its frontiers and now it is known to extend from Manda<sup>1</sup> in Jammu in the north to Daimabad<sup>2</sup> in the south and from Sutkagendor<sup>3</sup> in Makran in the west to Alamgirpur<sup>4</sup> in the Ganga plain in the east.

The recent excavations at Chirand<sup>5</sup> in District Saran, Bihar, and Pandu-rajar-dhibi<sup>6</sup> in District Burdwan, West Bengal, have brought to light a chalcolithic culture broadly akin to the chalcolithic cultures of west-central India though their interrelationship is not yet clear. Meanwhile the intermediate regions remain to be explored adequately for the missing links, if any.

On the basis of the broadly distinctive cultural objects, the chalcolithic cultures can now be subdivided into five regional groups<sup>7</sup>, viz. (i) south-western Rajasthan in the Banas valley, characterized by Ahar<sup>8</sup> and Gilund<sup>9</sup> in District Udaipur (ii) Malwa covering the regions watered by the Chambal and Narmada, the principal sites in which are Nagda in District Ujjain and Maheshwar - Navdatoli<sup>10</sup> in District Nimar, and, somewhat distantly, Tripuri in District Jabalpur, all in Madhya Pradesh; (iii) northern Deccan watered by the Godavari and its tributaries, the principal sites in which are Nasik and Jorwe<sup>12</sup> in District Nasik, Prakash<sup>13</sup> in District East Khandesh, Nevasa<sup>14</sup> in District Ahmednagar, Bahal-Tekwada<sup>15</sup> in District East Khandesh and Daimabad<sup>16</sup> in Ahmednagar, all in Maharashtra; (iv) southern India covering the regions watered by the Tungabhadra, Kaveri and Krishna, respectively, and characterized by the sites of Brahmagiri<sup>17</sup> Sanganakallu<sup>18</sup> and Tekkalkota<sup>19</sup> in District Bellary, Maski<sup>20</sup> and Piklihal<sup>21</sup> in District Raichur, T. Narsipur<sup>22</sup> in District Mysore, and Hallur<sup>23</sup> in District Dharwar, all in Karnataka, Nagarjunakonda<sup>24</sup> in District Guntur, Andhra Pradesh, and Paiyampalli<sup>25</sup> in District North Arcot, Tamilnadu. The fifth and last zone so far discovered is in eastern India, dissociated from the rest, and is represented mainly by the sites at Chirand<sup>26</sup>, Bihar and Pandu-rajar-dhibi<sup>27</sup>, West Bengal, respectively.

These post-Harappan chalcolithic peoples were clearly agricultural as evidenced by the settled aspect of the culture, but they also traded in various kinds of objects including ivory and shell and possibly objects of copper. They lived in houses of small size, built either of mud or mud-bricks or wattle and daub. The evidence of a large-sized kitchen measuring nearly 20 ft. x 20 ft. ( 6 metres x 6 metres) at Nagda with multiple ovens would suggest the tradit-



ion of India's time-honoured custom of living jointly in large numbers. They built houses usually of perishable materials, in which pillars or posts played an important role and floorings here and there were made of clay mixed with lime.

The recent discoveries of grains<sup>2 8</sup> like wheat, gram, peas, *masur*, and rice, point to their diet, rich in vegetable protein apart from their mastery of raising the cereals, unless they were imported from elsewhere. The evidence of bones lying near the ovens is suggestive of a non-vegetarian diet. The domestic equipments are simple and reflect the simple needs of the folk. They consist of the unlegged hollow saddle querns, pounders of sorts, mace-heads or hammer-stones with a central hole for carrying the handle, which might as well be an element of a digging tool, and storage jars, for storage of grains.

The weaving of yarn of sorts for purposes of dress is indicated by the spindle whorls, though the actual mode of dress used is not clear.

Ornaments comprised bangles of different stone materials, shell, terracotta, and copper, and beads of stone, shell, terracotta, faience and steatite. An occasional pendant of ivory may have been in use.

The major equipments for cutting and sawing comprised indeed of microliths of sorts and consequently no vigorous activity is indicated. The copper equipments included an occasional axe, chisel, hook, rod and the like, but are relatively small in number and do not appear to have been needed extensively at once. Some of the metal objects, however, were made of bronze. Recently a far larger evidence of copper objects in association with the chalcolithic sites has come to light, viz. at Khurdi<sup>2 9</sup> in District Nagaur, Rajasthan, Chandoli<sup>3 0</sup> in District Pune, Maharashtra and Ahar<sup>3 1</sup> besides those at Navdatoli, Nevasa, Jorwe and Kallur. The occurrence of a fragment of a seemingly anthropomorphic figure in copper in the later Harappan levels at Lothal has led, along with the evidence of a few other finds, to the proposition of a view about the association of the "Copper hoards" of the Ganga plains with the chalcolithic culture<sup>3 2</sup>, though the point remains yet to be proved. Space and occasion would preclude any detailed discussion of the problem here, but it would suffice to state that this stratigraphical interlock with Harappa of a typical and representative specimen of the 'Copper hoards' of the Ganga plains would indicate a far earlier date for the entire complex than has been assumed. It would also justify its priority in point of time over the Painted Grey Ware and the N.B.P. Ware cultural levels from both of which the present evidence collected on a large number of sites excludes it completely. The evidence at Kallur relates to the find of antennae swords in District Raichur in Karnataka<sup>3 3</sup>. Though stray specimens of the "Copper hoard" assemblage do occur in the chalcolithic zones, as at Kallur, often also in the chalcolithic levels, such as at Chandoli<sup>3 4</sup> District Pune, where an antennae sword has been found, or a mid-ribbed dagger in Navdatoli<sup>3 5</sup>, splayed-ended celts in Nevasa<sup>3 6</sup>, these cannot yet be described as symptomatic, representative or characteristic of the chalcolithic culture; besides the preponderance of the typical "Copper hoard" sites, in contrast, in northern plains would almost segregate the culture typified by them from the chalcolithic cultures. But the stratigraphic interlock with the chalcolithic cultures would lend further support to the chronological assessment suggested by the stratigraphical interlock with the Harappan Culture



of the Lothal specimen of the anthropomorphic figure.

The pottery indeed throws the maximum light on the variegated uses to which it was put, and, apart from the chemistry of ceramics involved in its manufacture, it shows contacts over a wide area in the course of trade or the normal tenor of life. Apart from the usual functional vessels of different kinds, special mention has indeed to be made of the flattish and tall - rimmed plates in coarse ware, apparently used for kneading dough and aptly described as dough-plates, and, from traces of being used on the oven, also as bake-plates, the tall-stemmed dishes-on-stand, which no doubt served ritualistic uses, if not domestic, and the spouted vessels. All these, being widely distributed, point to contacts over a wide region and consequential cultural influences from different quarters. Among the works of art mention may be made of the crude figurines in clay or terracotta of animals. These were not very artistic expressions and served at best to show differently the animals with which they were acquainted.

The terracotta human figurines, simulating symbolically the feminine form, tell of some thoughts of a protective deity, inferably the mother goddess, and possibly provides the chink of a peep into the religion of the past.

It is clear that they enjoyed a prosperity of surplus overstepping the limited needs of a very primitive folk. That they needed to defend themselves against extraneous attacks is indicated by the faint semblances of a mud and mud-brick defence as seen at Nagda.

They disposed of their dead in different ways, namely, (a) burying fully into a previously prepared pit, (b) burying fractionally in urns, and (c) burying infants in urns. The funerary entombment showed some respect for the life beyond by occasional interment additionally of vessels, possibly to contain food and drink for the dead, and other objects of daily use, but never so elaborately as their Harappan predecessors.

Chronologically they seem largely to occupy a post-Harappan period, and recent studies of the carbon materials from Maheshwar-Navdatoli, the largest single site of the culture, have helped assessment of the chronology to range between *circa* 1800 and 1000 B.C.<sup>3 7</sup> As the post-Harappan or later chalcolithic cultures of central, west and south India are basically interconnected, in spite of individual peculiarities, the chronological range suggested above may be regarded as broadly representative.

The study of the skeletal remains of these folks would establish the racial types to which they belong, and would indicate the possible source of their advent. Such a study must now be of primary importance, as the cultural interregnum between the end of the Harappan and the beginning of the historical periods in India has been otherwise bridged considerably by the recent discoveries.

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4. *Indian Archaeology 1958-59 - A Review*, pp. 50-55.



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11. M.G.Dikshit, *Tripuri 1952*, Nagpur, 1955.
12. See note no. 3. of chapter I.
13. *Indian Archaeology 1954-55 - A Review*, p. 13; B.K.Thapar, Prakash. 1955: A Chalcolithic Site in the Tapti Valley, *Ancient India*, nos. 20 & 21, pp. 4-166.
14. See note no. 5 of chapter I.
15. *Indian Archaeology 1956-57 - A Review*, pp. 17-20.
16. *Indian Archaeology 1958-59 - A Review*, pp. 15-18.
17. Wheeler, *op. cit.*
18. B.Subbarao, *The Stone Age Cultures of Bellary*, Deccan College, Dissertation Series, 1948; *Indian Archaeology 1964-65 - A Review*, pp. 29-30.
19. *Indian Archaeology 1963-64 - A Review*, pp. 29-30.
20. *Indian Archaeology 1953-54 - A Review*, pp. 8-9; B.K. Thapar, Maski 1954: A Chalcolithic Site of Southern Deccan, *Ancient India*, no 13, 1957.
21. F.R.Allchin, *Piklhal Excavations*, (Hyderabad), 1960.
22. *Indian Archaeology 1958-59 - A Review*, p. 33; *Indian Archaeology 1959-60 - A Review*, p. 38; *Indian Archaeology 1961-62 - A Review*, p. 35; *Indian Archaeology 1964-65 - A Review*, p. 32.
23. *Indian Archaeology - 1964-65 - A Review*, In fact a truly neolithic culture, free from an admixture of the blade industry has been traced at this site and only limitedly at Piklhal. But the presence of long blades and chert blades in the subsequent chalcolithic phase at Hallur indicates a limited influence from the Harappan Culture.
24. *Indian Archaeology 1958-59 - A Review*, pp. 5-6; K.V. Soundara Rajan, Studies in the Stone Age of Nagarjunakonda and its Neighbourhood, *Ancient India*, no. 14, 1958, pp. 99 ff.; V.D. Krishnaswami, The Neolithic Pattern of India, *Ancient India*, no. 16, 1960, p.42.
25. *Indian Archaeology 1964-65 - A Review*, pp. 22.
26. See note no. 5 of chapter I.
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### III. OBSERVATIONS ON THE CHALCOLITHIC CULTURE AT NAGDA

A comparative study of the cultural equipments from different chalcolithic sites, can only follow the speedy publication of the basic data from the several sites excavated so far. Any attempt at correlation at the present stage is bound to be partial and at best tentative.

It is abundantly clear, however, that the chalcolithic cultures of western, central and south India or even south-eastern Rajasthan are poorer in character than the variegated pattern of the Harappan civilization, though from the spatial expansiveness the later cultures could not have been degenerate or decrepit. The contrast is glaring indeed, despite basic parallelism in cultural wherewithals, and cannot be accounted for, unless attributed to a different people, who imbibed altogether different cultural traits, despite basically allied strains.

Krishnaswami<sup>1</sup> considers these later cultures as neolithic, merging into the immigrating chalcolithic culture. The occurrence of microlithic blades in an ensemble which is basically characterized by polished pointed butt neolithic axes or celts, painted pottery and copper celt, as at Brahmagiri, brings the culture within the neolithic complex along with its diagnostic features of domestication of animals and cultivation of crops, marking a departure from the practice of a food-hunting economy and recording a further progress in the use of metals though to a small extent only. The evidences at Sanganakallu and Tekkalkota, T.Narsipur, Piklihal and limitedly Maski, Nagarjunakonda and Paiyampalli corroborate the evidence of the so-called Stone-Axe culture of Brahmagiri marking a dovetailing of the neolithic equipment with microliths.

While the polished stone axe industry in the south appears to Krishnaswami as indigenous, the microlithic industry, with its crested ridge-guiding technique, is apparently foreign or western in origin. Though the microlithic industry is primarily dominated by parallel-sided blades, the occurrence of backed blades with crescents or lunates of the hunting type are relics of an earlier phase when such microliths had been in use. In this context the complete absence of crescents or trapezes and retouched or backed blades from the later Harappan and post-Harappan sites in the Indus basin and Kathiawar appears to be imbued with significance.

On this basis, it is not unlikely that these chalcolithic cultures, which are characterized by the backed blades and crescents and trapezes, are chronologically earlier than the corresponding settlements in Kathiawar, where such tools are absent. This would plead normally but not necessarily for a posterior date for the post-Harappan chalcolithic cultures of Kathiawar in relation to the more southerly chalcolithic cultures, and, despite cultural parallelism in other respects, chronological equation between these chalcolithic cultures and those from the Deccan or Malwa would not be valid. This is, however, a tentatively alternative view.



Krishnaswami<sup>2</sup> would indeed postulate a date near 2000 B.C. as the possible lower date for the chalcolithic culture at Nagda on the basis merely of depth of strata. It may, however, be remembered in this context that the chalcolithic culture at Maheshwar-Navdatoli has been assigned the dating *circa* 1800–1150 B.C. on the basis of Carbon-14 tests. In this context the cultural disparity between the Harappan civilization and the chalcolithic cultures, barring the limited points of contacts, can be accounted for as the result probably of independent origins. Krishnaswami has noted, pertinently, the extremely limited contact between the Harappan cultures and the chalcolithic cultures we have here in view, which are broadly confined to : (i) the shapes of dishes-on-stand, carinated bowls and handled saucepans or bowls occurring in the post-Harappan levels in Rangpur and a double pot found at Jorwe and Maski, comparable with a similar shape from Kot-diji in Sind, besides the close similarity of the tradition of (ii) painted pottery, (iii) copper-bronze celts, and (iv) the parallel-sided blades.

The problem in respect of the chalcolithic cultures of western, central and south India as of south-eastern Rajasthan and eastern India, respectively, relates, therefore, to: (i) the identification racially of the folks, (ii) the chronology, (iii) the cultural life of the people, (iv) the antecedents of the cultures, (v) their inter-relationship and, (vi) their relationship with the cultures of the later historical period. The excavations conducted so far on the chalcolithic sites have revealed different facets of the culture, and even a fairly clear picture of the cultural life is now possible to gather.

Chronologically it appears to be mostly post-Harappan, though it is likely to have overlapped with the Harappan culture towards its end. This has already been confirmed by scientific methods of chronological assessment.

The skeletal materials, which are somewhat limited in volume, are yet to be studied fully for the racial strains<sup>3</sup> though the study of the skeletal remains from Brahmagiri<sup>4</sup> and Nevasa point to an indigenous people being responsible for these cultures. Comparison of pottery types, decorative motifs and other cultural equipments besides stratigraphic data would go a long way towards solving the problem of antecedents and the sources of inspiration. The published data on the subject being inadequate, only partial comparison is possible at the moment. Accelerated publication of basic data would make this task possible, and is, therefore, the primary desideratum before firm conclusions are drawn.

Several scholars have referred to a broad homogeneity of the cultures and to the possible inspiration of the later chalcolithic cultures from Harappa<sup>5</sup>. In contrast, however, the diminutive size of the stone implements, the paucity of copper objects, the divergence of the as yet limited evidence of the disposal of the dead, the absence of the remains of such fundamental technical and cultural advances as weights and measures, seals and sealings or even the system of writing, or works of art bearing on religion, not to speak of the ideas sought to be conveyed through the portrayal of diverse figures, human and animal, which the seals and sealings should collectively represent, or even the advancement of the use of burnt bricks (except at Gilund) are somewhat inconvenient, if not difficult, to explain. From the unmistakable geographical and presently unquestioned and apparent chronological overlap between the two for a period, one would expect more of Harappa in the later chalcolithic cultures than is



actually there. In fact, the stages through which the suggested impact of the advanced culture came to be established upon the pre-existing neolithic-microlithic culture have yet to be discovered. It has been suggested that the microliths, viz., the parallel-sided blades, are diagnostic of the Harappan culture in inspiration<sup>6</sup>. They occur throughout the region as part and parcel of the cultures, without any traces of the incipient stages of the fusion being discovered so far, though the influence may have been transmitted through Kathiawar. It has also been surmised that the chalcolithic cultures probably adopted the urn-burials from the southern neolithic people<sup>7</sup>. While the actual stages or processes of adoption and absorption that would justify such an inference remain to be discovered, the apparent negligence of the mode of disposal in vogue among the post-Harappan Cemetery H people<sup>8</sup> would perhaps be contra-evidence.

- 
1. V.D. Krishnaswami *p. cit.*, (1960), p. 63.
  2. *Ibid.* p. 49. The correctness of Krishnaswami's empirical conclusion has been confirmed by carbon-14 dates as we shall see below.
  3. S.S. Sarkar, Human Skeletal Remains from Brahmagiri, *Bulletin Department of Anthropology*, IX, 1960.
  4. S. Ehrhardt in Sankalia and others, *From History to Pre-history at Nevasa* (1960), Appendix I on the Urn-Burials, pp. 506 ff.
  5. B.K. Thapar, *op. cit.*, (1957), pp. 20-24; A. Ghosh, A Survey of Recent Progress in Early Indian Archaeology, *Indologien Tagung 1959*, Essen, 1960 p. 47; The Problem of the Protohistoric cultures of India and their Authors, *Proceedings of the XXXth International Congress of Orientalists*, 1960, Moscow, 1963, p. 28.
  6. Ghosh, *ibid.* (1963), p. 27.
  7. B.B. Lal, Expeditions and Excavations since Independence, *Cultural Forum*, New Delhi, 1961, p. 30.
  8. M.S. Vats, *Excavations at Harappa*, Delhi, 1940, I, pp. 203 off.; Wheeler, *Ancient India*, no. 3(1947), pp. 58-130.



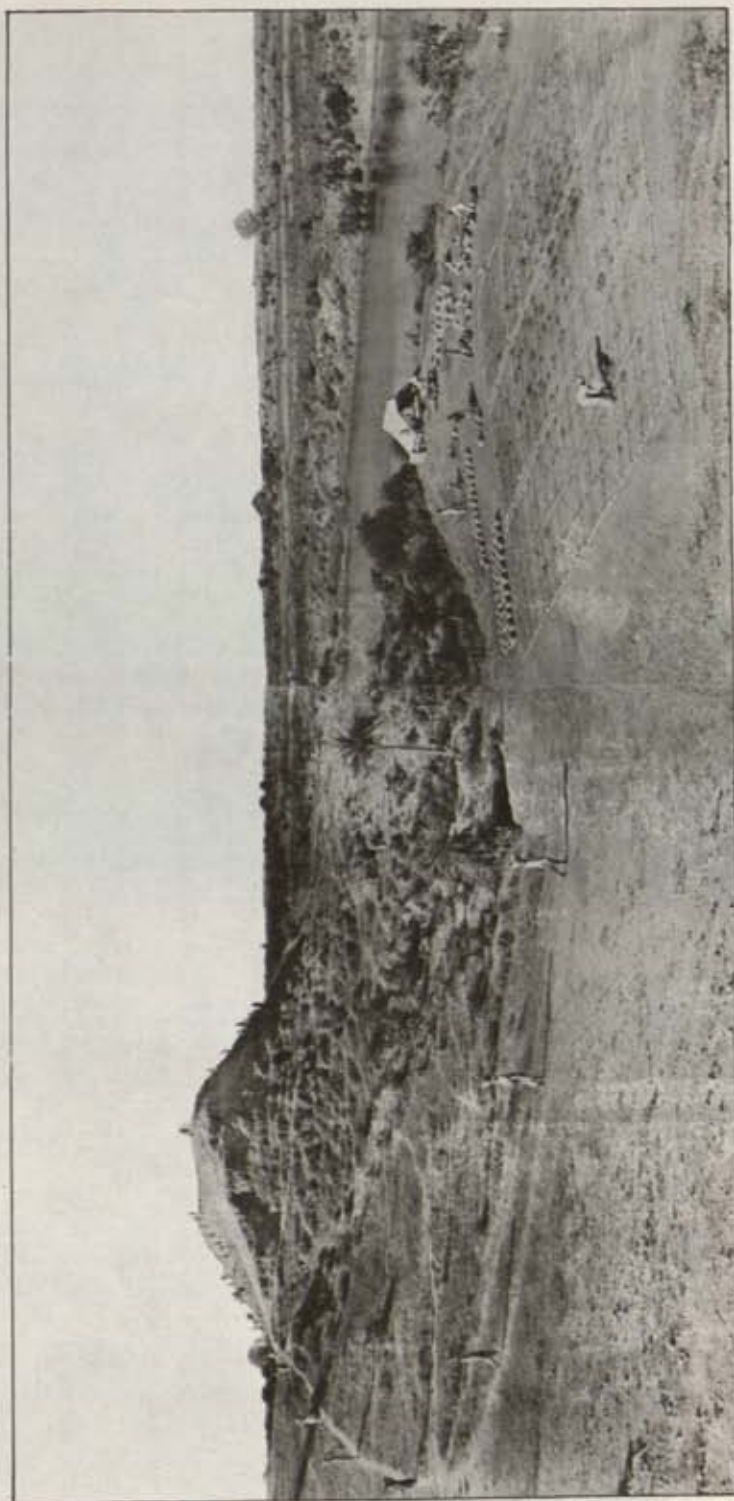
#### IV. THE SITE AND ITS ENVIRONMENTS

The site at Nagda<sup>1</sup> is situated about a mile (1.6 km.) to the north-west of the Nagda railway station on the Western Railway, midway between Bombay and Delhi, in District Ujjain, Madhya Pradesh. It covers an area of 0.031 sq. miles (0.809 sq. kilometres approx.) and is broadly divided into two mounds (though continuous and integral to each other), with a saddle in between. The northern height bears the present village going by the name of Juna Nagda and is clearly beyond the scope of excavation. The mounds rise conspicuously above the surrounding plains to a maximum height of 90 ft. (27.9 metres approx.) above the bed of the river Chambal which flows north-south abutting its western flank. The low lying cultivational plains, representing the top of the black cotton soil, gives a relief to the inselberg appearance of the mound. The site was first noticed by A.V. Pandya in 1945 and was later visited by Wakankar, Sankalia, Diskshit and Subbarao. The occurrence of painted pottery, microliths and cores, sherds of the N.B.P. Ware had amply indicated its excavation potential, especially after the excavations at Brahmagiri, Nasik and Jorwe and Maheshwar-Navdatoli. V.S. Wakankar of Ujjain, prompted by the curiosity of an enthusiast, explored considerable parts of Malwa and discovered a large number of sites in the Chambal and Sipra basin bearing in combination or otherwise the typical painted pottery and microliths of the chalcolithic context. Following the trail of Wakankar, who had as far back as 1955, submitted a list of over 20 such sites in the Chambal valley, illustrated with a sketch map, to the Director General of Archaeology in India, A.P. Khatri, then of the Deccan College Post-graduate Research Institute, Pune, under the guidance of Sankalia explored the area more intensively and systematically and brought to light a few more sites in the whole of Malwa region<sup>2</sup>. The works of Wakankar and Khatri covered a good part of Malwa and established once for all that Malwa was anciently an important area of settlement by the chalcolithic people.

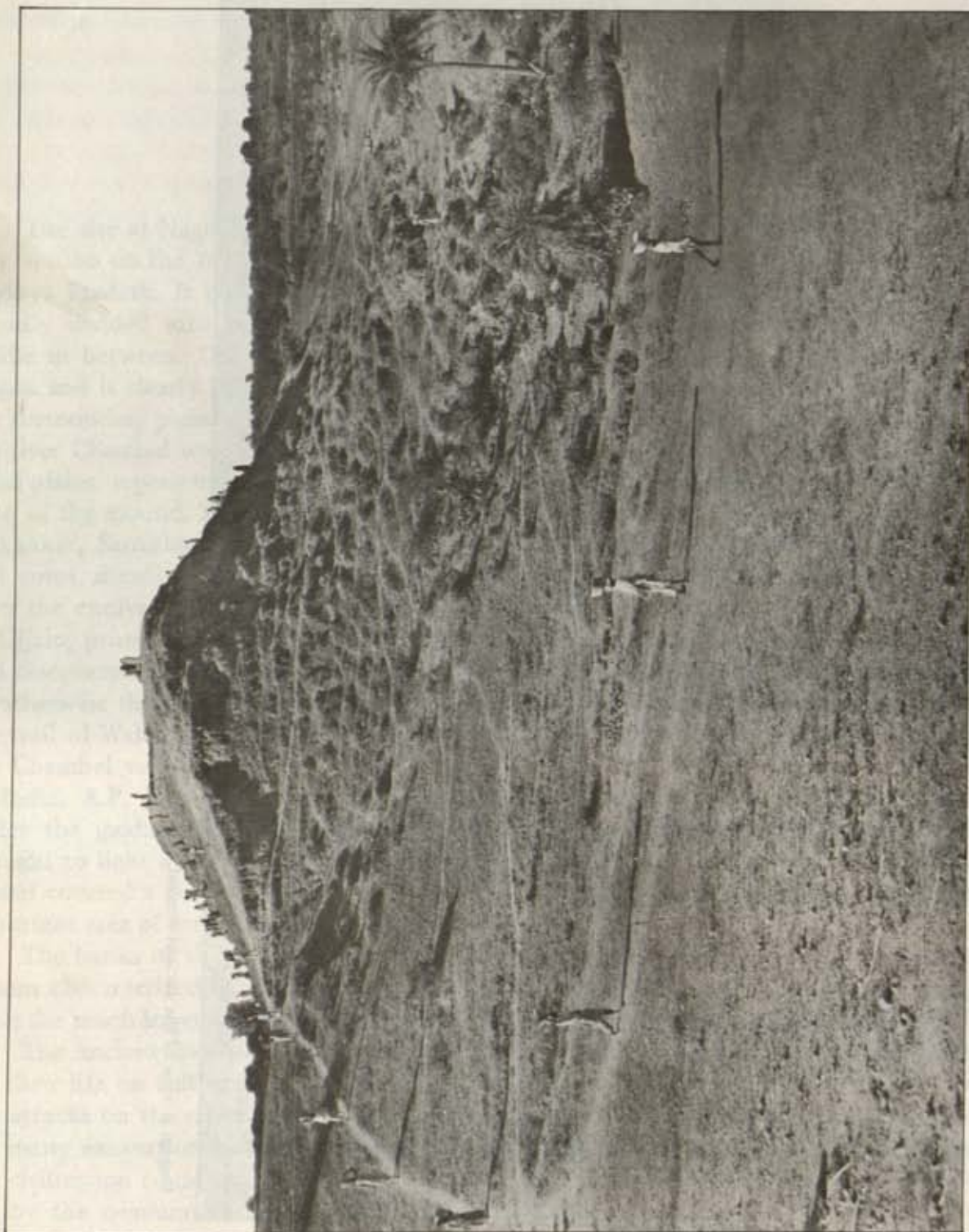
The banks of the Chambal as of the Sipra are studded with the mounds of ancient habitations characterized by the black-and-red ware, painted pottery and microliths carrying inside them the much larger cultural wherewithal of an inadequately known phase in our past.

The ancient dwellers of Nagda, as of all other allied settlements, depended extensively for their life on cultivation, inter-communication by navigation, and defence against extraneous attacks on the rivers. Though no evidence of boats in any form has so far been found in the many excavations that have been conducted during the last thirty-five years, it is clear that the civilization could not do without navigation. Their inter-communication is amply indicated by the common features in their cultural equipments which was obviously the result of frequent contacts presumably over the waterways, besides the evidence of trade and industries that over-rode the meagre needs of bare living and encroached upon the fields of comforts and





1. Nagda: A view of the ancient mound, looking north.



II. Nagda: General view of the mound with river Chambal in the background.



luxuries which could be made possible by a surplus in production. The manufacture of objects of shell and ivory was the obvious result of the suggested higher economic level. The indisputable commonness of cultural equipments is also to be explained as the result of contacts in the course, no doubt, of the pursuit of trade and commerce. The Chambal river brought the site into contact with contemporary habitations in this and other connected river valleys, and should have played a vital role in its economic, and, therefore, its cultural life.

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1. The importance of a township bearing the name of Nagda in the medieval times is possibly indicated by a reference in line 89 of the Mandhata copper plates of Paramara Jayasimha-Jayavarman, V.S. 1331 (1274) A.D. to the Pratijāgarāṇaka of Nāgadaha, which has been suspected by D.C. Sircar to be the same as Nagda, the chalcolithic site, near Ujjain (*Ep. Indica*, XXXII, part III, pp. 147, 153). But the excavations at Nagda have not yielded any relic beyond the 2nd century B.C. It is not unlikely, therefore, that the township of 'Nāgadaha' mentioned in the inscription referred to above is some other town. Besides the Nagda of the report, there is a Nagda 3 miles (4.8 km) to the south of Dewas (*Central India State Gazetteer Series*, Vol. V, pp. 66), and another on Mhow-Neemuch road, 16 miles (25.60 km) to the south of Badnawar, besides several others. The township of Nagda in question is associated in popular local belief with the venue of the 'Sarpasatra' or Snake-sacrifice performed by Janamejaya, the second king after Yudhisthira. Etymologically Nagda is obviously a transformation through 'Nāgadaha' of the terminology 'Nāgahrada', and should conjure up a site associated anciently with a lake (*hrada*).



## V. SUMMARY OF THE RESULTS

The excavations at Nagda showed an occupational deposit of 32 ft. (975.36 cm.) divided in three different cultural phases, designated as Periods I, II, and III, respectively.

The earliest, Period I, was represented by a 17 ft. (487.68 cms.) thick deposit of strata. It was characterized by microliths comprising parallel-sided blades and with evidence of the crested ridge guided-technique and, occasionally, trapezes, lunates, and hollow scrapers on chalcedony, a meagre equipment of copper objects, painted black-and-red and black-on-red pottery and its associates for domestic use as the main wherewithals of life with ample traces of mud-bricks or mud structures found on a rubble bed.

The painted designs on the black-and-red ware pottery, which is similar in fabric and texture to the commoner black-on-red ware pottery, being of medium grain and micaceous in composition, is painted either with a whitish pigment in discontinuous dotted lines, or rarely, with black and occasionally purplish-chocolate paint in the form of bands. The diverse paintings on the red ware are executed with a black to purplish black paint.

This Period has been dated between *circa* 1500 and 800 B.C. At the end of this Period the site was abandoned for a while and reoccupied after a lapse, approximately, of 50 years. The old uneven surface of the ground, rendered rough by disuse, was levelled again to a thickness of 1 ft. 6 in. (45.72 cm.) with black sticky clay dug up from the surrounding low lying fields on which cotton thrives and is called black cotton soil. (See also chapter X).

In the course of the levelling up of the surface, the settlers must also have dug up ancient occupational deposits, for the black sticky clay deposit contains relics only of Period I. The newcomers, whose cultural Period is designated as Period II, were not, however, strangers to the earlier chalcolithic culture, for they had all its elements, namely, microliths, represented by 113 specimens against the former's 572, and by several fabricators employed in their manufacture, the characteristic black-on-red ware pottery and its associates, including the black-and-red ware, but without painted designs, except in one rare instance, and of course, objects of copper, represented by 23 objects in contrast to the former's 6. The new elements consisted however, of a larger repertoire of ceramics, comprising the plain black-slipped ware, the granulated vesiculated ware, and unslipped red ware supplying typical shapes of incurved bowls found elsewhere in comparable levels, and, most interestingly, well-made objects of iron of diverse use and form which occur from the very beginning of this Period.

Period II was represented by 7 ft. 6 in. (229 cm.) thick strata, and is dated *circa* 750–500 B.C. Houses of this Period continued to be made, as of old, of mud-bricks.

Period III, the final phase of life at Nagda, represented by 8 ft. 6 in. (259 cm.) thick strata, was characterized by the continuance, among other objects detailed elsewhere in this

report, of the unpainted black-and-red ware, black slipped ware and the vesiculated ware pottery of Period II, and by the emergence of the N.B.P. Ware, represented by a single sherd, and its associated ceramics.

The houses of this Period, of which the evidence is meagre, were built in the earlier tradition of mud or mud-bricks, though burnt bricks were also known.

Microliths, represented by 66 specimens in the tradition of those in Period I and II, occur in Period III as well, but they do not fit into the economy of the times, as iron and copper objects have covered all the uses of microliths, and many more. They were mere survivals as relics from the earlier periods, being brought up in the course of digging into the deposits of earlier occupations, though their continued use and utility are not ruled out.

An inscribed ball of terracotta and an inscribed sherd, which can be palaeographically dated to the third-second century B.C. occur at the top-most level of the Period and help to fix its terminal date at *circa* 200 B.C., and accordingly the Period is dated to *circa* 500–200 B.C.



## VI. CHRONOLOGY

In view of the availability now of a series of Carbon dates in respect of the chalcolithic and later cultures it is far easier to-day to arrive at chronological conclusions in respect of them than was possible a few years ago in their absence.

The earliest chronological estimate applicable to the neolithic-chalcolithic cultures in general was offered by Wheeler when he dated the IA culture at Brahmagiri to the beginnings of the 1st millennium B.C.<sup>1</sup> Wheeler's dating was clearly tentative, based, from the thickness of occupational debris, on the dating arrived at in respect of the overlying deposits of the megalithic culture. Such a dating can scarcely be tenable, in retrospect, as the lower dating of the megaliths themselves is as yet unsettled with strong and plausible leanings to recedingly earlier dates. Nevertheless, it served as a basic starting point in the otherwise dense mists of early knowledge on the subject. During the years that have rolled by since Wheeler's work at Brahmagiri, the volume of work in and around the region, and, connectedly, on the problem itself as a whole has grown enormously, bringing in its train a corresponding mass of new evidence. While Sankalia has shown that the chalcolithic culture has impinged itself on the neolithic<sup>2</sup>, Krishnaswami has endeavoured to show that the chalcolithic culture is an off-shoot of the proto-neolithic, with newer elements, which seem to have a western inspiration<sup>3</sup>. The recent excavations at Daimabad<sup>4</sup> are taken to confirm the above mentioned view points, and establish that the chalcolithic culture impinges itself on and dovetails with the neolithic culture. This is borne out as stated earlier by the evidence at Brahmagiri, Sanganakallu, Pikliha-III, Maski, T. Narsipur, Tekkalkota, Nagarjunakonda and Paiyampalli, respectively. Since the culture has been proved at Rangpur, Prabhas Patan and Somnath as stratigraphically post-Harappan a new probable lower date, posterior to the terminal date of Harappa, could be reasonably stipulated. Meanwhile the publication of the data of Carbon-14 studies of carbon materials from Navdatoli<sup>5</sup> indicated a date-range of 1631-1375 B.C. for phase III of the culture there. The 5 ft. (152.4 cm.) accumulation below the deposits of Phase III, for which no Carbon-14 data are available, would call for still earlier beginnings which have been estimated by Sankalia to *circa* 1800 B.C.<sup>6</sup> Thus the beginnings of the chalcolithic culture in general tend to recede further backwards, and, as suggested by the excavators, well before the end of the Harappan civilization. The culture is characterized throughout, apart from microliths and objects of copper, by the pale-red ware, a ceramic painted variously in black, and a black-and-red ware pottery painted in white pigment as at Ahar in Rajasthan, by the white slipped ware in Phases I and II, and by the emergence slightly later of a sturdy matt ware with a metallic ring, called the Jorwe ware. The date-scheme is further supported by parallels with Iran in shapes of pots and painted designs etc. pointed out by Sankalia<sup>7</sup>. These would have a further



bearing not only on the source of inspiration of the elements of the culture complex, but also on chronology.

It is clear that the chronological assessment in respect of the chalcolithic culture at Navdatoli can only be generally representative. Any subjective chronological estimate for the two early phases at Navdatoli is bound to lack definiteness though related to the more firm date in respect of the next succeeding Phase III. As regards the date-range 1631–1375 B.C., there is no reason why the upper date of this date-group may not be nearer to the truth than the other, notwithstanding the well-known flaws<sup>8</sup> of the method of dating under consideration. It is clear also that the culture-complex at Navdatoli does not have any stratigraphic connection with Harappa. Nor is there any material found here that can be described as an inflow from Harappa. It is, therefore, rather strange that this culture, which has been assessed, on the showing of C-14 studies of materials from Navdatoli, as a later contemporary of Harappa in its earlier days, imbibed little or nothing from this well-established and far-flung civilization, while it could not forget the influences, howsoever meagre or tenuous, transmitted from distant Iran as emphasized by Sankalia. It is all the more so as the site at Navdatoli, not to speak of other sites, including Nagda, further north, were well within the distributional zone of the Harappan civilization. Navdatoli, could easily have had contacts with Telod and Mehgam along the Narmada, and Daimabad, if not Bhagatrav, along the Tapti. The paucity of influences from Harappa, and the fact of a post-Harappan horizon for this culture in the Kathiawar region would plead generally for a posterior date in the more southerly regions, if the rather meagre Harappan influence is taken as transmitted through this area.

The adduced Iranian contacts would, further, have been transmitted, if at all, over a land route, as the inland distribution would show. If so, the overland route would have lain either through the Makran or the Bolan pass, in Pakistan, and the trend would have been from the north to south. The northern sites would, therefore, have chances of an earlier settlement than those further south. Against this background the significance of the post-Harappan occurrence of the culture in Kathiawar needs only to be mentioned. On this analogy, sites like Navdatoli would have even a slightly later beginning. This would also plead for a post-1750 B.C. date for the beginnings, and Nagda by close association, and in consideration of its nearly common cultural repertoire and geographical location, would begin somewhat slightly before the beginnings of the culture at Navdatoli.

It is to be observed that though the black-and-red ware in its plain variety occurs along with the Painted Grey Ware in Rajasthan in general, the painted black-and-red ware is characteristic of the Banas valley, though how it came there is difficult to settle. Its apparent similarity with a prototype at Lothal is significant, though presently without the convincing force or evidence to establish an inspirational link between the two.

In this context, the evidence of this culture being later than the later phases of Harappa on the analogy of Rangpur and Prabhas Patan referred to above is worth consideration.

The chalcolithic culture at Nagda has two phases, of which the earlier, called Period I, is represented by 16 ft. ( 487.68 cm. ) of strata containing on an average 23 layers and seven structural phases. The culture in Period I, characterized by microliths, painted and other



pottery and a little copper, shows affinities, very limitedly though, with the earlier stone axe or neolithic culture in the form of red ochre decorations on burnished grey ware carinated jars. This in fact forms a connecting link with the neolithic culture in general.

By and large the culture at Nagda conforms to the typical Malwa Ware culture, and is marked only by the absence of the white slipped ware of Navdatoli or even the typical Jorwe Ware. This itself would plead for its priority in relation to Navdatoli in general.

A sturdy pale red or creamy slipped ware, of well-levigated clay, fine fabric and smooth feel, occurs, however, towards the end of the Period, distributed in layers (18) upwards. This ware has, further, a metallic ring and is painted usually in black, but exceptionally, as a variant, alternately in black and red, with plain, but uniform and well-executed bands, combining, rarely, with a group of vertically drawn wavy lines. Though basically distinct from the Jorwe Ware, it may well have been a prototype. This parallelism itself would strike, if at all, a note of contact and, therefore, to an extent, of relative contemporaneity in the later levels.

Among the shapes in the pottery, the typical dishes-on-stand point to a leaning more towards the dish form of Harappa than to any bowl form, and it is not, therefore, unlikely that it is an earlier feature. The corrugated bodied jar with tall neck, oval body and stand, the channel spouts, the dancing group of human figures painted on a red ware sherd, the crude handmade dough- or bake-plates in red ware, simulating, in shape and use, those from Navdatoli, the black-and-red ceramic further distinguished by dotted designs painted in a whitish pigment in imitation of ample prototypes from Ahar and the violin-shaped female figure help to bring the culture within the Navdatoli complex, and therefore, this would justify for Nagda a date-scheme comparable with that proposed for Navdatoli.

In this connection mention may be made of Krishnaswami's *ad hoc* dating of the beginnings of the culture at Nagda, on the basis of thickness of strata, to *circa* 2000 B.C.

Though no yardstick of chronological equations on the basis merely of thickness of strata can be invoked to arrive at chronological conclusions, a 45 years per ft. (30.5 cms.) of accumulation would account for 700 years for the entire deposit of 16 ft (487.68 cms.) The seven occupational phases, covering on an average 100 years each would likewise account for 700 years, and would suggest a date around 800 B.C. as the terminal date. The duration of about a hundred years for an occupational phase cannot be held as excessive. At this rate the period for the formation of a stratum would be a little over 30 years. The suggested terminal date of 800 B.C. is confirmed by the inferences adduced below for the beginnings of Period II. Besides, Sankalia has pointed out that the terminal date for Phase IV of the culture at Navdatoli has been estimated, on the basis of Carbon-14 studies, to *circa* 1419-1169 B.C.<sup>9</sup>, and this terminal phase, named earlier as 'D', was dated to *circa* 700 B.C.<sup>10</sup>, on the analogies of channel spouts occurring in Necropole B at Sialk in Iran, which is datable to *circa* 1000-800 B.C. The recently assessed carbon dates of the chalcolithic cultures indicate an inclusive date-range of 2000 - 600 B.C.<sup>11</sup>

Sankalia has already indicated that the cultural settlement at Nagda was within the Malwa group<sup>12</sup>. Taking into consideration the points of contact enumerated above, and the generally preferred thesis of a north to south trend of the cultural movements, Nagda is likely to have a



slightly earlier beginning than Navdatoli. As regards the terminal date of Period I, the cultural homogeneity with Navdatoli would bring it to *circa* 800 B.C.

At the end of Period I the site was obviously abandoned for a while; for how long, however, is difficult to guess. But that the abandonment of the site could not have been for long is clear as is established by the continuance into the next Period of certain ceramic wares, and even the microliths. This period of abandonment may be estimated at 50 years at the outside. This would place the beginning of Period II at *circa* 750 B.C. This is also borne out by the following consideration.

The second phase of the chalcolithic culture, in Period II, imbibes many new influences, and can no longer be designated as chalcolithic, as iron had already made its appearance at the very beginning of new life on the site, at the lowest level, above the black laid up soil separating the two Periods.

Period II is represented by 7 ft. 6 in. (259 cm.) of accumulation in approximately nine layers and covers two structural phases. These should account for a span of 250 years at the rate of about 35 years (or slightly less) per ft. (30.5 cm) of accumulation, accounting for a period of 125 years for each of the two occupational phases, consistently with the corresponding assessment for Period I, on the above mentioned analogy. This is in agreement with the dating arrived at, namely, *circa* 750–500 B.C., as discussed below.

The most significant line of this Period is of iron. At Ujjain, a more southerly site, but removed from it only by 35 miles (56 km), and situated on the banks of the Sipra, a tributary of the Chambal, iron has been seen to occur at the earliest period of habitation. The earliest cultural complex at Ujjain, called Period I, is dated on the basis of the double-slipped red ware, occurring in the dish form at Ahichchhatra in its earliest levels and also at Kausambi in of its later and leaner days, to *circa* 750–500 B.C. This culture is represented at Ujjain by a 5–7 ft. (2 metres approximately) thick deposit. The occurrence of iron objects in the lowest levels of Kausambi<sup>1 3</sup> in association with sherds of the Painted Grey Ware, at Alamgirpur<sup>1 4</sup>, a couple of slags at Hastinapura in the upper levels of Period II<sup>1 5</sup>, i.e. in association with the last days of the Painted Grey Ware on the site and more recently at Atranjikhhera<sup>1 6</sup> in District Etah U.P., Ahichchhatra<sup>1 7</sup> in District Bareilly, U.P., and Noh in<sup>1 8</sup> District Bharatpur, Rajasthan, provide the sum total of corroborative evidence, on the dating suggested above. Many more sites have since yielded corroborative evidence. The chronological horizon of all these earliest occurrences of iron at different far-flung sites is uniformly the same. The chronological range earlier offered for the Painted Grey Ware by Lal is 1100–800 B.C., but its occurrence at Kausambi, where according to literary evidence, the habitation shifted after the great flood at Hastinapura at the end of this period, in simple forms would point to a late date, and on this analogy, taken together with the evidence of the prototypes of double-slipped ware at Ujjain (Period I), which is found also at Ahichchhatra, the dating for the early occurrence of iron is correlated. This chronological assessment is supported by following considerations as well. The enormous mud fortifications found at Ujjain were built shortly after an initial settlement on the site pointing to the habitation importance of the area. In this context it may be considered that the carbon dates for the Painted Grey Ware point to a date-range of



1025±110 B.C. at Atranjikhhera at the earliest and to a range of 570±130 to 335±100 B.C. at Hastinapura at the latest<sup>19</sup>. Among the whole gamut of dates considered by Gaur the date of a single sample (TF 191) from Atranjikhhera<sup>20</sup> has been worked out to 1025±110 B.C. but this is at such great variance with all other dates of the Painted Grey Ware that one is inclined to disregard or discount this odd evidence until it is confirmed by several such comparable dates from other sites. As a result of the analysis of all the carbon dates available one is inclined to date the Painted Grey Ware levels between *circa* 800 and 500 B.C. and the succeeding N.B.P. Ware levels between *circa* 500 and 50 B.C.

The next succeeding Period II at Ujjain is characterized by the well-known N.B.P. Ware and all its associates. Such a commingling of ceramic materials as also of other cultural equipments at a region so far removed from the central grounds of its origin in the Ganga plain could be the result of prolonged contacts. It may perhaps be conceded that a lapse of a hundred years for the spread of so important a ceramic tradition as the N.B.P. Ware to the peripheral region would not be unusual. The N.B.P. Ware had been dated by Lal to *circa* 600–200 B.C. The carbon dates of this Ware published so far provide a date-range of 500–105 B.C. at the earliest at Kausambi and to 125–100 B.C. at the latest at Hastinapura<sup>21</sup>. The published data show some inconsistencies, in that some lower levels have a later dating than the upper ones. Regardless of the conflicting nature of the *inter se* evidence of Carbon-14 data on the N.B.P. Ware, an inclusive date of *circa* 600–200 B.C. is thus easily indicated. Thus by the above mentioned consideration it may have travelled to distant Ujjain by about 500 B.C. or a little later.

Literary evidence points to the emergence of a great kingdom in Avanti with Pradyota as its ruler about the time of the Buddha. Pradyota was, by the literary accounts, a contemporary of the Buddha (563–487 B.C.), being born on the same day<sup>22</sup>. His other contemporaries were Bimbisara of Magadha, Prasenajit of Kosala, Udayana of Vatsa and Pukkusati of Taxila. He is said to have tried conclusions by force of arms with Bimbisara as well as Pukkusati though compelled to make truce with both. He is also known to have defeated and captured king Udayana of Kausambi. This latter personage has also been shown to have been a historical figure by the recent discovery in Kausambi of a monastery called '*Ghoshitārāma*'. It was built according to literary tradition by Ghoshita, a banker, during the reign of Udayana. Literary tradition also records that the Buddha himself spent some time in the monastery. All this proves its historicity by the association of Udayana as well. His exploits, and especially his love with Vasavadatta, daughter of Pradyota, have been the theme of many a literary work of later times. The evidence of ceramic and other materials of daily life in Period II at Ujjain would lead to the conclusion that this was the result of intimate contact, such as would be possible in the wake of military campaigns, to which literary evidence bears testimony. Circumstantially the military campaigns can be attributed to Pradyota referred to above, and by implication he would be a historical figure as well. These military campaigns could have taken place towards the end of the 6th century B.C. at the latest. It is further to be noted in this connection that the region around Taxila was brought under the Achaemenid sway by 531 B.C., the date of Darius' conquest of the region. Pradyota's engagement with Pukkusati



of Taxila should, on this evidence, have taken place before this date and this is in fair agreement with the established date scheme of the N.B.P. Ware and its associated cultural equipments. On this showing the date for the beginnings of the N.B.P. Ware in its Gangetic home and associated cultural equipments would recede backwards even to *circa* 650 B.C. Thus with the arrival of the N.B.P. Ware in the peripheral region of Ujjain around 500 B.C., the dating proposed for the still earlier phase, i.e. Period I as 750–500 B.C. would be still on the cautious side, and would for that reason be justified<sup>2 3</sup>.

The evidence of the occurrence of iron throughout the deposit of 14 ft. thickness (4.26 m), below the lowest occurrence of the N.B.P. Ware at Prakash would also point to a similar chronological level for the beginnings of iron on the site, considered in conjunction with the evidence at Alamgirpur, Sravasti, Hastinapura, Kausambi, Atranjikhhera and Ujjain. It is further to be noted that the iron-bearing deposit at Prakash is separated from its immediate predecessor, the chalcolithic, by a thin deposit of gravel. As Prakash has been considered an outlier<sup>2 4</sup> of the Malwa group, its link with it is recognized, and the terminal date of the culture cannot be very far removed from *circa* 800 B.C. Since the iron-bearing deposits, from the lowest levels of Period I at Ujjain, cover a depth or thickness of 5–7 ft. (1.52–2.13 metres), and occur below the deposits of the N.B.P. Ware in Period II, where it is found throughout, the dating suggested for the beginnings of life at Ujjain, viz. *circa* 750 B.C.<sup>2 5</sup> would appear to be correct.

As the culture of Period II of Nagda is closely related to the culture of Period I of Ujjain, the Period II settlement at Nagda would also have a corresponding date-scheme, with a possible earlier beginning. The black-slipped, vesiculated and black-and-red pottery wares and types, besides the incurved bowls in unslipped plain red ware and collared basins in red ware the microliths of Nagda, however, are entirely missing. Among the other wherewithals, the iron objects present a further point of contact and of chronological parallelism. Though the chalcolithic repertoire would tend to plead for an earlier date, the presently known evidence, notwithstanding the testimony of Hallur and Atranjikhhera, would not justify a very much earlier date than 800 B.C. for iron in India.

Ujjain was, obviously, on the basis of a find of specialized iron tools in Period I, and of a large evidence of smelting and manufacture of iron objects on a larger scale than known hitherto in Period II, about this time a centre for the manufacture of iron. If the developmental trend of iron was, as it appears likely, from the north to the south, Nagda could not have escaped its impact, when still on the march, earlier than Ujjain, having a more northerly situation. If on the contrary Nagda imbibed its iron from Ujjain, its date would not be very far removed from *circa* 750 B.C. in either direction as Nagda is not more than 35 miles (56 km) from Ujjain. As iron occurs for the first time right at the beginning of Period II of Nagda, the lower date of this Period on this analogy would be *circa* 750 B.C. Granting for a moment that Nagda imbibed its iron from Ujjain, the date of its arrival at Nagda could not, in any case, have been very much later than *circa* 750 B.C. Period II of Nagda would, therefore, have a date range corresponding to Period I at Ujjain, namely, *circa* 750–500 B.C. The occurrence of a square punch-marked copper coin in the upper levels of this Period, would be a further



argument, in the present stage of knowledge, for the dating suggested above.

Period III represented by 8 ft. 6 in. (259 cm.) strata, corresponds to the phase of culture represented by the N.B.P. Ware as evidenced by a single sherd occurring at the terminal phase in layer (1B), and its associates, as in Period II of Ujjain, and would likewise have the same date range with the central dating of *circa* 600–200 B.C. for the N.B.P. Ware in the Gangetic home of its origin, the date of *circa* 500 B.C. for its gradual dispersal to a peripheral region like Nagda would be fairly reasonable. For the terminal phase, we are more fortunately circumstanced. The perforated inscription<sup>26</sup> on a terracotta ball (Pl. XXIXA) reading according to D.C. Sircar, then Government Epigraphist for India, “*samphena pitampam dikhitam*” and the inscription on a sherd, reading “*niya*” (Pl. XXB), both found in layer (4A) can be dated palaeographically to the 3rd–2nd century B.C. In addition to this, the inscription<sup>27</sup> on a terracotta hair-scratcher reading “*kha-ka-va*”, dated approximately to the 2nd century B.C. has been found in the topmost level, viz. layer (1). Thus the date range for Period III could be easily set down at *circa* 500–200 B.C.

Within this chronological framework the 8 ft. 6 in. (259 cm.) thick strata would account for an average of 35 years for a ft. (30.5 cm) of accumulation and 150 years each for the two observed phases of occupation. The nine strata accumulated during the Period would thus have an average rate of 33 years to a stratum. These figures do not vary widely from the average rate of chronological assessment, employed limitedly in this report in conjunction with the archaeological inferences.

To summarize, Period I is dated to *circa* 1500–800 B.C., Period II to *circa* 750–500 B.C., and Period III to *circa* 500–200 B.C.

1. Wheeler, *Ancient India*, no. 4 (1947-48), *op. cit.*, p. 202.

2. Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda), 1958, p. 249.

3. Krishnaswami, *op. cit.*, p. 25.

4. *Indian Archaeology, 1958-59: A Review*, p. 15; Sali, *op. cit.*

5. Sankalia, Subbarao and Deo, *op. cit.* (Poona, Baroda, 1958), addenda between pages xii-xiii.

6. *Ibid.* H.D. Sankalia, *Illustrated London News*, 5th September 1959, pp. 182-183.

7. Sankalia, Navdatoli Dancers, *Antiquity*, XXIX, 1955, pp. 28-31, Spouted vessels from Navdatoli, (Madhya Bharat) and Iran, *Antiquity*, XXIX 1955, pp. 112-114; New light on the Aryan invasion of India: links with Iran of 1000 B.C. discovered in Central India, *Illustrated London News*, 1958; Sankalia and others, *Excavations at Maheshwar and Navdatoli 1952-53*, 1958, pp. xii-xiii, pp. 243. Four thousand-year old links between Iran and Central India: New Excavations at Navdatoli, *Illustrated London News*, 1959; pp. 229-239; *From History to Prehistory at Nevasa*, (1954-56), Poona, 1960, pp. 495-505; Western Asia between 1500 and 1200 B.C., *Summary of Papers, First International Conference on Asian Archaeology*, 1961. Sankalia, New links between Western Asia and the India of 4000 years ago; Excavation in the huge dust heap of Ahar, near Udaipur, *Illustrated London News*, 1962; *Indian Archaeology To-day* 1962; pp. 88; 97; *Prehistory and Protohistory in India and Pakistan*, 1963, pp. 273, 279, 281; New light on the Indo-Iranian or Western Asiatic Relations between 1700 BC- 1200 B.C., *Artibus Asiae*, Vol. XXVI, 3/4, 1963, pp. 312-332; A. Ghosh, *op. cit.*, (1963), p. 28. Thapar, Relationship of the Indian Chalcolithic-cultures with West Asia, *Indian Prehistory: 1964*, pp. 157 ff.; N.R. Banerjee, The Iron Age in India, *Indian Prehistory: 1964*, p. 185; Sankalia *ibid.* p. 209; Banerjee, *The Iron Age in India*, (Delhi), 1965, pp. 81-84, 224, 235.



8. H.T. Waterbolk, The 1949 Carbon 14 Symposium at Groningen, *Antiquity*, XXXIV (1960); Henrik Tauber, Difficulties in the Application of C-14 results in Archaeology, lecture delivered at the V. Internationaler Kongress fuer vor-und Fruehgeschichte, Hamburg, 1958, *Archaeologia Austriaca* Franz Deuticke, Wien 24/1958, pp. 59-69.
9. *Indian Archaeology 1958-59 - A Review* p. 31.
10. *Ibid.*, 1957-58, p. 32.
11. F.R. Allchin, *Piklhal Excavations*, 1960, p. 121. The earliest date so far found for the unadulterated phase of the neolithic culture at Utnur, District Raichur, Karnataka, and presently worth consideration as representatives of this phase of the neolithic-chalcolithic cultures at Sanganakallu, Brahmagiri, Piklhal Nagarjunakonda, Tekkalkota, T.Narsipur and Paiyampalli, respectively, is  $2170 \pm 150$  B.C. providing the earliest known chronological landmark, averaging at circa 2000 B.C.
- B.B. Lal, A Picture emerges-an Assessment of the Carbon-14 Datings of the Protohistoric Cultures of the Indo-Pakistan Subcontinent, *Ancient India*, nos. 18 & 19, pp. 208 ff. The earliest date found in respect of the chalcolithic cultures found at Ahar takes it back to  $1725 \pm 140$  B.C. and the latest date would go back to  $640 \pm 60$  B.C. in respect of the evidence at Eran, or  $670 \pm 120$  B.C. at Nevasa, thus providing a inclusive date range of circa 1800-600 B.C.
12. Sankalia, *op. cit.*, p. 248.
13. G.R. Sharma, *The Excavations at Kausambi*, 1957-58, (Allahabad, 1960), p. 45.
14. *Indian Archaeology 1958-59 - A Review*, pp. 50-52.
15. Lal, *Ancient India*, nos. 10 & 11 (1954-55), p. 13.
16. *Indian Archaeology 1962-63 - A Review* pp. 34; *Indian Archaeology 1963-64 - A Review*, pp. 45-48.
17. *Indian Archaeology 1963-64 - a Review*, pp. 43-44; *Indian Archaeology 1964-65 - A Review*, pp. 39-42.
18. *Indian Archaeology 1963-64 - A Review*, pp. 28-29; *Indian Archaeology 1964-65 - A Review*, pp. 34-45.
19. B.B. Lal, *op. cit.*, p. 221.
20. R.C. Gaur, *Excavations at Atranjikhhera*, (Delhi), 1983, pp. 10-21.
21. Thapar, *op. cit.*
22. B.C. Law, *Ujjain in Ancient India*, (Gwalior). 1944p. 14.
23. In this context the views of Sir Mortimer Wheeler expressed in *Early India and Pakistan* (London, 1959) pp. 30-31, on the dating of the N.B.P. Ware deserves mention. He was inclined to associate the spread of the N.B.P. Ware with the expansion of the Mauryan empire, and in the absence of evidence other than that from Taxila would not allow it, though somewhat contradictorily, a much earlier date than circa 500 B.C. This is on the line of a cautious understatement, and, to an extent, subjective, without regard for the literary accounts of the historical period in India. His adherence to the theory of the introduction of iron by the Persians is also conjectural, if not wishful, and is not based on any objective evidence and is in clear disregard of its concurrence with the Painted Grey Ware at Ujjain, Alamgirpur, Hastinapura, Ahichchhatra, Sravasti, not to speak of the circumstance of the absence of other substantial elements of the Persian influence on the complex of ancient Indian culture.
24. Sankalia, *op. cit.*, p. 248.
25. The chronology of Ujjain and Kausambi has been dealt with at length in the author's *The Iron Age in India*, Delhi. 1965. pp. 14-32.
26. See Pl. XXIX A.
27. Information from D.C. Sircar.



## VII. THE CULTURAL EQUIPMENTS OF DIFFERENT PERIODS

### A. PERIOD I

The earliest settlers of Nagda, the people of Period I, who can be called the chalcolithic folk, lived indeed a variegated life, though by no means rich or sophisticated by the standards of their well known predecessors, the Harappans in the sequence of cultures on the subcontinent.

#### (i) Architecture

They lived in mud or mud-brick houses or huts built on a rubble base. Perhaps they lived by the joint-family system, from the traces of a large house (Pl. XA), of which a single room, inferentially used as a kitchen measuring inwardly 19 ft. 6 in. x 22 ft. (5.94 x 6.7 metres) has been exposed in the limited area of the excavations. At the latest phase of its use, it had as many as four ovens together, indicating the large number of dwellers to be catered to. There are two successive levels of the ovens themselves, the earlier being covered up before the later ones were raised. The floor of the kitchen was repeatedly repaired indicating not merely heavy wear and tear, but its persistence through time.

The use of mud-bricks throughout the entire Period of occupation, the lack of any evidence of floods in this Period, and the well-preserved state of the structures themselves under the centuries of accumulation of dust and earth, would only point to the ancient's security from floods or heavy rains. This also explains the fact that burnt bricks are not known at all.

#### (ii) Climate and the River

The inadequacy of rain<sup>1</sup> was not, however, a problem with the settlers of Nagda, as they had the river Chambal flowing closely by. It provided them with all their required supplies of water for domestic use and for agriculture. The navigability of the river may have been exploited by the people for contacts with the world outside, though no boat in any form is indicated in the evidence, and the protection it afforded as a natural barrier against extraneous foes was of no mean value.

#### (iii) The Use of Copper

They knew indeed the use of copper, in a small way, as only six objects, of which only two can be recognized, as fragments of a bangle and a foil respectively, were found in the excavations.



**(iv) Microliths**

Their tools, for paring, presumably, vegetables and fruits, and for cutting the crops still comprised microlithic blades, knives, crescents or lunates and trapezes. The trapezes or crescents could possibly be fixed on a wooden base, to provide a continuous cutting edge as a long knife or a sickle.

The microliths (figs. 56 & 57) were the products of a local industry, as seen from the large number of cores (figs. 56 & 57) and waste-flakes, and were possibly produced with oval shaped flattish fabricators with what appears to be, strike battered edges on nodules or lumps of chalcedony. Of the total number of 751 microliths found, 572 have come from this Period.

**(v) Pottery**

The pottery, regardless of shape or utility, is mostly decorated with painted designs in black or purplish-chocolate or slightly divergent shades. The designs or patterns of painting show a limited range, drawn upon the potter's experience of human and animal life, plant forms, nature's scenery, and imagination of geometrical shapes. Repetition often mars the individuality. The shapes comprising bowls, dishes, jars, basins, vases and lids, storage jars and the dough-plates covered almost all the common needs of the housewife and show no peculiar handicap from which the folks may have suffered in the matter of utensils. The occurrence of the painted dish-on-stand would suggest ritualistic uses, with a possible mooring in the past, if not entirely imitative and conventional. The wares represented comprised (a) the typical black-on-red ware, (b) burnished grey ware, (c) black-and-red ware, (d) coarse plain red ware, often with incised decoration, (e) thick plain grey ware, and (f) a distinctive fine sturdy ware with metallic sound and painted designs in the form of uniform bands. The plain red ware is often decorated with incised and applique designs.

**(vi) Dietary and Domestic Equipments**

The dietary included non-vegetarian food as shown by the occurrence of animal bones, such as those of humped cattle, goats, sheep and pigs, some with cut marks. The presence of hollowed legless saddle querns, with pestles of plano-convex or rectangular cross-section, point to the use of hard grains that needed grinding, besides the tenacious use they had sustained. The repertoire of stone tools and equipments consisted of stone mace-heads, sling stones, pounding stones and pounding hammers with a bulbous end. It is possible, however, that the grains could not be ground into very fine flour, but lent themselves to grinding in wet state into pastes. The dough-plates which are in red ware have turned red at the base, as a result, obviously, of use as a bake-plate. It would not, therefore, be unlikely if some kind of baked '*chapātī*' was eaten.

**(vii) Dress**

The people possibly clad themselves with clothes of cotton yarn, as a possible spindle whorl would suggest.



#### (viii) Ornaments

Beads provided the simple folks' humble decoration, and the ornaments consisted almost entirely of beads of stone and terracotta, in the simple shapes of pears, barrels, cylinders, bicones or spheres. The knowledge of geometry that the manufacture of these objects of ornament implied may only be mentioned, if not emphasized. The stone employed in making them do display a diversity of taste and a knowledge of the attraction of colours, for widely divergent materials like sand-stone, steatite, agate, jade, jasper and carnelian figure in the miscellany. Were they imported or locally made? We have no evidence for assertion in either direction. The circumstantial evidence of the economy of the settlement would point, rather, to local manufacture than to the import of a comparatively minor requirement of life, for which there was apparently nothing substantially local to offer attractively in exchange. Besides the raw material was available locally in plenty, embedded in the trapped rock. Bangles, the other wherewithal of beautification, were represented by only two fragmentary specimens in shell and one in lacquer, besides those of copper.

#### (ix) Amusements

While the amusements and activities of age must have engaged the elders, the children found joy in whirling an occasional wheel, made from a mother's discarded pot, or fashioned a disc likewise to play their time-honoured game of hop and win, not to speak of the familiar globelets of terracotta marbles. Some of the stone balls, described as sling stones, may also have served the purpose. The youth may have revelled in vigorous dancing in community, clad in gay attire as the idea seems to be conveyed by the portrayal of group dancing, involving rapid gyrating movements, illustrated on one sherd, recalling parallels in early times on several other far-flung sites.

#### (x) Terracotta Figurines

The free modelling of terracottas emerged early amid the people, but was not, apparently, very seriously practised as the shapes betray a naivete not worthy of practised hands. The cow and bull forms take precedence over the lion and the dog, and would rather represent the youngsters' casual diversion than any serious business of indulging in art or meeting the needs of any ritual. The human form is represented by a tiny broken fragment, suggesting the torso of a female form, representing possibly the Mother Goddess (Pl. XXVIA, 2) presumably the only relic of a ritualistic practice.

#### (xi) Familiar Animals

The people must also have domesticated some animals, especially the cow and bull, which are represented apart from the skeletal remains of young animals, by tiny terracottas, and should have known the peacock, the spotted and horned deer, the antler, and possibly the buffalo, which are all portrayed, with the distortion of exaggeration, arising from the artist's ineptitude or carelessness, or a taste for delineating the unusual, amid the patterns on the painted pottery.



**(xii) Miscellaneous Objects**

(a) Terracotta cones —An unperforated cone of terracotta does not have any matching flask to fit in the mouth, to serve as a stopper. As evidence of a gamesman it is the solitary sentinel of an absorbing game that may have given delight to the leisurely. It would not have served as a net sinker without the perforation despite the evidence of the fish bones of the carp but of no other companions. A pendant it could not be, as it has no perforation to allow its string the required passage. Was it, therefore, a freak or the result of an uninterpretable accident?

(b) Objects of ivory —The use of ivory seems to have been known from the evidence of a single unfinished object, but apparently did not become common.

**(xiii) The Spiritual Domain**

A peep into the thoughts of these people is sought to be provided by a lone evidence of a terracotta head,<sup>2</sup> bearing remarkable resemblance to a violin-shaped conventional form of the Mother Goddess, believably representing the cult of fertility and, by implication, of prosperity with parallels in early cultures.

**B. PERIOD II**

The smooth tenor of life in Period I seems to have been abruptly terminated, after it had run its course for a while, but for what reasons it is not very clear to see. The site was temporarily abandoned, and reoccupied after a while by a people who had known or acquired the use of iron. The old surface of earth, which the negligence of no tending during the temporary disappearance of the folks had disturbed and rendered uneven, was remade with earth easily dug up from the surrounding low lying black soil fields and levelled for the new tenants of the village.<sup>3</sup> By this time the people had mastered the use of iron, though the older habits had not been given up altogether. The continued use of microliths — as many as 112 being found — as of painted pottery alongside newer fabrics and shapes in pottery do indeed point to a sizeable sprinkling of the older people themselves amid the new settlers. The time-lag between the two phases or Periods of occupation was not, therefore, inordinately long.

**(i) Architecture and (ii) Climate**

Houses continued to be made, as of old, of mud-bricks or mere mud; burnt bricks still not being in vogue. Clearly mud houses were strong enough to withstand the stress and strain of climate, particularly of the rains, which could not have been meagre, inferentially.

**(iii) Iron**

Iron gave these people distinct advantages over copper, and its extensive use is indicated by the find of 59 objects, beginning with a well-formed celt or chopper, from the earliest days. Among these the shapes of a spearhead, arrowheads, including the tanged type, knife, blades, a ring or clamp for fastening a tool and the socket of a possible socketed axe, besides the chopper or celt mentioned above, point to the distinctly divergent and specialized appli-



cations of iron objects. A whetstone deepened by use may have been used anciently, as even in modern times, for raising occasionally the keenness of the cutting tools. The obviously specialized uses of the spearhead and arrowhead are reminiscent of circumstances calling for preparedness for extraneous attacks and would suggest a less peaceful life than the days when copper and microliths were the mainstay of defence and offence. Their occurrence may as well be due to change in the temper of individuals making it touchy enough to be ready to have a fling at one another at easy provocation. Or was it merely to facilitate the chase of the game for food and for pleasure? It may, however, be emphasized that iron occurs right at the beginning of the Period.

#### (iv) The Use of Copper

In contrast we find the use of copper confined to less important purpose, though its continuance in their material economy is beyond question. Apart from a carefully made conical object of uncertain function from the mid-level of this Period, the majority are almost non-descript except the form of the well-known antimony rod of very restricted utility making up a total of 26 objects. The obvious contrast between the tool-forms of the two metals tilts the balance in favour of iron as obviously the more favoured material in use.

#### (v) Microliths

A reference in this context to the specialized use simultaneously of microliths for purposes of restricted scope, playing obviously a very secondary role as an equipment in a metal economy, dominated by iron, needs only to be mentioned. The ovaloid flats of stone with battered edges found alongside are supposed to have served as the primary tools for fashioning the microlithic ensemble. The use of microliths in this Period would have been confined to the cutting and paring of vegetables and fruits, or for an occasional scraping of pulp from fruits, or even flesh. Their utility could be depended when hafted, often in a group, on some handle. But since no material of this kind has been found, the point can only be indicated.

#### (vi) Pottery

The ceramic wares show again a continuity from the previous Period enriched by a few new wares, which are characteristic of comparable levels and periods on other sites. These consisted of the: (a) black-on-red ware, (b) black-and-red ware, which, however, is not so extensively painted as in the previous Period, (c) burnished grey (d) plain red wares and as of old, besides the (e) black slipped ware, (f) granular ware named as the vesiculated ware, and (g) double slipped ware. The thick grey ware of the earlier Period is no more there, nor are the interesting dough-plates. But the repertoire of shapes represented by the wares met all the common needs of the people. The burnished grey ware is scarce, but the painted tradition of the earlier Period is abundantly in vogue. The fine sturdy ware with uniform paintings has also disappeared. Yet the tradition of incised or applique decorations on the red ware is fully in vogue.



**(vii) Dietary and Domestic Equipments**

The domestic equipment was of course the unlegged quern of stone hollowed by long use in the course of grinding of hard grains with pestles that marked but little change in shape. The complement of equipments consisted, as before, of mace-heads, sling stones, pounding stones and hammers of stone with a bulbous end and helped both the housewife and the family through their works of sorts but in the traditional way. The diet consisted obviously of some kind of baked cakes or bread of ground grains as before.

**(viii) Dress and Textile Industry**

The spindle whorls of terracotta follow in shape the pattern in vogue since earlier times and in a small way point to the small scale textile industry of the settlement. A double-pointed ivory object with a median recess may have been an essential equipment suggesting a shuttle or handy reel.

**(ix) Ornaments**

The objects of ornamentation were not, however, confined as before to bangles and beads but were distinguished by the emergence of ear ornaments. Among bangles, glass made its appearance for the first time but was not possibly used very extensively. The rest were of shell as well as stone. The beads of terracotta encompassed the shape of pears, vases, bicones, and cylinders, while the stone ones made of carnelian, agate, chalcedony, jade and coral were either barrel-shaped or biconal. A groove-collared bead was also found. The shapes still speak of simplicity neither enriched nor spoilt by sophistication, except for a segmented *amalaka*-shaped bead in ivory of fastidious fancy.

The ear ornaments are circular in shape and are made of terracotta, for the not so opulent, and of jasper and agate, very laboriously and carefully finished, for the fastidious. A single specimen of a glass disc with shell inlay speaks not only of expert workmanship but also of a fanciful taste. The high polish the discs bear has the reflective brightness of a mirror and the industry that produced this article of luxury can be expected to have supplied the needs of a far-flung market. It was distinctly a new item of wear which the earlier Period could not boast of.

**(x) Toilet Articles**

The toilet articles of this Period include, apart from the antimony rods mentioned above, a decorated ivory comb clearly indicating at once the user's financial status and taste for beauty. It speaks of an economy that envisaged luxury goods after meeting the bare necessities and comforts.

**(xi) Works of Art and Amusements**

A flattish fragment of ivory, shaped to suggest symbolically the human form, marked decoratively with incised oblique grooves and circlets, could either have served as a pendant or an object of reverence. A human shaped figure in ivory with a naturalistic head and a pronounced hip would suggest a deliberately assumed pose of grace or perhaps of coquetry unless it is



a cameo in a presentation of the dancing female form. Though it would indeed be wrong to allow imagination to overstep the limits of objective observation, the possibility of dancing as an amusement cannot be discarded, as the possibility of its earlier occurrence has already been noted above. The dancing female from Mohenjodaro, as a still earlier example in the line, has by now become too classical an example to bear pointed reference except perhaps as a possible distant source of inspiration. As a work of art, it has delicacy and grace, and has naturalistic features.

The amusements of the youngsters did not undergo any change as the hop-scotches fashioned out of broken sherds of sorts, made in different sizes, and wheels fashioned similarly with a perforation continued as before though the time honoured favourite of terracotta marbles are conspicuous by their absence.

#### (xii) Terracotta Animal and Human Figurines

The art of representing through terracotta the ancient's idea or experience of the animal or the human form did not yet rise above the limitations of crudity and a certain amount of carelessness in treatment. The use of terracottas seems still to have been very restricted, as judged from their small number. While the animal form is confined to the humped bull, and possibly to a single instance of either a cat or dog, the human form is dealt with symbolically and the familiar violin form was the outcome of their productive effort in this direction, portrayed in a single specimen. Was it an echo of an almost similar form in Period I, described above under spiritual domain? If so, it is another supposed instance of the ancient's reverence for the form of the Mother Goddess. The patent abnormality, far removed from the wistful idealistic conception of later times, could have sprung from a primitive mind's reluctance to copy in mundane form the image of the revered. The animal forms do not seem to have served any practical utility except as playthings to amuse the children.

The figurines were all modelled and were, in spite of recognizable shape and form, yet far from reality or beauty. The conical objects of terracotta are not without significance and need not be considered as a product of wasted labour. It is not unlikely that they were primarily used as gamesmen of a kind, and the only perforated specimen would suggest its utilization as a net sinker for a light weight net for the river would indeed be a very encouraging fishing field.

#### (xiii) Ivory Engravers

A very tricky problem is presented by the occurrence of a few conical sticks of ivory with one end pointed and the other plain or studded respectively. The term 'stylus' has found favour with many a previous writer as their nomenclature, which would of course presuppose the existence of writing. Of this, however, there is no tangible proof. They may perhaps have served generally as engravers, and being free from rust or corrosion could more easily be handled by potters to decorate their pottery with grooves and lines. They could also serve for inscribing if such use was made at all.



### C. PERIOD III

The life in Period III marked, as a result of a gradual change, a complete weaning away from the influence of the chalcolithic culture, and the assimilation of new ways.

#### (i) Architecture and (ii) Climate

Architecture witnessed the use of burnt bricks, though no structures as such were noticed in the area of the excavation. The straggling remains of a roadway, 7 ft. (2.13 metres) wide, made of rubble laid into the top of the earth surface and pressed down compactly are of some interest but suggest no sophistication. The use of burnt bricks would point as much to technical advancement which should have come at the dictates of necessity for adequate protection against a climate that had presumably become wetter, as to the solicitude for durability.

#### (iii) The Use of Iron

The iron objects, numbering 210 in all, establish the real nature of the economy and mark an advancement over earlier life. The objects include curved sickles, a socketed hoe with a heavy point, a socketed chisel or axe with a splayed cutting edge — all agricultural equipments—marking increased agricultural activity. The long size of sickle blades, which measured more than 10 inches (25.4 cm.) in length, is suggestive of sturdy crops, and the socketed axe would but point to the active habits of cultivators. Other objects comprised chisels, arrowheads of both the tanged variety with multifaceted point and the leaf shaped missile, daggers with double-edged blades and tang for hafting, chopper or short heavy sword with a sharp cutting edge, a barbed point or pike, short tanged knives with curved blades, double-sided door-clamps with pins, a spoon or ladle and fragments of vessels, etc. It is clear that, both for offence and defence, for agriculture, domestic work, and household security, iron alone was being used extensively and was infinitely more utilitarian in character. The weapons of war point to conditions of insecurity, which would no doubt be the consequence of increased prosperity, which is distinctly obvious. They may as well have been used in hunt or in self defence against wild life, which is represented by the copper leopard mentioned below.

#### (iv) The Use of Copper

The copper objects have indeed increased in frequency, more so because of the comparatively thinner deposition of occupational strata than in the previous phases of life. That this metal has now been utilized for the comparatively less functional or necessary uses but to meet demands of comforts or even luxuries simply implies that the more plentiful and therefore more useful metal, namely, iron had come to stay, which was used for the essential requirements of day-to-day life. A copper leopard, decorated or made natural with punched circlets, fixed on wheels, could not serve any other purpose than as a piece of decor in an advanced house — a remarkably sophisticated taste. As a young fellow's toy it would indeed bespeak fastidious sophistication. Among 43 objects of copper, leaving aside non-descript fragments,



occur a ringed hollow sheath, possibly a mirror handle, antimony rods, a thin and long hair or dress pin, a couple of bangles, of which one is well-made and intact, an ear or nose ornament made of wire, the rim of a vase, and a couple of pointed rods, possibly serving as some sharp implements. All these patently denote uses of an economy that stepped beyond the domain of the very essential needs of living.

#### (v) Microliths

Microliths occur in this Period as a relic of the past, and presumably did not play any part worth the name in the life or economy of the people. Their number was reduced to the insignificant figure of <sup>6</sup><sub>6</sub>.

#### (vi) Pottery

The pottery of this Period displays a wide variety of shapes, serving all the domestic needs in ceramic wares including those familiar to us from the earlier Periods. They comprise the familiar (a) black-and-red ware, though without painted decoration, (b) black-slipped ware, which made its appearance first in Period II, (c) the prolific plain red ware, slipped as well as without slip, and (d) the well-known N.B.P. Ware though represented by a single sherd. The incised or applique decoration of earlier Periods on the red ware jars continues right through, and so does (e) the vesiculated ware, a granulated variant of the red ware though in distinctive shapes.

#### (vii) Textiles

The prevalence of spindle whorls would suggest the continuance of the spinning of yarn for cloth.

#### (viii) Ornaments

The ornaments for personal decoration consisted, as before, of bangles, beads and ear ornaments. Bangles were made of shell, glass, copper, iron and ivory. The bangles of shell seem to have been locally manufactured as inferred from fragments of rejects or discards. It would also suggest trade with outsiders, for shell could not but have come from the coastal area. The forms were simple and without decoration. Glass bangles too were very plain and were available either in blue or green colour. The use of ivory would suggest a taste for the unusual, but the only specimen found was unfinished.

The beads were indeed plentiful and were made of terracotta, amethyst, quartz, chalcedony, agate, coral, glass, bone, shell, gold, and iron in a variety of shapes.

The ear ornaments presented a variety in shape, size and material. The large size and heavy weight of some of the specimens do indeed point to the amazonian capacity of the womenfolk. The inference, as to their use, however, is brought home by similar delineation on ancient sculptures and terracottas. The terracotta specimens fell probably to the lot of the poorer section in the population, while the sophisticated mirror-like polished ones made of black or red jasper, crystal, glass, or lacquer, encased in a copper sheath, found favour with



the more opulent.

**(ix) Domestic Equipments**

The complement of domestic equipments consisting of mace-heads, sling stones, pounding stones, bulbous ended pounding hammers, knife or blade sharpeners of stone tell their own tale of the manifold household needs and the means of meeting them. The essential domestic equipment for grinding, namely, the grinding stones were provided with legs for the first time to add to the comfort of the housewife by raising the height, and making it more fashionable than the older plain querns, which, however, did not die out altogether. The pestles too become more varied in style.

**(x) Articles of Toilet**

The objects of toilet consisted of rectangular skin rubbers, notched variously—an innovation of this Period; the pouch-like objects of terracotta, so far designated as hair scratchers or cleaners, vermilion rods of ivory and antimony rods of copper and ivory. These reflect but simple tastes though the variegated aspects of daily life are fairly indicated.

**(xi) Amusements**

The hop-scotches, perforated sherds serving as wheels, animal figurines, unless they served the purpose of rituals, terracotta balls and small non-functional lamps comprised the miscellany of amusements which may have pleased the juniors.

**(xii) Bone and Ivory Pendants**

The occurrence of human shaped small flats of bone with notched circlets would suggest their use either as objects of ritual of deeper significance than appears on the surface or as mere pendants serving as ornaments. In the same category are objects of bone simulating the human form with a thin waist and pronounced hips.

**(xiii) Terracotta Figurines**

The terracotta figurines among which can be recognized the ram, humped bull, cow with udder, goat and horse suggest the animals domesticated by the folks, as these were but tame representations of familiar animals. The bulls from their frequency seem to have cast on them an especial fancy. The occurrence of the leopard in copper is indeed of extraordinary character and should have been a representation of an attractive though feared beast that occasionally may have prowled into the village. This points to keen observation and skilful modelling not met with in terracotta.

**(xiv) Terracotta Cones**

The conical objects of terracotta are available broadly in two different shapes, namely, (a) the conical one with the top slightly pressed or perforated across, and (b) the flattish truncated type. The exact utility of these objects is largely a matter for guess.



## (xv) Miscellaneous Terracotta Objects

Among miscellaneous objects occur a rectangular piece of terracotta of no obvious function but presumed to serve as a base for a wheeled cart, a bird-shaped object made from pottery, a quadrant of a terracotta cake of unknown purpose, and an inscribed terracotta ball. These only point to the many-sided imagination of the folks. It deserves to be mentioned that ivory objects were probably made locally, as inferred from unfinished fragments, and ivory working can perhaps be counted as one of the specialized industries of the times. The variety of the objects indicate many-sidedness of taste. The specialized tools, with sharp working ends, can be called engravers and should have served as styluses to produce writing or scripts by engraving. Indeed there is not much evidence of this except in the form of a sherd with the letters *ni-ya* and a terracotta ball bearing a perforated or punched inscription reading *sam-phena pitam — pam dikhitam* or *kha-ka-va* on a hair scratcher. These incidentally help palaeographically to date the levels to which they belong. Similar objects of bone also point to a like use.

## (xvi) Storage Jars

Deep storage jars present some idea about the prevalent manner of storing grains .

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1. The average figures of rainfall in the region in modern times, as revealed by the available data for Ratlam and Ujjain, between which Nagda lies sandwiched, are not very high. If they have any relationship, barring the variations through the centuries to the climatic conditions of the past, it may be stated that the region was comparatively dry in ancient times. See Appendix 2 for details of temperatures and rainfall in these two areas.
  2. The subject has been dealt with in the Chapter X on Other Finds. A brief reference to the violin-shaped terracotta figurine found at Bilawadi, in District Dewas near Ujjain, has been made by P.K. Agrawala in *Goddesses in Ancient India*, New Delhi, 1984, p. 37, fig. 69, footnotes 110, 111 on p. 42, wherein its chalcolithic association has been indicated .
  3. See also Chapter XII on Soil Analysis for a different interpretation.



## VIII. The Cuttings

The purpose of the excavations at Nagda was primarily to trace the characteristics of the chalcolithic culture on the site and to establish its stratigraphical link, if any, with known cultural horizons that the excavations might reveal. For this purpose one main trench, called NGD-1 (Pl. III) and three subsidiary ones called, respectively, NGD-2, -3, and -4, were laid. The main trench was excavated in 1955-56, and the rest in 1956-57.

### NGD - 1

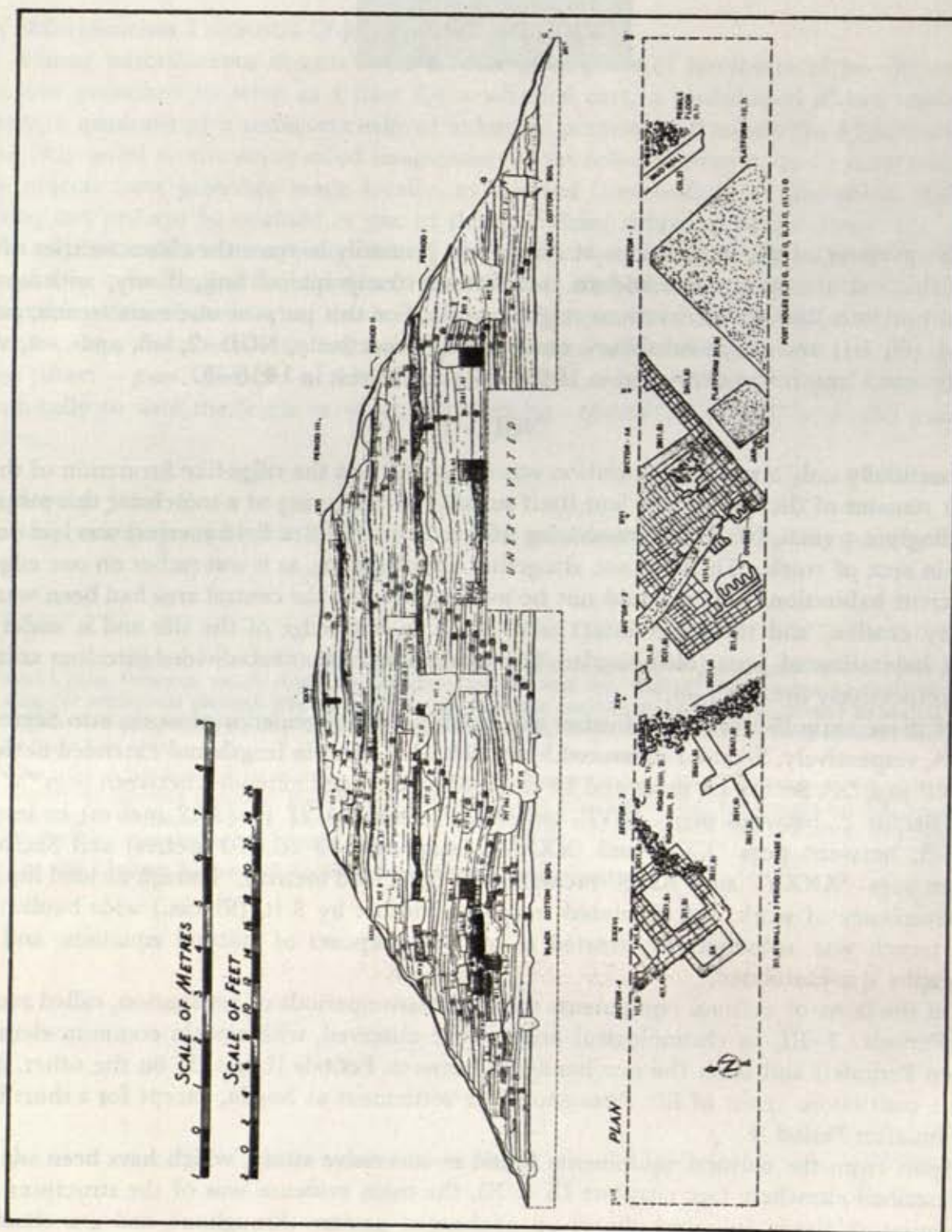
Essentially only a vertical excavation was envisaged, and the ridge-like formation of the present remains of the ancient site lent itself suitably to the laying of a trench for this purpose. Accordingly a trench, NGD - 1, measuring 168 x 18 ft. (51.2 x 5.48 metres) was laid out as the main area of work. This was not altogether advantageous, as it was rather on one edge of the ancient habitations, but it could not be avoided because the central area had been washed away by erosion, and the other intact area was at another edge of the site and is under the present habitation of Juna (old) Nagda. The trench was further sub-divided into four sectors, called respectively Sectors 1-4.

Of these again Sector 1 was further sub-divided, for convenience of work, into Sectors 1 and 1A, respectively. Sector 1 measured 51 ft. (15.54 metres) in length and extended between pegs 'G' and 'X'. Sector 1A measured 18 ft. (5.48 metres) and extended between pegs 'X' and 'XVI'; Sector 2, between pegs 'XVI' and 'XXV' measured 27 ft. (8.22 metres) in length; Sector 3, between pegs 'XXV' and 'XXXVI', measured 33 ft. (10 metres) and Sector 4, between pegs 'XXXVI' and 'XLIX' measured 39 ft. (11.88 metres). Though divided initially for convenience of work, and separated from one another by 3 ft. (91 cm.) wide baulks, the entire trench was, subsequently, treated as one for purposes of cultural equations and the stratigraphy was correlated.

On the basis of cultural equipments three successive periods of occupation, called respectively Periods I-III, in chronological order, were observed, with certain common elements between Periods I and II on the one hand and between Periods II and III on the other, indicating a continuous tenor of life throughout the settlement at Nagda, except for a short-lived desertion after Period I.

Apart from the cultural equipments found in successive strata, which have been adequately described elsewhere (see chapters IX & X), the main evidence was of the structures. The architecture at Nagda followed almost an unchanged pattern throughout, and was characterized by mud or mud-brick<sup>1</sup> structures of varying sizes. The main walls were mostly laid into an adequately wide foundation trench, the bedding being reinforced by a course of pebbles.





III. Nagda 1955-57: Site NGD-1, section looking north and plan of structures etc.

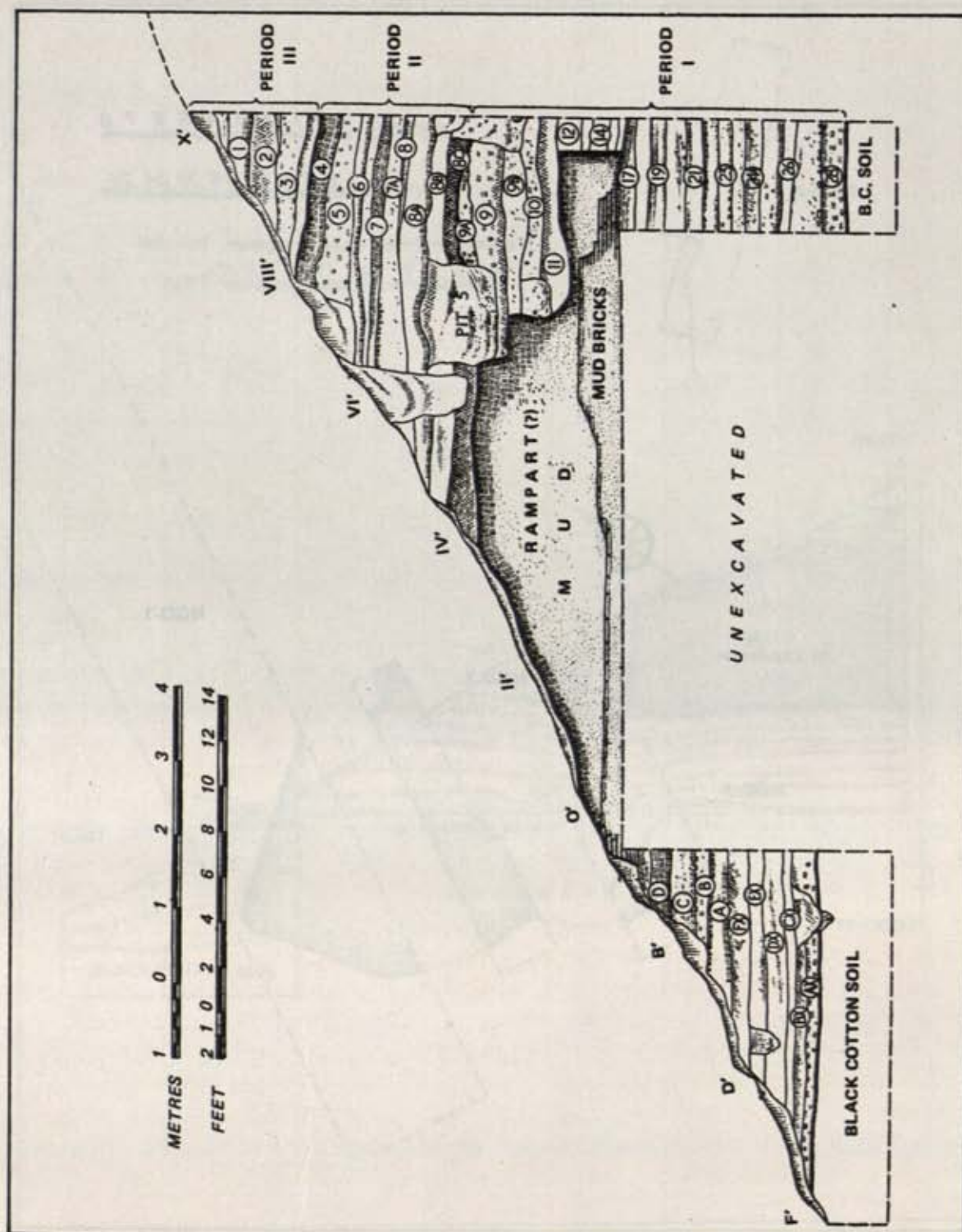


Fig. 2. Nagda: Cutting NGD-1, section looking south (mud rampart).



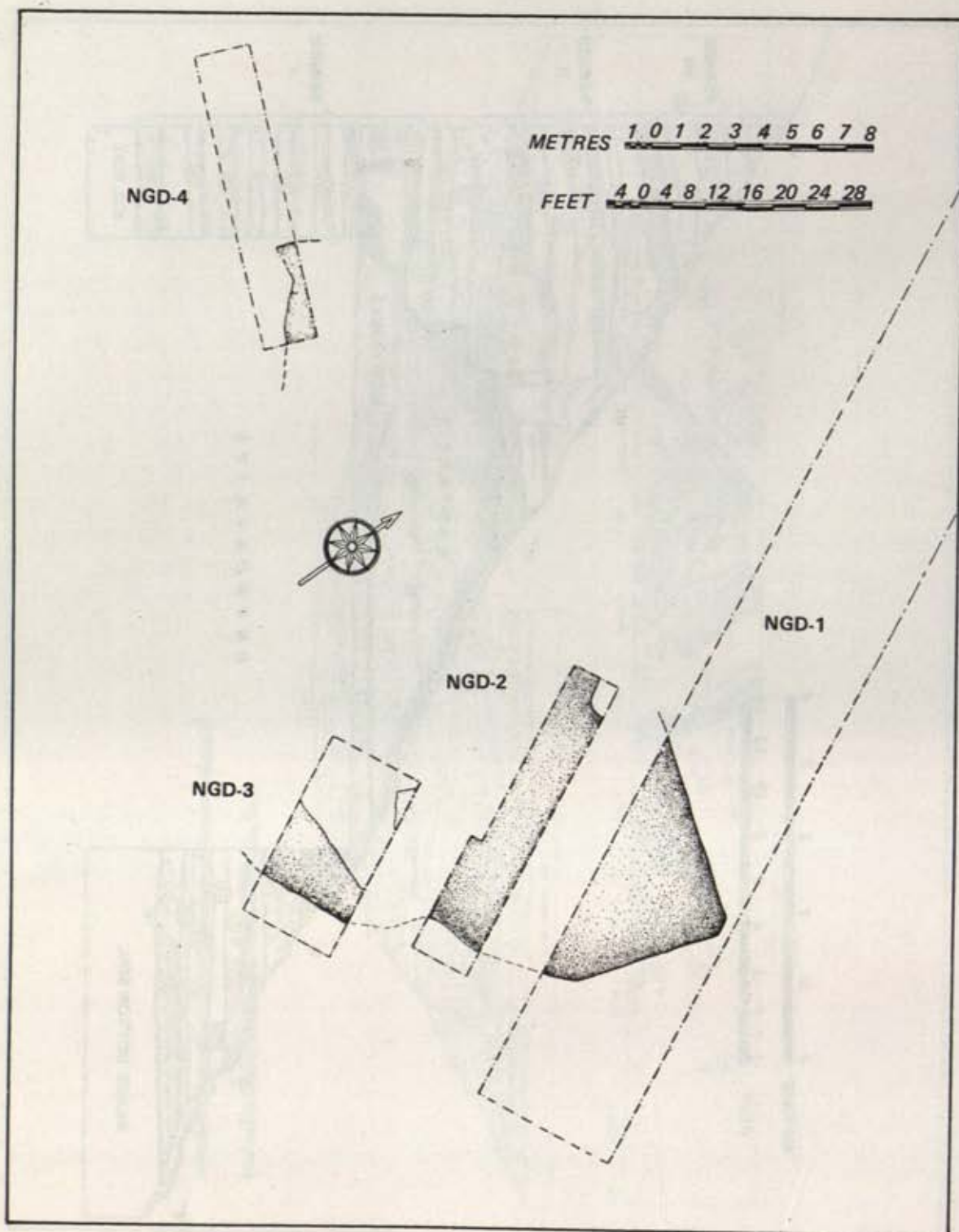


Fig. 3. Nagda: Plan (NGD-1, 2, NGD-3, NGD-4) of mud rampart.

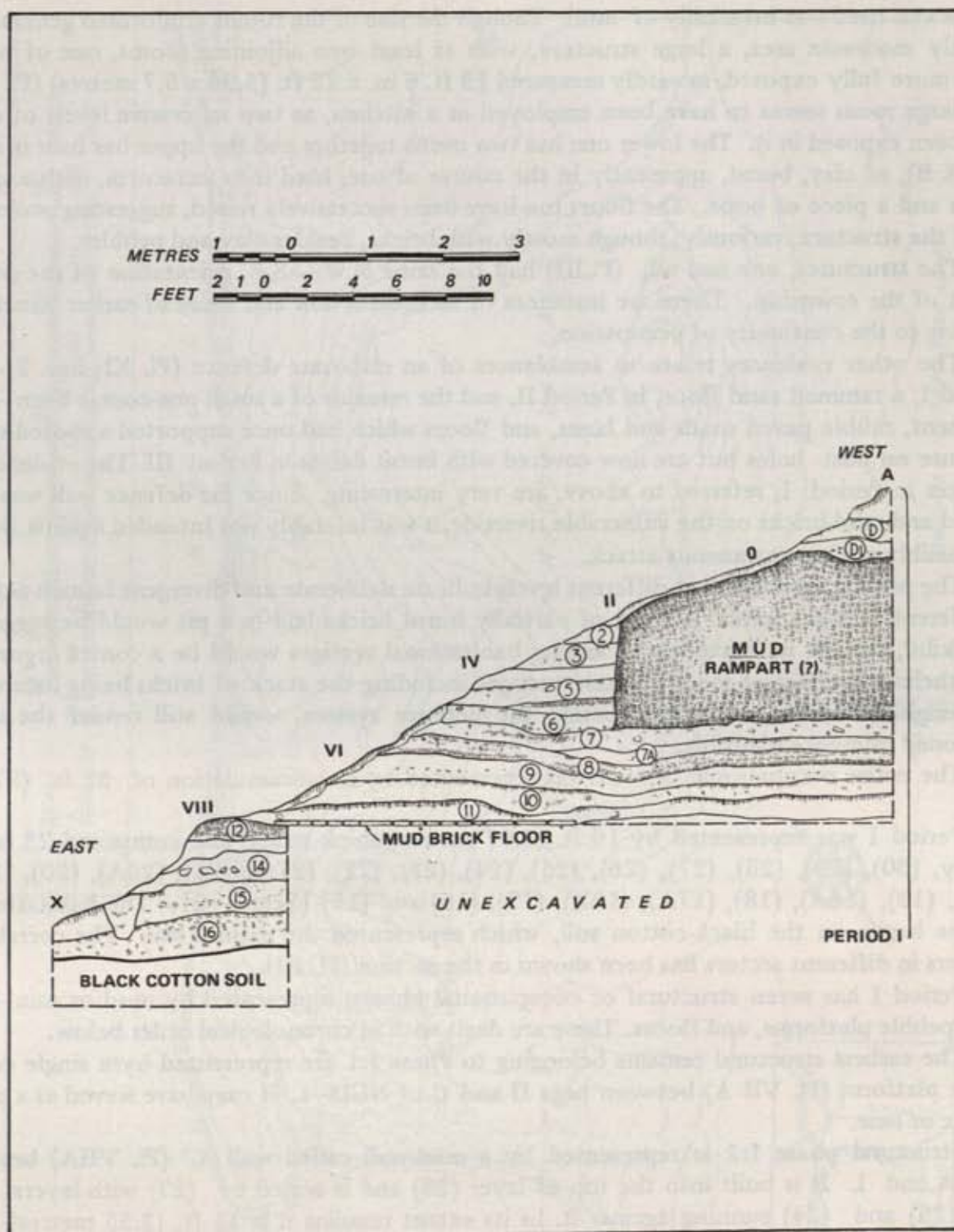


Fig. 4. Nagda: Cutting NGD-4. Section looking north across mud rampart.



The mortar used was invariably of mud. Though the size of the rooms conformed generally to a cozily moderate area, a large structure, with at least two adjoining rooms, one of which, being more fully exposed, inwardly measured 19 ft. 6 in. x 22 ft. (5.94 x 6.7 metres) (Pl. XA). This large room seems to have been employed as a kitchen, as two successive levels of ovens have been exposed in it. The lower one has two ovens together and the upper has four in a line (Pl. IX B), of clay, burnt, apparently in the course of use, hard into terracotta, with a spread of ash and a piece of bone. The floors too have been successively raised, suggesting prolonged use of the structure, variously, though mostly with bricks, besides clay and pebbles.

The structures, one and all, (Pl. III) had the same N.W. —S.E. orientation of the general layout of the township. There are instances of reconstruction and reuse of earlier structures, pointing to the continuity of occupation.

The other evidences relate to semblances of an elaborate defence (Pl. XI; figs. 2—4) in Period I, a rammed sand floor, in Period II, and the remains of a small one-course burnt-brick pavement, rubble paved roads and lanes, and floors which had once supported a roofed superstructure on post-holes but are now covered with burnt debris, in Period III. The evidences of defences in Period I, referred to above, are very interesting. Since the defence wall was built of mud and mud-bricks on the vulnerable riverside, it was inferably not intended against floods, but possibly against extraneous attack.

The pits and post-holes at different levels indicate deliberate and divergent human activity at different working levels. A stack of partially burnt bricks laid in a pit would be suggestive of a 'kiln', though its occurrence among habitational vestiges would be a contra argument. Nevertheless, the fact of most of these vestiges including the stack of bricks being located on the periphery of the township, outside the defence system, would still render the above mentioned inference plausible.

The entire occupational deposit was represented by an accumulation of 32 ft. (975.36 cm.).

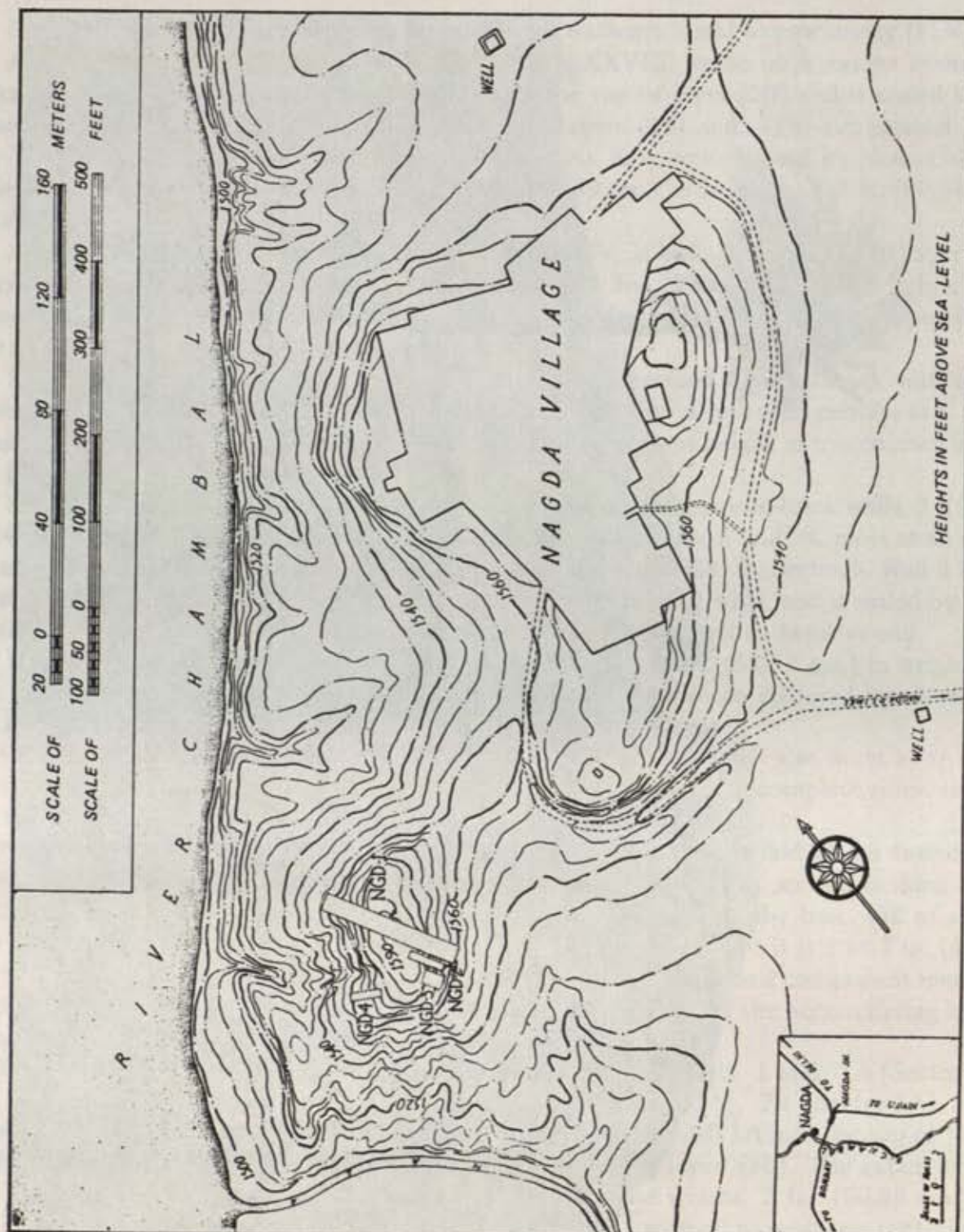
Period I was represented by 16 ft. (4.87 metres) thick strata, and comprised 23 layers, namely, (30), (29), (28), (27), (26), (25), (24), (23), (22), (21A), (21), (20A), (20), (19B), (19A), (19), (18A), (18), (17A), (17X), (17), (16) and (15) [Sector-2]. The habitation on the site began on the black-cotton soil, which represented the natural soil. The correlation of layers in different sectors has been shown in the section (Pl. III).

Period I has seven structural or occupational phases, represented by mud or mud-brick walls, pebble platforms, and floors. These are dealt with in chronological order below.

The earliest structural remains belonging to Phase I:1 are represented by a single course pebble platform (Pl. VII A) between pegs II and C of NGD-1. It may have served as a paved passage or lane.

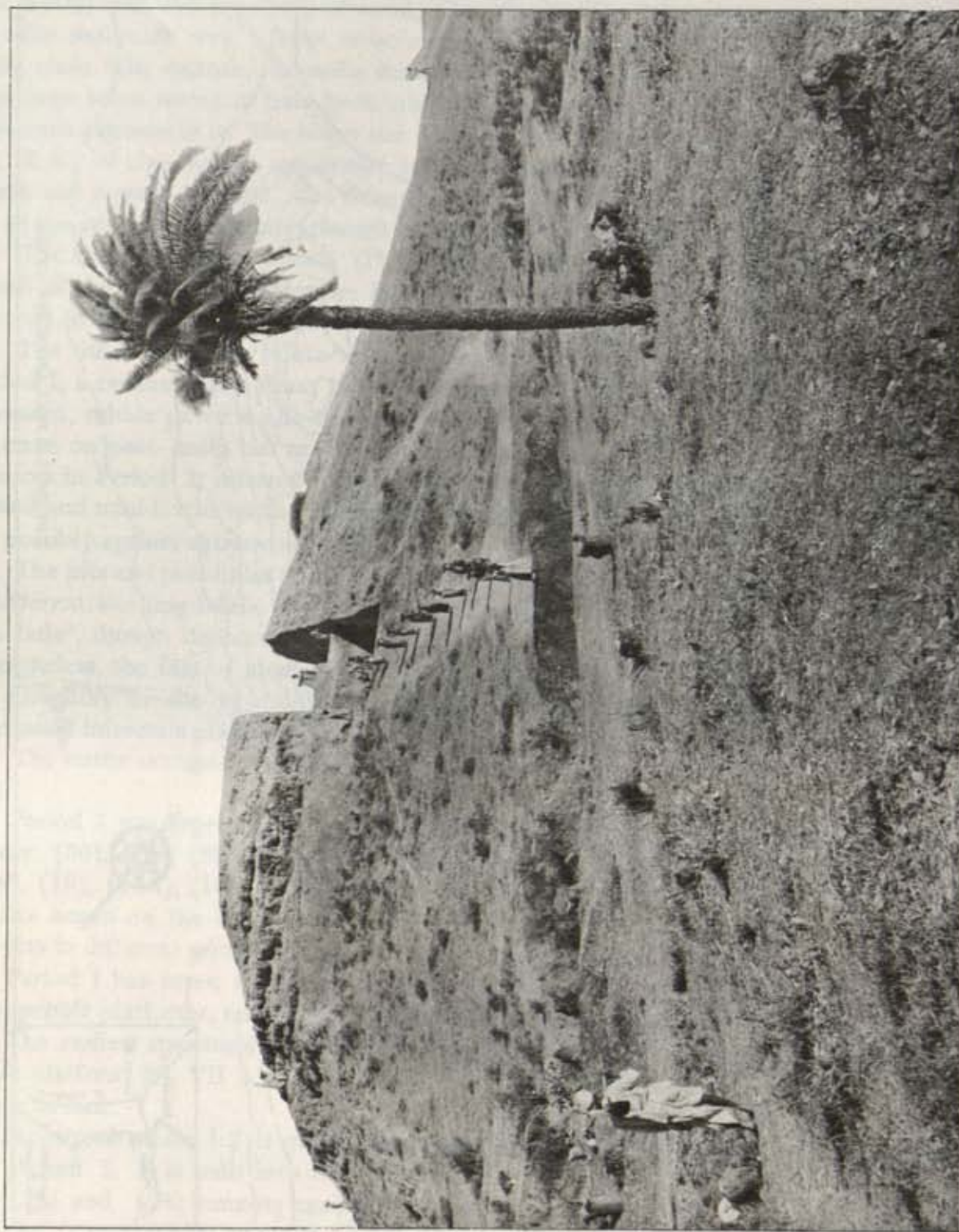
Structural phase I:2 is represented by a mud-wall called wall 'C' (Pl. VIIA) between pegs A and I. It is built into the top of layer (28) and is sealed by (23) with layers (27), (26), (25) and (24) running against it. In its extant remains it is 11 ft. (3.35 metres) long, 3 ft. 6 in. (1 metre) high and 2 ft. 1 in. (0.63 metres) broad. Being unconnected with any other wall its purpose is not quite clear.





IV. Nagda 1955-57: Contour plan of the site and village.





V. Photograph of Cutting NGD-1



Structural Phase I:3 is represented by mud-brick walls no. 5 and 6 respectively (Pl. VIIIA).

Mud-brick wall 5, between pegs XXXVII and XXXVIII, made of 9 extant courses of bricks overlying a course of pebbles, is built into the top of layer (20) and is sealed by the remains of a stack of partially burnt bricks, while layers (19) and (18) run against it. As only a face of this stack, almost flush with the section line, was exposed its plan could not be determined. In its extant part it is 2 ft. 3 in. (68.59 cm.) in height and 2 ft. (60.98 cm.) in width.

Mud-brick wall 6, between pegs XXIII and XXXIV, is built into the top of layer (29); layers (28) and (27) run against it and it is sealed by (26). Its extant height in 8 courses is 1 ft. 5 in. (43.18 cm.). As it just peeped out of the section line, it was not possible to trace its link with wall 5, save the contemporaneity.

Structural phase I:4 (Pls. VIII A and VII B) is represented by mud-brick wall no. 4, between pegs XXXVIII–XXXIX, built into the top of (18) with a course of pebbles as a foundation filling. Layers (17) and (16) run against it. Its extant height in five courses is 1 ft. 5 in. (43.18 cm.).

Structural phase I:5 (pls. VIII A and IX A) is represented by mud-brick walls, 3 (Sector 4), 3C (Sector 3), 4 (Sector 3) and mud wall 1 (Sector 2). Walls 3 and 3C meet at an angle, and are free built on the top of wall 4 in Sector 4, and layer (28) in Sector 3. Wall 3 in five courses, is ft. 1 in. (33.02 cm.) in height, 3 ft. 3 in. (0.99 metres) wide, and is sealed by (13). Its available length is 18 ft. (548 cm.). It has, however, no return wall at its outer end.

Wall 3C in nine courses is sealed by (24A), and is 1 ft. 9 in. (53.31 cm.) in height, and 9 ft. (2.74 metres) in extant length. The exposed corner of a room enclosed by these walls does not suggest the intended size of the completed room.

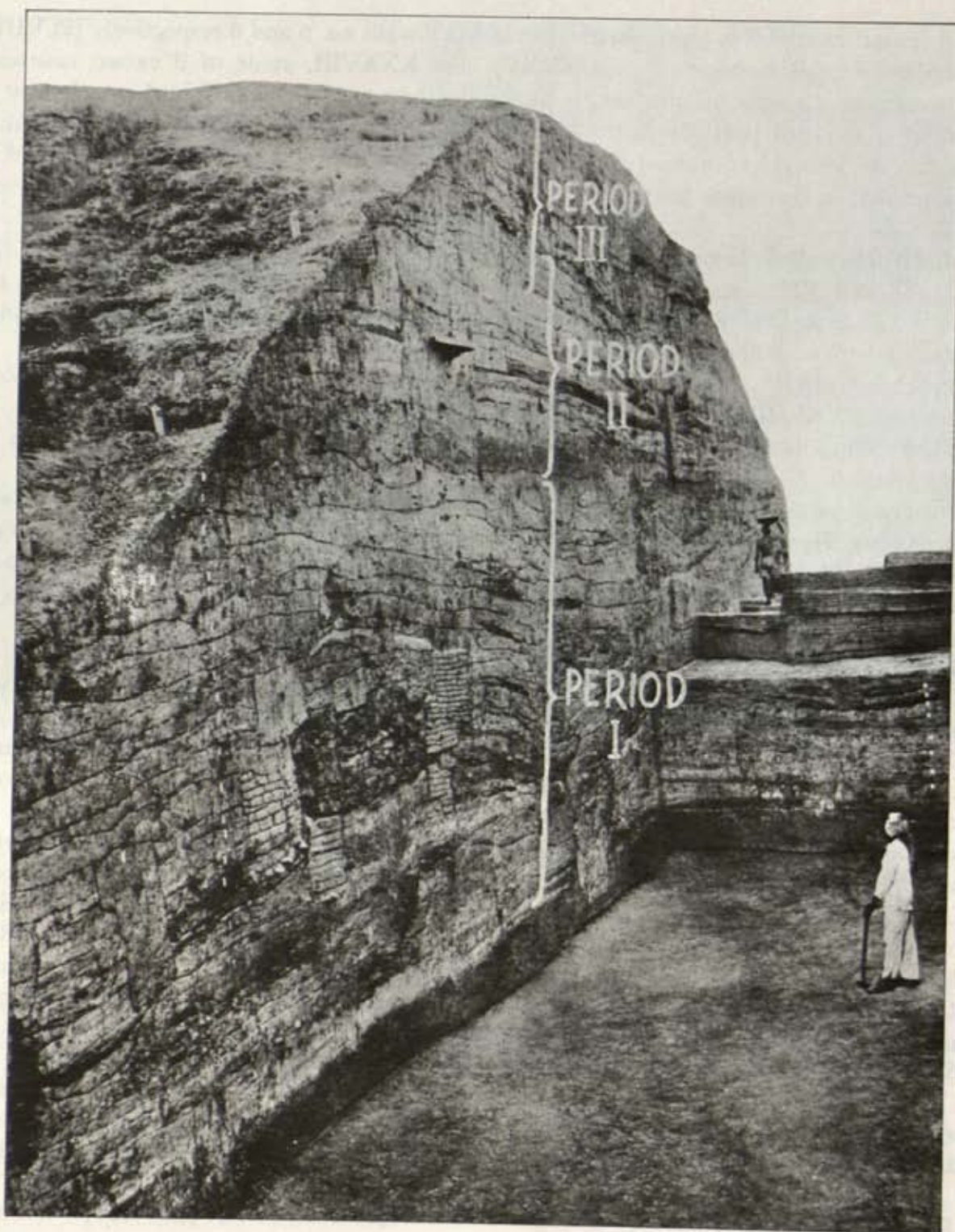
Coincidentally, walls 3D and 3E of phase I:6 (Pl. IX A) which also meet at an angle create, together with the remains of walls 3 and 3C, an illusion of a complete room though these are clearly of a later date, and have no link with those lying below.

Mud-brick wall 3S (Pl. VIII B) built of 10 courses of bricks is laid into a foundation trench cut into layer (26A), which is equivalent to layer (22) of the section looking north (published). It is ultimately sealed by a superimposed wall, forming the base wall of a later structure of phase 6. Its extant length is 7 ft. 6 in. (2.28 metres) and it is 1 ft. 7 in. (48.26 cm.) high and 2 ft. 2 in. (66 cm.) wide. The structure, of which this was a component member, was clearly short-lived, as the working level was soon covered up by the accumulating layers, (26) and (25).

Structural phase no. I:6 (Pl. IX A) is represented by mud walls 1 and 1A (Sector 4 – Pl. X), 3D (Sector 3), 3E (Sector 3), 2C (Sector 2), 2A (Sector 1A), 2B (Sector 1A), and 2C (Sector 2). Wall 1 (Sector 4) is built into the top of (13), and wall 1A into the top of the pit containing the stack of partially burnt bricks and are sealed by layer (10). The extant heights are 1 ft. 9 in. (53.34 cm.) and 1 ft. 3 in. (38.1 cm.) and the widths 2 ft. (60.96 cm.) and 1 ft. 8 in. (50.8 cm.), respectively. A length of 5 ft. (1.52 metres) of each arm (exteriorly measured) has been exposed.

Mud-brick walls (Pl. X A) 2 (Sector 2), 2A (Sector 1A), 2B (Sector 1A) and 2C (Sector 2)





VI. Cutting NGD-1: Showing the sequence of cultures.



VII A. Mud wall C and pebble floor, Period I.



VII B. NGD-1: Mud walls 1, 1A, 3 and 4, Period I.





VIII B. NGD-1: Mud walls 2S and 3S, Period I.



VIII A. NGD-1: Mud walls 1, 1A, 3, 3C, 3D, 4, 5 and 6, Period I.

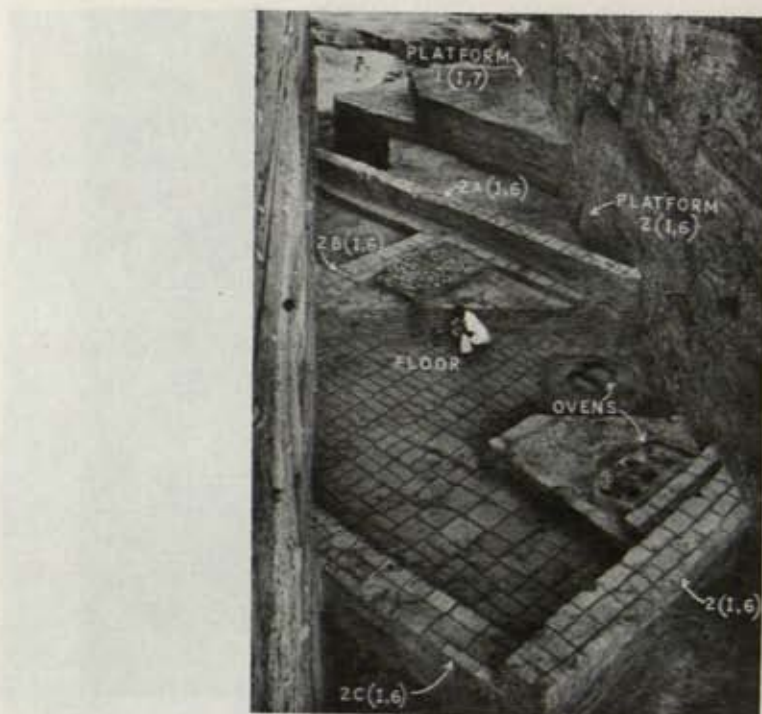


IX A. NGD-1: Mud walls 3, 3C, 3D, 3E and 4, Period I.



IX B. NGD-1: Close-up view of ovens inside a house, Period I.

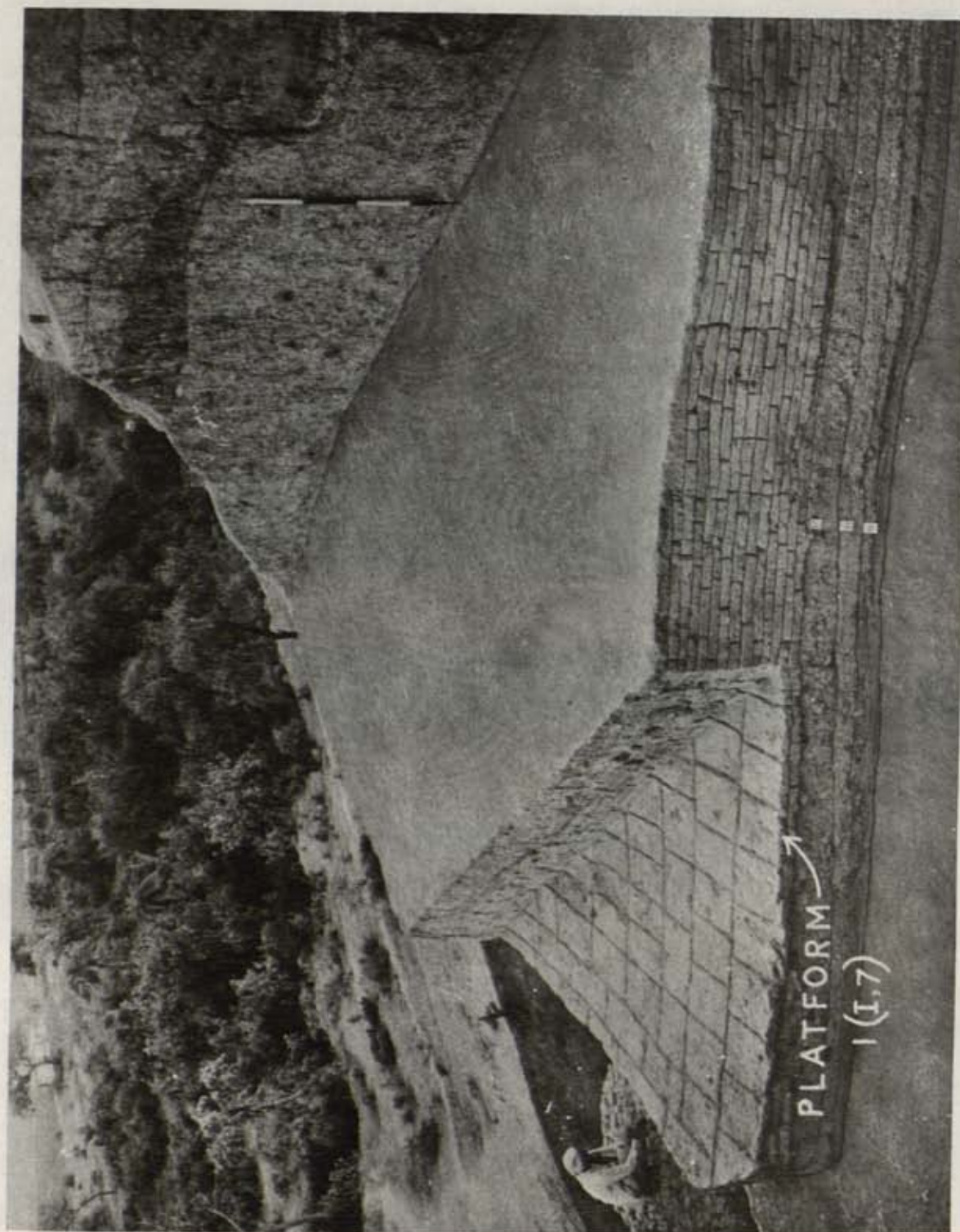




X A. NGD-1: General view of structures of Period I.

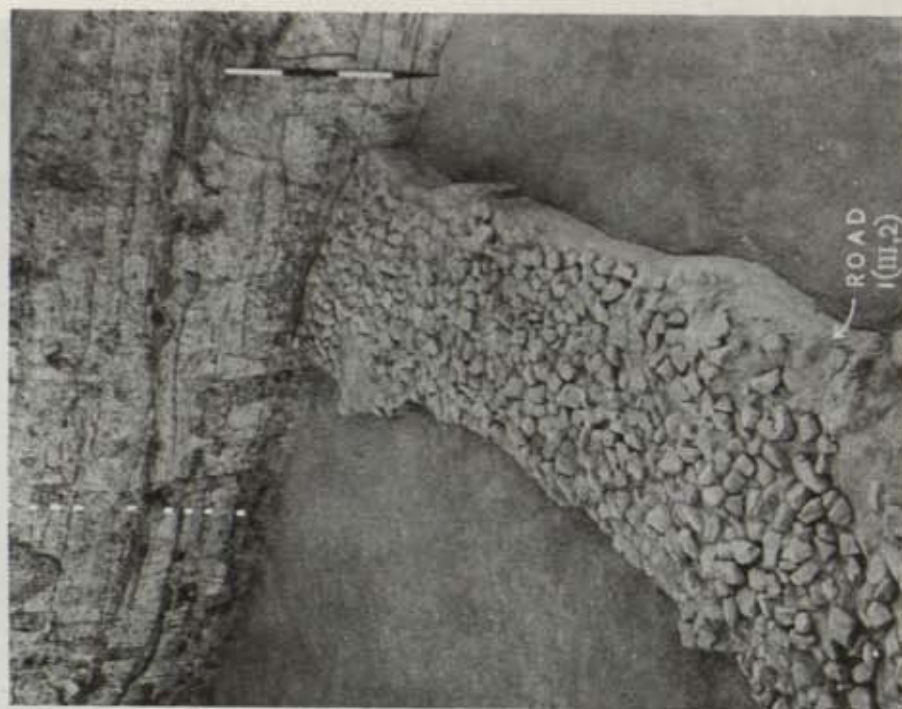


X B. NGD-1: Mud-brick platform and a drain, Period I.



XI. NGD-1: Mud-brick platform of the defences, Period I.

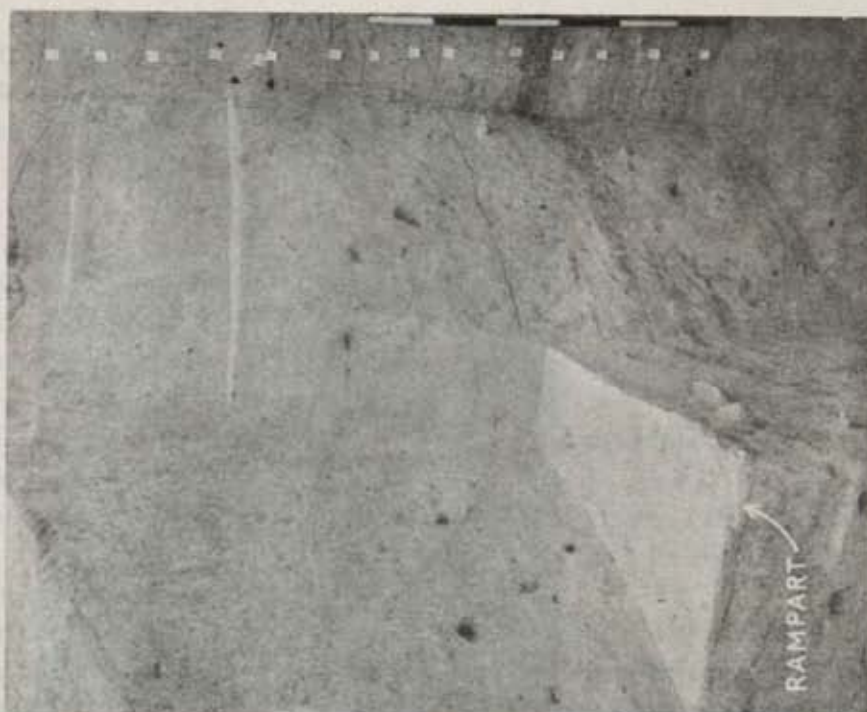




XII B. NGD-1: Pebble road, Period III.



XII A. NGD-1: Mud wall I, Period II.



XIII B. NGD-4: Rampart, Period I.

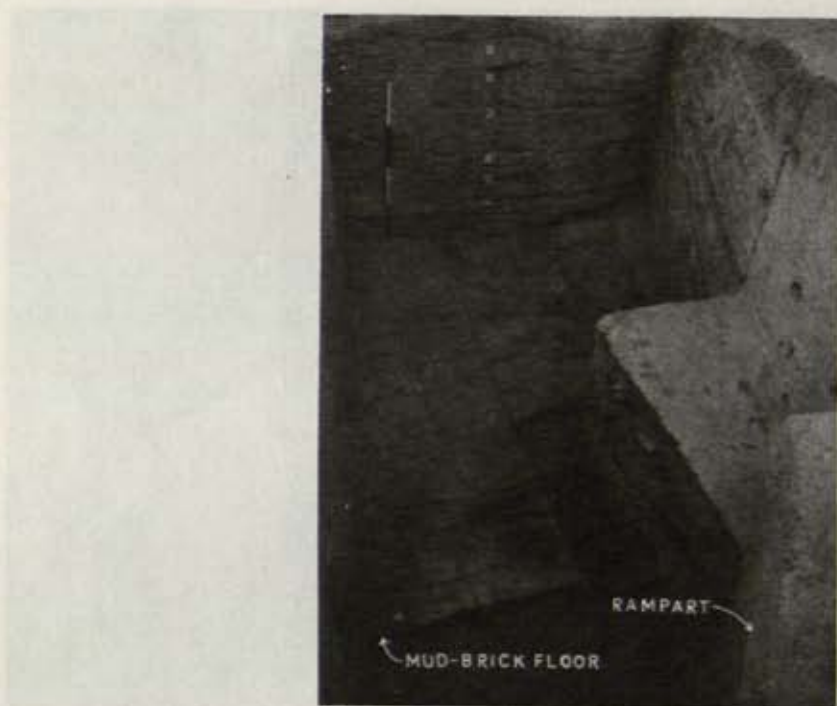


XIII A. NGD-1: Pebble road 2, Period III.



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XIV A. NGD-4: Rampart and brick floor.



XIV B. NGD-4: Oven, Period I.



are four arms of a large structure, containing at least two rooms, of which the larger measures 19 ft. 6 in. x 22 ft. (5.94 x 6.7 metres—inwardly measured). Only the corner of the adjoining room in the same structure has been exposed. It is 8 ft. 3 in. (2.51 metres) wide, and should have been, on the analogy of the length of these walls in general, 22 ft. (6.7 metres) long.

Wall 2 measures 15 ft. 5 in. (4.69 metres) x 2 ft. 3 in. (68.58 cm.) wide, and is 2 ft. 6 in. (66.2 cm.) high.

Wall 2A (Sector 1) is laid into the top of layer (19) and is sealed by layer (10A). It measures 26 ft. 9 in. (8.15 metres) x 2 ft. 3 in. (68.58 cm.). It is built in two stages, namely, of sunburnt bricks in 16 courses at the bottom and of mud at the top, making a total height of 6 ft. 6 in. (1.98 metres).

Wall 2B measures 10 ft. 9 in. x 2 ft. 1 in. (3.27 metres x 63.5 cm.) and is 3 ft. 9 in. (1.14 metres) high in 25 courses.

Wall 2C (Sector 2) is built into the top of (21) and is sealed by layer (19). It is available in 21 courses and is 3 ft. (91.44 cm.) in height and 2 ft. (60.96 cm.) in width and measures 11 ft. 3 in. (3.42 metres) in extant length.

The structure formed by these walls were used in two stages from the clear vestiges of two successive floor levels. The lower floor built of one course of mud-bricks, laid flat upon a soling of clay, bears two ovens (Pl. X A) in one corner. Wear and tear appears to have somewhat damaged the floor, prompting the dwellers to raise the height of the floor by laying seven courses of mud-bricks and strengthening the top with the rubble. Four adjacent ovens (Pls. XA and IXB) in one alignment were also built against one of the walls in the structures upon the upper floor thus raised. The ovens are hardened by contact with fire. The large size of the rooms and the multiplicity of ovens would imply a large number of dwellers to be catered to in respect of victuals, and would suggest its use either as a public dwelling house or a house which was used as a residence by a large joint family.

Mud-brick platform 2 (Pls. XA and XB) contemporaneous with the large structure described above, is a mud-brick structure, apparently free-built on layer (24X) on the southern section which is equivalent to layer (19) on the section published. It is only partially exposed and purports to be a squarish structure, measuring 7 ft. 6 in. x 7 ft. (2.28 x 2.13 metres) in area and 3 ft. (91.44 cm.) in height approximately. A rectangular opening through its middle at the base recalls a drain, though the purpose of the structure as a whole could not be determined from the rather insignificant remains. The drain (?) measures 1 ft. 7 in. (48.26 cm.) in height and 1 ft. (30.48 cm.) in width. It may further be noted that the structure was lined at the exterior with a one inch (2.54 cm.) thick plaster of mud, conveying that elaborate attention was devoted to the structure by its builders.

The following structures of Phase I:6 are walls on the section looking south:—

Mud-brick walls (Pl. VIII B) 2S, 2SA, 2SB, 2SC (Sector III) belonging to this phase, but not occurring on the published section, form one structure of which at least two rooms have been traced. Wall 2S is built on the top of an earlier wall 4, described above, and the others, free built, on layer (25A) of Sector 3, which is equivalent to layer (24) of Sector 2. The level or layer on which these walls are raised corresponds to (21) of Sector 2 on the section published.



Wall 2S in extant remains measures 8 ft. x 1 ft. 10 in. (2.43 x 0.56 metres), and is, in 14 extant courses, 2 ft. (60.96 cm.) high.

Wall 2SA measures 9 ft. 6 in. (2.89 x 0.53 metres) x 1 ft. 9 in. and is, in 10 extant courses, 1 ft. 9 in. (53.34 cm.) high.

Wall 2SB measures 99 x 2 ft. (2.97 x 0.61 metres) and is similar to the former in height.

Wall 2SC measures 14 ft. x 2 ft. (4.26 x 0.61 metres) and, in 15 courses, is 2 ft. 6 in. (67.2 cm.) high.

The structural remains do not present a complete picture of the two rooms enclosed, but one of them was 8 ft. (2.43 metres) wide, and must have been more than 10 ft. (3.04 metres) in length. After the fall of the walls, owing presumably to an accident to which free-built walls would be prone, the extant remains of the walls were used for rebuilding the structure, on the same alignment, and the result was the erection of walls 1S, 1S-A, 1S-B, and 1S-C in Phase I:7.

Wall 1S is 1 ft. 7 in. (48.26 cm.) high in 10 extant courses. Wall 1S-A is 2 ft. 10 in. (86.36 cm.) high in 17 extant courses, and Wall 1S-C is 2 ft. (60.96 cm.) high in 11 extant courses. The bricks measured on an average 16 in. x 9 in. x 3 in. (40.64 x 22.86 x 7.62 cm.)

Structural Phase I:7 (Pls. X A and XI; fig. 2) is indicated by a massive structure (Pl. XI) built partially of mud-brick and mud into the top of layer (17). Ten courses of it at the bottom are made of mud-bricks and the remaining part is made of mud. It is built at an average height of 9 – 10 ft. (2.99 metres) above the natural black cotton soil. The exposed part has the appearance of a regular platform and has been suspected to be part of defence works, but the fact that it stops short detracts somewhat but not altogether from the idea of defence. The exposed part measures 22 ft. x 24 ft. 6 in. (6.7 x 7.46 metres) and 6 ft. 6 in. (1.98 metres) in height. Traces of it have been found in NGD-2, 3 and 4, which had been deliberately laid for the purpose of tracing the wall, suggesting a large size and considerable length, running to at least 95 ft. (28.95 metres). The defences represent the seventh structural phase in Period I.

Beyond the reaches of NGD-4, it cannot be traced as the rest of the occupational mound has been washed away, nor can it be traced further on the inward side for the same reasons. A considerable part of the habitation area, including structures and roads, as exposed by the excavations, though not representing the core of the habitation, which should have lain much inwards, lay between the river and this massive wall and therefore did not enjoy the protection of this defence wall, if it were indeed one. The other trenches NGD-2, 3 and 4 laid to catch it in alignment have shown not merely the continuity of the wall in an irregular alignment, but that the wall stops short in NGD-1, and is apparently washed away, inferably by floods on the river front in NGD-4. As the bulk of the habitation was on the inner side of this wall, its function as a defence wall is almost certain (see Pls. XIII B and XIV A, and figs. 3 and 4).

The site appears to have been abandoned towards the end of the occupation of Period I and should have remained deserted for a period, presumably, of not more than 50 years, as a result of which the ground surface appears to have been disturbed and rendered uneven. The area appears to have suffered some inundation and the water stagnated on the grounds giving rise to a black deposit of sticky clay. This is represented by layer (15), (Pl. VI), which has an average thickness of 1 ft. 6 in. (45.72 cm.). The contents of this layer have all the characteristic



materials of Period I, and would, therefore, show that it was laid right at the beginning of the occupation of the next succeeding Period, known as Period II.

A similar deposit was observed at Nevasa<sup>2</sup>, but with a difference in that it sealed off the chalcolithic habitation. A black deposit appears to have been observed at Nasik<sup>3</sup> as well though owing to lack of other details its similitude with the deposit at Nagda, can only be pointed out.

Period II was represented on an average by 7 ft. 6 in. (229 cm.) thick strata composed of ten layers, namely, (14X), (13A), (13B), (13), (12), (11A), (11), (10), (9), and [(8)-Sector 2], respectively in chronological order. The entire Period was marked by three structural levels called, respectively, structural levels II: 1 and II:2 and II:3.

Structural level II:1 is represented by the mud wall 1 (Sector 2— Pl. XII A), which is laid into a foundation trench cut into layer (13A), (13B), and (14X) and sealed by layer (9). The extant height is 4 ft. 6 in. (1.37 metres) and its width is 2 ft. (60.96 cm.). It is 20 ft. (6.09 metres) in extant length, oriented N.W. — S.E., and is not connected with any return wall.

Structural level II:2 is represented by a well rammed floor of sand (Pl. III) resting on layer (11A) and sealed by layer (10). It covers an extent of 29 ft. x 15 ft. (8.83 x 4.57 metres) and bears a few post-holes lending support to the idea of a floor, but they do not suggest any regular plan of overhead structures.

A sparsely laid pebble bed resting on layer (10) into the top of layer (9A) and sealed by layer (9) suggests indeed a pavement posterior to structural level II-2, and is therefore labelled II:3.

Period III is represented approximately by 8ft. 6 in. (2.59 metres) strata composed of 9 layers, namely, (7), (6), (5), (4AX), (4A), (3A), (3), (2) and (1B). It has four structural levels or phases.

Structural level III:1 is represented by a discontinuous and irregular platform of burnt bricks laid in one course on the top of layer (8) and sealed by layer (7). It covers an area of 5 ft. x 3 ft. 6 in. (1.52 x 1.8 metres). This structural vestige represents the only burnt brick structure in this period, or, for that matter, at Nagda.

Structural level III:2 is represented by pebble road no. 1 (Pl. XII B) and road 2 (Pl. XIII A). Road 1 is oriented N-S, 7ft. (2.13 metres) broad and spanning with its extant length of 20 ft. (6.09 metres), the exposed width of the trench. It is laid in one course on layer (6N), and has a gentle camber of earth that merges with layer (6).

It appears reasonable to assume that this road was joined by a narrower road or lane (Road 2) at right angles, built on (6N); its camber merging with (6), resting on the road-level, composed of at least two courses of pebble. It is, however, 3 ft. (91.44 cm.) in width, and is only fragmentarily available to a length of 10 ft. (3.04 metres) at the end of which it takes a turn. The length of the turning road is 4ft. (1.21 metres), and it is available to a width of 2 ft. (60.96 cm.).

Structural level III-3 is represented by two post-holes (see section, Pl. III) adjoining the section and a burnt floor resting on (4A) the post-holes being cut into this layer. The distance between the two post - holes is 16 ft. (4.87 metres). The house indicated by the expanse of



burnt earth was apparently damaged by a devastating fire. The next succeeding phase, III:4, is similarly represented by a spread of burnt earth resting on (1A) and delimited on one side by a post-hole cut into (1A) and (2) and (B). The story on the other side is not clear, as the burnt earth itself has been cut away by a pit or surface erosion.

#### NGD-2 and NGD-3

The two trenches NGD-2 and NGD-3 (fig. 3) measuring 39 ft. x 7 ft. 6 in. (11.88 x 2.28 metres), and 24 ft. x 12 ft (7.31 x 3.65 meters) respectively, were laid parallel to the main trench NGD-1 with a view to tracing the suspected rampart, exposed earlier in NGD-1. The mud wall built entirely of mud approximately at the same height above the natural soil as in NGD-1 was seen to continue through these lateral trenches, though the inner edge with reference to the settlement was found considerably eroded. The remains indicate, however, a change in the alignment also.

#### NGD-4

A trench measuring 36 ft. x 7 ft. (10.97 x 2.13 metres) was laid at the outer edge of the mound, beyond which no further habitation was possible to find, with a view to tracing the rampart again. Here the wall (Pl. XIII B) was found built approximately at the same height or 10ft. (3.04 metres) above the natural soil as in NGD-1, though it was seen to stop short owing either to erosion or to design. The available height of the mud-built wall is 7ft. 3 in. (2.2 metres) (fig. 4). The evidence of the four trenches together would account for a total available length of 95 ft. (22.95 metres) for the defences.

At a height of 5 ft. 2 in. (1.57 metres) above the natural black cotton soil was a mud-brick floor (Pl. XIV A) belonging to Period I, of one course, to an available length of 18 ft. (5.48 metres) and extended across the entire 7 ft. (2.13 metres) width of the trench. It is oriented north—south. It was laid on layer (12), and sealed by layer (11). In a pit overlying this wall, but still belonging to Period I, a terracotta oven (?) with marks of firing, simulating the four cornered votive tank, was found (Pl. XIV B).

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1. Sun-dried bricks.

2. Sankalia, Deo, Ansari and Ehrhardt, *op. cit.*, (Poona, 1960), p. 68.

3. Information from H.D.Sankalia



## IX. THE POTTERY

### 1. INTRODUCTORY

The ceramic evidence at Nagda shows throughout a cultural continuity from one Period to the other, in spite of a short-lived interruption in occupation at the end of Period I. This is indicated mostly by the continuance of the tradition of the black-and-red ware, which is present throughout. Essentially it is a medium ware strain that runs uniformly through all the Periods, though the dictates of need led often to the use of the coarse fabric in the red wares for the larger storage jars, or the dough-or bake-plates of Period I. This tendency is, however, marked in Period III, where the ubiquitous black-and-red ware also becomes coarse and thick. The black-and-red ware of Period I, let it be said at once, is apparently different from the otherwise well known prototypes occurring in the megaliths. This difference shows itself in the shape, composition, fabric and texture, not to speak of the painted decoration it bears. The paintings, whether in the form of dotted lines, executed with a whitish pigment or with blackish chocolate paint in the form of bands are unparalleled in the megaliths. The painting disappears, except for a few instances, in Period II; but the texture and fabric remain the same, and shapes vary but slightly. In Period III the shapes change a little and the fabric and texture tend, as noted above, to coarsen. The black-on-red painted ware disappears altogether in Period III.

The burnished grey ware, distinguished by an evanescent painting on the variegatedly grooved and flanged rim in red ochre, occurs limitedly throughout Periods I and II, though in much smaller number and without painting in Period III.

Towards the end of Period I a distinctively sturdy ware, of well-levigated clay, fine fabric and texture, with a metallic sound, usually in the form of jars, and painted carefully with concentric bands of uniform width in black and occasionally in red makes its appearance. The ware, in fabric and texture, and in painted designs, is possibly intrusive and continues, limitedly, in Period II also.

A novel ceramic, characterized by the presence of grains or flakes of stone in the fabric and designated as the granulated or vesiculated ware, the latter name being suggested by Wheeler, occurs first in Period II, and continues throughout in Period III, as also the black slipped ware, akin in fabric to the black-and-red ware of the Period.

The so-called double-slipped ware, well-fired, in the form of cordoned bowls, occurs, rarely, in Period II only, but the incurved bowls of unslipped ware occurs in Periods II and III. Evidence of this sequence in Periods II and III at Nagda is borne out also at Ujjain.

The decoration of pottery has been achieved by (a) painting, in black, or blackish-choco-



late, on red ware, in white and occasionally purplish-chocolate on black-and-red ware, and in evanescent red ochre on grey ware, and by (b) incised or (c) embossed or applique decorations on plain red ware and grey ware in the concerned Periods. Though the incised designs or applied mouldings lend the pottery a distinction, they cannot, however, be held as diagnostic characteristics of the pottery on which they occur. The painted designs have been described individually along with the description of the sherds. The incised and applique designs have been dealt with comprehensively in a separate section on decorated pottery as a whole from all the Periods.

## 2. PERIOD I

The ceramic industry of this Period is dominated by: (a) black-on-red painted ware, (b) sturdy red ware, a distinctive variant of the first mentioned ware, (c) black-and-red ware, (d) burnished grey ware, occasionally painted after firing with red ochre, and (e) plain red ware. The plain red ware is available in medium and coarse fabrics, and is occasionally unslipped. All other pottery is treated with a slip. The pottery is normally wheel-turned, though quite a percentage of handmade pottery is also found. Clay is not well-levigated and contains mica dust, which imparts to the slipped surface a micaceous glint. The texture of the pottery varies from fine to coarse, and the fabric varies from thin through medium to thick. The pottery is well-fired, but does not give a metallic ring, with the exception of a small proportion of the sturdy red ware with fine texture painted uniformly with concentric bands. The black-and-red ware was produced by the well-known inverted firing technique. The painted as well as plain wares are for common household use. The following shapes are available:-

- (i) Bowls, in all wares,
- (ii) Lid-cum-bowls, in black-on-red and plain red wares, both slipped and unslipped,
- (iii) Dishes in all wares,
- (iv) Jars in black-on-red and plain red wares,
- (v) Carinated jars or *hāṇḍis* in black-on-red, grey and plain red wares,
- (vi) Basins in black-on-red, grey and plain red slipped wares,
- (vii) Dough-plates in plain red ware, and
- (viii) Spouted vessels. The spouts, tubular and, rarely, channel-shaped, seem to occur on painted jars in black-on-red ware.

The difference between jars and *hāṇḍis* for the purpose of the report consists in the distinguishing feature of the carination on the *hāṇḍis* which makes them more suitable for use as cooking vessels.

### A. BLACK-ON-RED WARE

The distinctive features of this pottery are the paintings in black on a red slipped surface<sup>4</sup>. The painted designs cover a wide range from simple horizontal lines to complicated geometrical patterns, naturalistic motifs, such as plants, besides birds, animals and humans. All such



painting is executed before firing. Included in this category is a distinctive ceramic type characterized by well-levigated clay, good firing and a metallic ring. The pottery is also strong and hence named as a 'sturdy ware'. The paintings on this ware are uniformly linear, consisting of evenly spaced concentric bands on the neck and shoulders. Black is the normal colour of the paint, but red has also been occasionally used as an additional colour.

The pottery is utilitarian. The shapes represented mainly are the bowls with convex profile, flat dishes, dishes-on-stand, basins, lids, carinated jars or *hāṇdis* and sturdy jars of varying sizes and shapes. The carinated jars inferably were used as cooking vessels, considering the ease with which they could be handled. The bases of some of the jars and basins have purposely been studded with grains on the exterior to impart an additional strength and to prevent them from slipping from the grip.

## B. BLACK-AND-RED WARE

Generally speaking, this ware is technically akin to the megalithic Black-and-Red ware though shapes and types do not tally. The micaceous shine of the exterior is also a distinguishing feature. The ware is uniformly of medium fabric and is treated both exteriorly and interiorly with a slip and is often burnished. Examples of sherds bearing graffiti have been found.

The paintings executed on the black-and-red ware display a combination of dots, short lines or strokes, and bands. The pigment used is mostly purplish-chocolate, which would show on the black as well as on the red surfaces, but occasionally also white. There is scarcely any combination of the two divergent pigments, but both are evanescent and they are also exclusive of each other in occurrence. The dotted or short-stroke designs, which are occasionally combined with the bands, are reminiscent of a similar technique followed at Ahar, Gilund, or wherever else such paintings occur. The bands, common to the black-and-red and black-on-red wares, however, are invariably in purplish-chocolate. The assemblage of designs does not emulate the wider miscellany of painted patterns on the black-on-red ware, the only exceptions being the zigzag line on no. 196, fig. 13 and the criss-cross pattern on no. 197 of fig. 13. (The painting is pre-and post-firing. In cases of post-firing paintings, the paint has almost been washed off leaving a faint outline of the design). The shapes confine themselves to bowls with varyingly convex profile and flatish dishes.

## C. BURNISHED GREY WARE

This ware has nothing in common with the grey ware industry of northern India. It appears to have been treated with a slip and being fired under reducing conditions has turned grey. The core of the vessel in this ware is black and it is from medium to coarse in texture.

Some of the pots are painted with red ochre, apparently applied after firing since it has been washed off at several places. The only design met with in this pottery is horizontal lines.

The common shapes in this ware are bowls, dishes, dishes-on-stand, basins, carinated jars,



or *haṇḍis* and jars. The frequency of this ware is much less as compared to other chalcolithic wares on the site.

#### D. PLAIN RED WARE

Plain red ware pottery was found in real abundance being the most used ceramic ware. It may be classified into two groups: slipped and unslipped. Apart from shapes common to other wares, dough-plates in this ware represent a utilitarian household utensil. Some pots have been decorated with incised designs which replace the paintings on other wares and represent the peoples' love for the ornamental even on ordinary ware.

#### A (i). BLACK-ON-RED WARE BOWLS

- Type A. Everted rim and convex profile, specimens 1, 2, 4, 5, 24 and 27.
- Type B. Out-turned rim and convex profile, specimens 3, 7 and 8.
- Type C. Everted rim and bulging sides, specimens 6, 9, 10 and 11.
- Type D. Everted rim, flaring mouth, straight sides and convex body, specimen 12.
- Type E. Everted rim, concave sides and convex profile, specimens 13 and 13a.
- Type F. Internally sharpened rim, short straight sides and carination at the waist, specimen 14.
- Type G. Vertical and internally sharpened rim and slightly closing sides, specimens 15 and 15a.
- Type H. Vertical rim and straight tall sides, specimen 16.
- Type I. Internally thinned rim and straight tall sides, specimen 17.
- Type J. Everted and internally sharpened rim, specimen 18.
- Type K. Flaring mouth and internally sharpened rim, specimen 19.
- Type L. Flared rim, specimens 20 and 21.
- Type M. Slightly incurved rim and flaring sides, specimen 22.
- Type N. Incurved rim and convex profile, specimen 23.
- Type O. Vertical and internally thickened rim and convex profile, specimen 25.
- Type P. Closing sides and convex profile, specimens 26, 26a, 26b and 26d.
- Type Q. Vertical internally sharpened rim, carinated at the body with concavity at the upper part, specimen 26c.
- Type R. Everted rim and bulging profile, specimen 27.

Fig. 5

1. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted and internally sharpened rim and convex profile. Painted in black, though the pigment has much faded, on the exterior with two parallel arcs connected by vertical crosslines enclosed between horizontal bands, two above and three below. From early level of Period I.

2. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted featureless rim and convex profile. Painted in black on the exterior with two parallel arcs filled up by dots with two horizontal bands below. On the inner rim are vertical strokes.



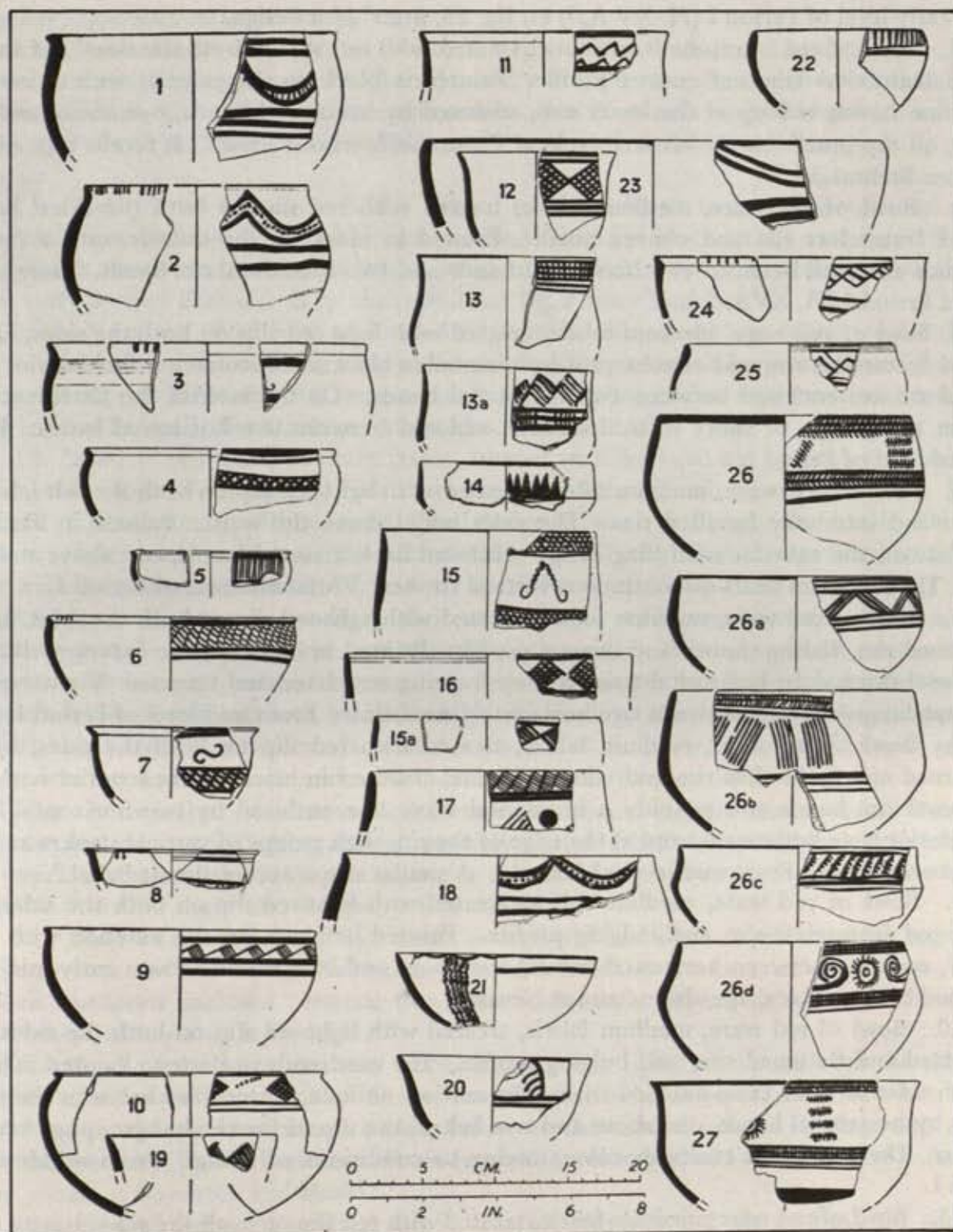


Fig. 5. Pottery: Period I.



From early level of Period I (Pl. XV A,5) cf. fig. 28, Starr<sup>5</sup>, for design.

3. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an out-turned featureless rim and convex profile. Painted in black on the exterior with an oblique wavy line having a loop at the lower end, enclosed by horizontal bands, one above and two below; on the inner rim are vertical strokes. From mid-level of Period I. It recalls type 69, fig. 23, from Brahmagiri.<sup>6</sup>

4. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted featureless rim and convex profile. Painted in black on the outside with a row of diamonds enclosed between two horizontal bands and two horizontal rim bands. From a late level of Period I (Pl. XVA, 2).

5. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted featureless rim and convex profile. Painted in blackish-chocolate on the exterior with vertical strokes enclosed between two horizontal bands. On the interior the flattish top of the rim has groups of short vertical strokes enclosed between two horizontal bands. From late mid-level of Period I.

6. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted and internally bevelled rim. The sides bulge above the waist. Painted in blackish-chocolate on the exterior with 'flag design' enclosed by horizontal bands, one above and two below. The inner rim bears discontinuous vertical strokes. From mid-level of Period I.

7. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an out-turned rim, flaring mouth and convex profile. Painted in black on the exterior with two horizontal rim bands, horizontal twisted loop forming a reclined and reversed 'S' pattern and cross-hatchings enclosed between two horizontal lines below. From mid-level of Period I.

8. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an out-turned and featureless rim and convex profile. Painted in black on the exterior with two horizontal rim bands and possibly a horizontal wavy line enclosed by two horizontal lines. The interior has a horizontal band at the edge of the rim with groups of vertical strokes at right angles to the band. From mid-level of Period I. A similar shape occurs also at Bahal.<sup>7</sup>

9. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted featureless rim and bulging profile. Painted in black on the exterior with 'flag design', enclosed between horizontal bands, one above and two below. From early mid-level of Period I. A similar shape also occurs at Nevasa<sup>8</sup>.

10. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted and flattened rim, and bulging profile. The base tends to flatten. Painted in black on the exterior with cross-hatched diamonds and an oblique dotted line between them enclosed by horizontal bands, one above and two below; the top of the rim has groups of vertical strokes. The pot has a creamish colour owing to conditions of firing. From mid-level of Period I.

11. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted and internally sharpened rim, slightly bulging sides. Painted in black on the exterior with two rows of zigzag lines enclosed between two horizontal bands. From early level of Period I.



A similar shape also occurs at Bahal.

12. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted rim and flaring mouth, straight sides and convex body. Painted in blackish-chocolate on the exterior with a row of connected cross-hatched diamonds enclosed between horizontal bands, two above and three below. From early level of Period I. It recalls type 5, fig. 8 from Harappa.<sup>9</sup>

13. Bowl of red ware, fine fabric, treated with red slip on both the sides, has an everted featureless rim, concave sides and convex profile. Painted in black on the exterior with 'check design' with two horizontal bands below, and, on the interior, a horizontal band on the rim. From early level of Period I. It recalls type 22 of fig. 9 from Harappa.<sup>10</sup>

13a. A *variant* of 13, with an everted rim, vertical sides and blunt carination for the base. Painted in black on the exterior with a row of 'flag designs' and a horizontal band above. Below are three parallel horizontal lines connected by a group of five to six vertical lines. From early level of Period I. Such a shape occurs also at Bahal.

14. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has a vertical and internally sharpened rim, short straight sides and carination at the waist. Painted in black on the exterior with a conical floral design between two horizontal bands. On the interior is a horizontal rim band. From late mid-level of Period I. A similar shape in the same ware was also noticed at Navdatoli.<sup>11</sup>

15. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a vertical and internally sharpened rim and slightly closing sides. Painted in black on the exterior with two horizontal bands of intersecting lines. The upper band is enclosed between one horizontal line above and two below and on the analogy the lower one also is apparently similarly enclosed. The two bands enclose a couple of wavy lines joined at the apex and with incomplete loops at the lower ends. From late mid-level of Period I (Pl. XV A, 6).

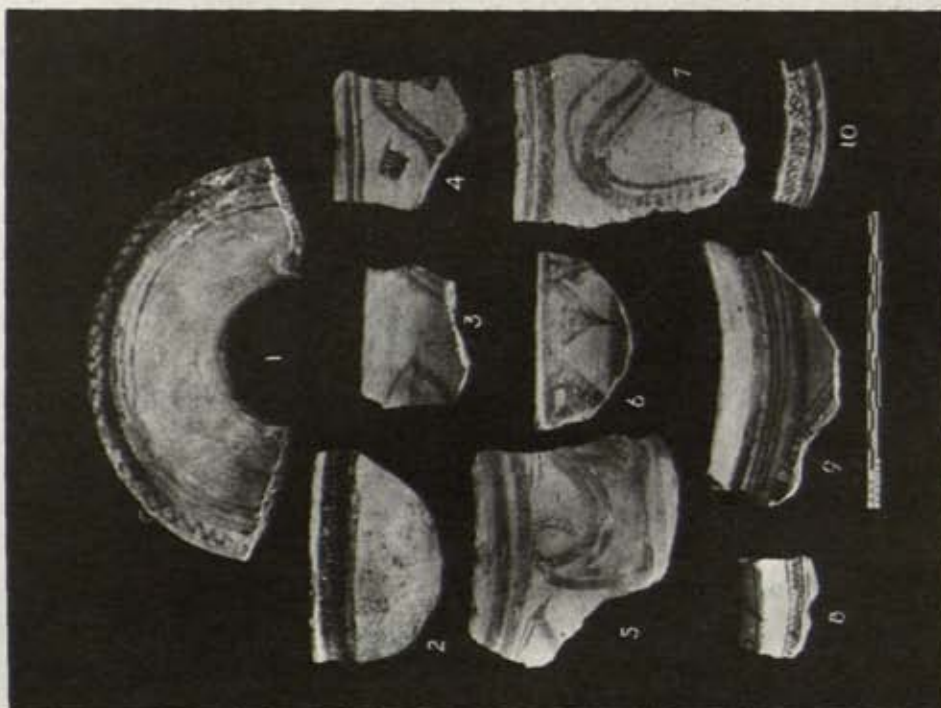
15a. A *variant* of 15 with vertical featureless rim and slightly closing sides. Painted in black on the exterior with 'flag design', possibly enclosed by horizontal bands, of which only the upper one is available. On the inner rim are short vertical strokes. From early level of Period I. A similar shape also occurs at Brahmagiri.<sup>12</sup>

16. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a vertical, featureless rim and straight tall sides. Painted in black on the exterior with a row of cross-hatched diamonds enclosed between two horizontal bands. From early level of Period I. A similar shape also occurs at Harappa.<sup>13</sup>

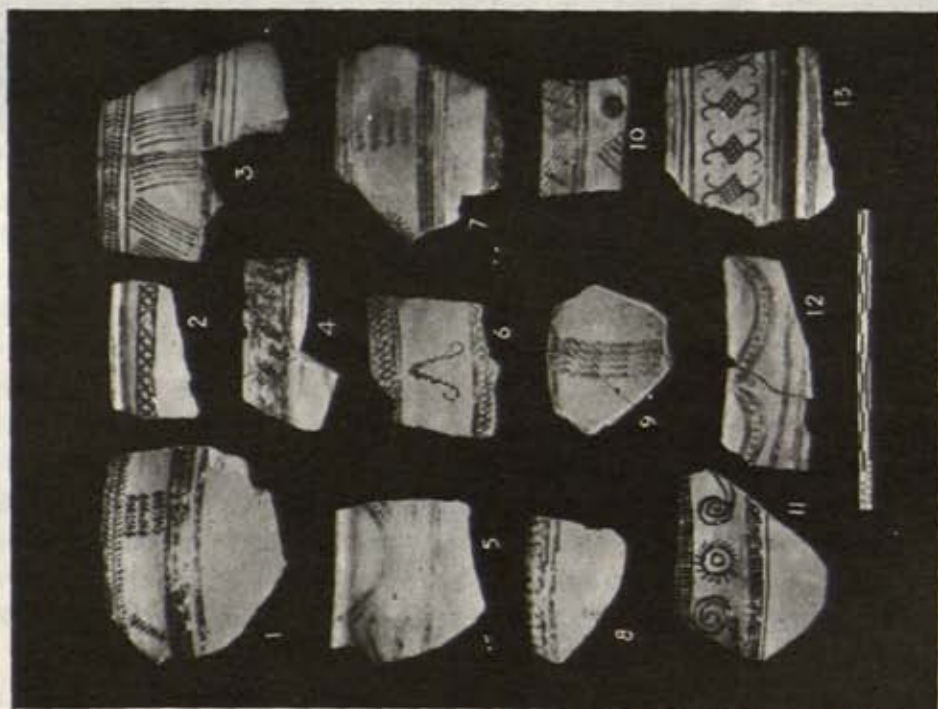
17. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has straight, tall sides and an internally thinned rim. Painted in black on the exterior with a row of 'flag designs' and two horizontal bands; below are hatched diamonds or flags and a filled circle on a vertical line in between. From late mid-level of Period I (Pl. XV A, 10). A similar shape occurs at Navdatoli and Maski.<sup>14</sup>

18. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has everted and internally sharpened rim. Painted in blackish-chocolate on the exterior with a row of two parallel arcs, filled with dots, and two horizontal lines below. From early level of Peri-





XV B. Nagda: Black on red ware pottery Period I.



XV A. Nagda: Black on red ware pottery, Period I.



od I (Pl. XV A, 12). A similar shape is also available at Bahal.

19. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a slightly flaring mouth and internally sharpened rim. Painted in black on the exterior with a row of 'flag designs'. From early level of Period I. A similar shape is also noticed at Navdatoli.<sup>15</sup>

20. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has a flared rim and bulging waist. Painted in black on the exterior with a 'tooth brush' design enclosed between horizontal bands, one above and two below. From mid-level of Period I.

21. Bowl of red ware, medium fabric, treated with red slip on both the sides, has flaring sides, and sharpened rim. Painted in black on the exterior with two horizontal lines around the rim. A wavy horizontal line along the rim on the interior and groups of five vertical wavy lines hanging from it occur on the interior. From early mid-level of Period I (Pl. XV A, 9). A similar shape is also noticed at Navdatoli<sup>16</sup> and also at Bahal.

22. Bowl of red ware, medium fabric, treated with red slip on both the sides, has slightly incurved rim and flaring sides. Painted in black on the exterior with vertical strokes on the rim, enclosed between horizontal lines, one above and two below. From mid-level of Period I (Pl. XV A, 8). A similar type also occurs at Maski<sup>17</sup> and Bahal. The analogue occurs at Nevasa<sup>18</sup> also.

23. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has slightly incurved, featureless rim and convex profile. Painted in blackish-chocolate on the exterior with two concentric arcs enclosed by horizontal bands, one on the top and two below. From late level of Period I.

24. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted and bluntly bevelled rim and convex profile. Painted in black on the exterior with a row of connected and bisected diamonds enclosed between horizontal lines, two above and two below. Vertical strokes run along the rim on the interior. From mid-level of Period I.

25. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has a vertical internally thickened rim, and convex profile. Painted in blackish chocolate on the exterior with oblique lines, suggesting the 'flag design', enclosed between two horizontal lines. From mid-level of Period I.

26. Bowl of red ware, medium fabric, treated with red slip on both the sides, has closing sides, convex profile and featureless rim. Painted in black on the exterior with three horizontal bi-pinnates and an oblique bi-pinnate enclosed between horizontal lines, three above and three below, connected with lines suggesting chevrons or herring bones. From the upper band short, uniform strokes extend angularly outwards. A horizontal band runs along the rim on the interior. From late mid-level of Period (Pl. XV A, 1). A similar shape also occurs at Bahal.

26a. A *variant* of 26, with vertical sharpened rim, slightly closing sides and convex profile. Painted in black on the exterior with two rows of three horizontal lines connected by triplets of symmetrically placed oblique lines. A horizontal band runs along the rim on the interior. From late mid-level of Period I.

26b. A *variant* of 26, with closing sides, featureless rim and convex profile emphasized by a blunt carination at the body. Painted in black on the exterior with several groups of six



oblique strokes, enclosed by four horizontal lines above three horizontal lines below on the waist. Three uppermost lines of the upper group are connected by chevrons. From late level of Period I (Pl. XV A, 3).

26c. A *variant* of 26, with vertical internally sharpened rim, carinated at the body. The upper part is slightly concave in profile. Painted in black on the exterior with 'flag design' or a row of mono-pinnates, enclosed between horizontal lines two above and three below the waist. A horizontal band runs along the rim on the interior. From mid-level of Period I (Pl. XV A, 4). A similar shape and design also occurs at Navdatoli.<sup>19</sup>

26d. A *variant* of 26, with closing sides, featureless rim and convex profile. Painted in black on the exterior with a 'sun' made of two concentric circles and clockwise radiating rays and double spiral on the left and right of the sun. The whole complex of the design is enclosed by horizontal lines, three on the top and three below, joined by vertical strokes. An additional band occurs below the waist. From early mid-level of Period I (Pl. XV A, 11). A similar shape also occurs at Navdatoli.<sup>20</sup>

27. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a slightly everted internally bevelled rim and bulging profile with a blunt carination at the waist. Painted in black on the exterior with four short horizontal bi-pinnates and a 'sun' with two concentric circles and rays radiating clockwise, enclosed by three horizontal lines on the top and three below, hatched to form chevrons or herring bone patterns. Below the waist are two more horizontal lines and another broad one at the base. From late level of Period I (Pl. XV A, 7).

#### A (ii). BLACK-ON-RED WARE BOWLS

Type A. Everted rim and vertical sides, specimen 28.

Type B. Everted rim with flattened top, specimen 29.

Type C. Out curved flaring rim, concave sides and ridged carination at the waist, specimen 30.

Type D. Obliquely splayed rim and convex profile, specimen 31.

#### A (iii). BLACK-ON-RED WARE LID-CUM-BOWLS

Type A. Everted rim with a depression on the top, specimen 32.

Type B. Out-turned rim, specimen 33.

#### C AND D (i). PLAIN RED, BURNISHED GREY WARES, BOWLS

Type A. Out-turned rim and convex profile, specimen 34.

Type B. Everted rim and convex profile, specimen 35.

Type C. Everted rim and vertical sides, specimen 36.

Type D. Incurved internally bluntly bevelled rim and convex sides, specimen 37.

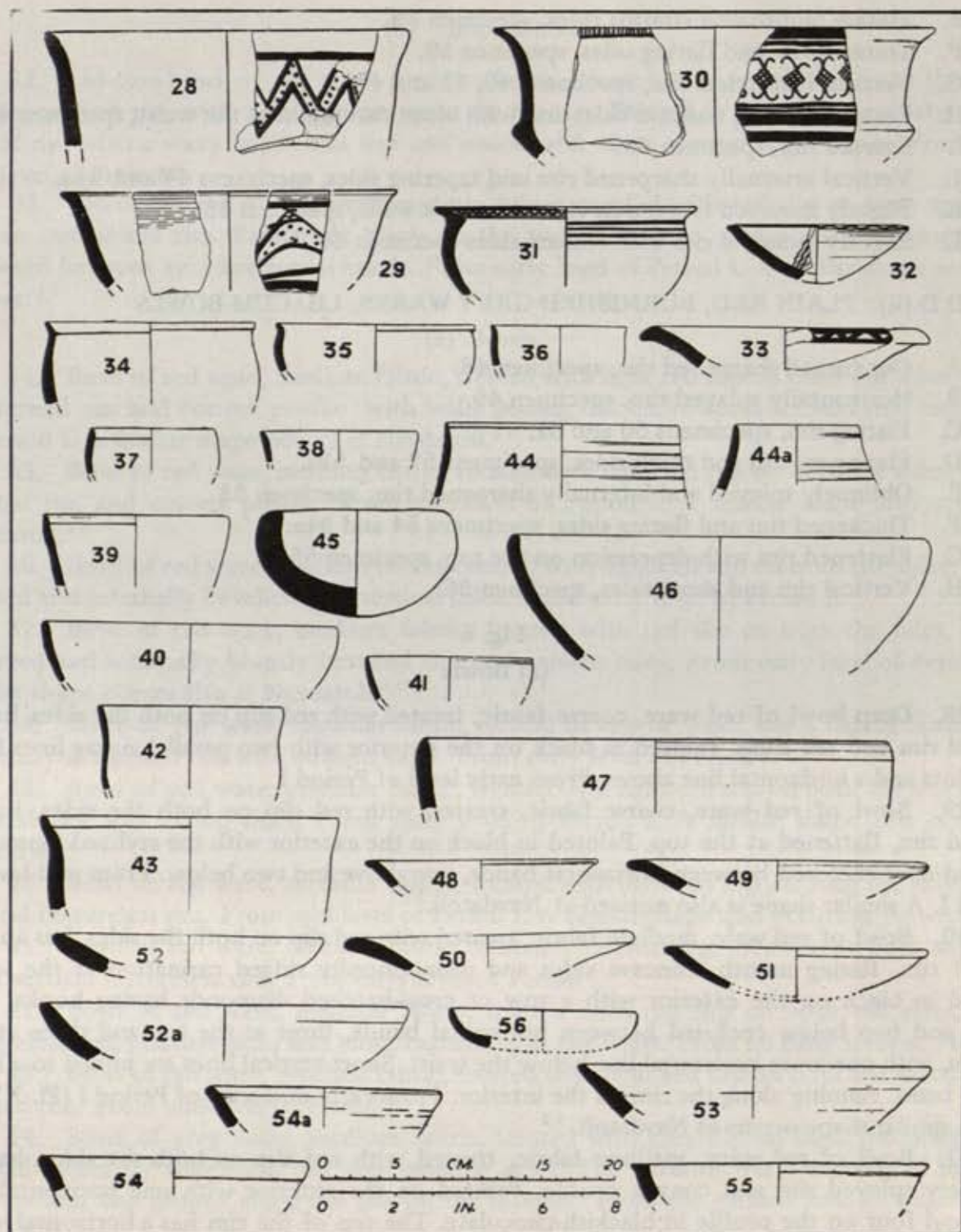


Fig. 6. Pottery: Period I.



- Type E. Flaring mouth and straight sides, specimen 38.
- Type F. Thinned rim and flaring sides, specimen 39.
- Type G. Vertical featureless rim, specimens 40, 41 and 47.
- Type H. Featureless rim, concave sides and with blunt carination at the waist, specimen 42.
- Type I. Everted rim, specimen 43.
- Type J. Vertical internally sharpened rim and tapering sides, specimens 44 and 44a.
- Type K. Slightly incurved featureless rim with thick walls, specimen 45.
- Type L. Slightly incurved rim with convex sides specimen 46.

#### C AND D (ii). PLAIN RED, BURNISHED GREY WARES, LID-CUM-BOWLS

- Type A. Out-turned sharpened rim, specimen 48.
- Type B. Horizontally splayed rim, specimen 49.
- Type C. Flaring rim, specimens 50 and 51.
- Type D. Flaring mouth and thick sides, specimens 52 and 52a.
- Type E. Obliquely splayed and internally sharpened rim, specimen 53.
- Type F. Thickened rim and flaring sides, specimens 54 and 54a.
- Type G. Flattened rim with depression on the top, specimen 55.
- Type H. Vertical rim and short sides, specimen 56.

Fig. 6  
(a) Bowls

28. Deep bowl of red ware, coarse fabric, treated with red slip on both the sides, has an everted rim and tall sides. Painted in black on the exterior with two parallel zigzag lines filled with dots and a horizontal line above. From early level of Period I.

29. Bowl of red ware, coarse fabric, treated with red slip on both the sides, has an everted rim, flattened at the top. Painted in black on the exterior with the stylized figure of a spotted deer enclosed between horizontal bands, one above and two below. From mid-level of Period I. A similar shape is also noticed at Navdatoli.<sup>21</sup>

30. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an out-curved rim, flaring mouth, concave sides and pronouncedly ridged carination at the waist. Painted in black on the exterior with a row of cross-hatched diamonds having hooks, two above and two below enclosed between horizontal bands, three at the top and three at the bottom, with one more horizontal line below the waist. Short vertical lines are joined to a horizontal band, running along the rim on the interior. From early mid level of Period I (Pl. XV A, 13). A similar shape occurs at Navdatoli.<sup>22</sup>

31. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed rim and convex profile. Painted on the exterior with one horizontal rim band and four on the profile in blackish-chocolate. The top of the rim has a horizontal wavy line enclosed between horizontal bands, two above and two below. From late level of Period I.



## (b) Lid-cum-bowls

32. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted rim with a mild depression on the top. Painted in blackish-chocolate on the top of rim with a wavy horizontal line and inside with three wavy oblique bands. From early mid-level of Period I.

33. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has an out-turned rim. Painted in black on the top of the rim with a wavy horizontal line enclosed between two horizontal bands. From early level of Period I. A similar shape occurs at Jorwe.<sup>23</sup>

## (a) Bowls

34. Bowl of red ware, medium fabric, treated with light red slip on both the sides, has an out-turned rim and convex profile with walls getting thicker towards waist. From early level of Period I. A similar shape occurs at Navdatoli.<sup>24</sup>

35. Bowl of red ware, medium fabric, treated with light red slip on both the sides, has an everted rim and convex profile. From mid-level of Period I. A similar shape also occurs at Navdatoli.<sup>25</sup>

36. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted and internally bevelled rim, vertical sides. From early level of Period I.

37. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an incurved and internally bluntly bevelled rim and convex sides. From early level of Period I. A similar shape occurs also at Navdatoli.<sup>26</sup>

38. Bowl of red ware, medium fabric, devoid of slip or wash, has a flaring mouth and internally sharpened rim with straight sides. From early level of Period I.

39. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has a thinned rim and flaring sides. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>27</sup>

40. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has a vertical featureless rim. From mid-level of Period I. A similar shape also occurs at Jorwe.<sup>28</sup>

41. Bowl of red ware, medium fabric, treated with weak light-red slip on both the sides, has a vertical featureless rim. From early level of Period I.

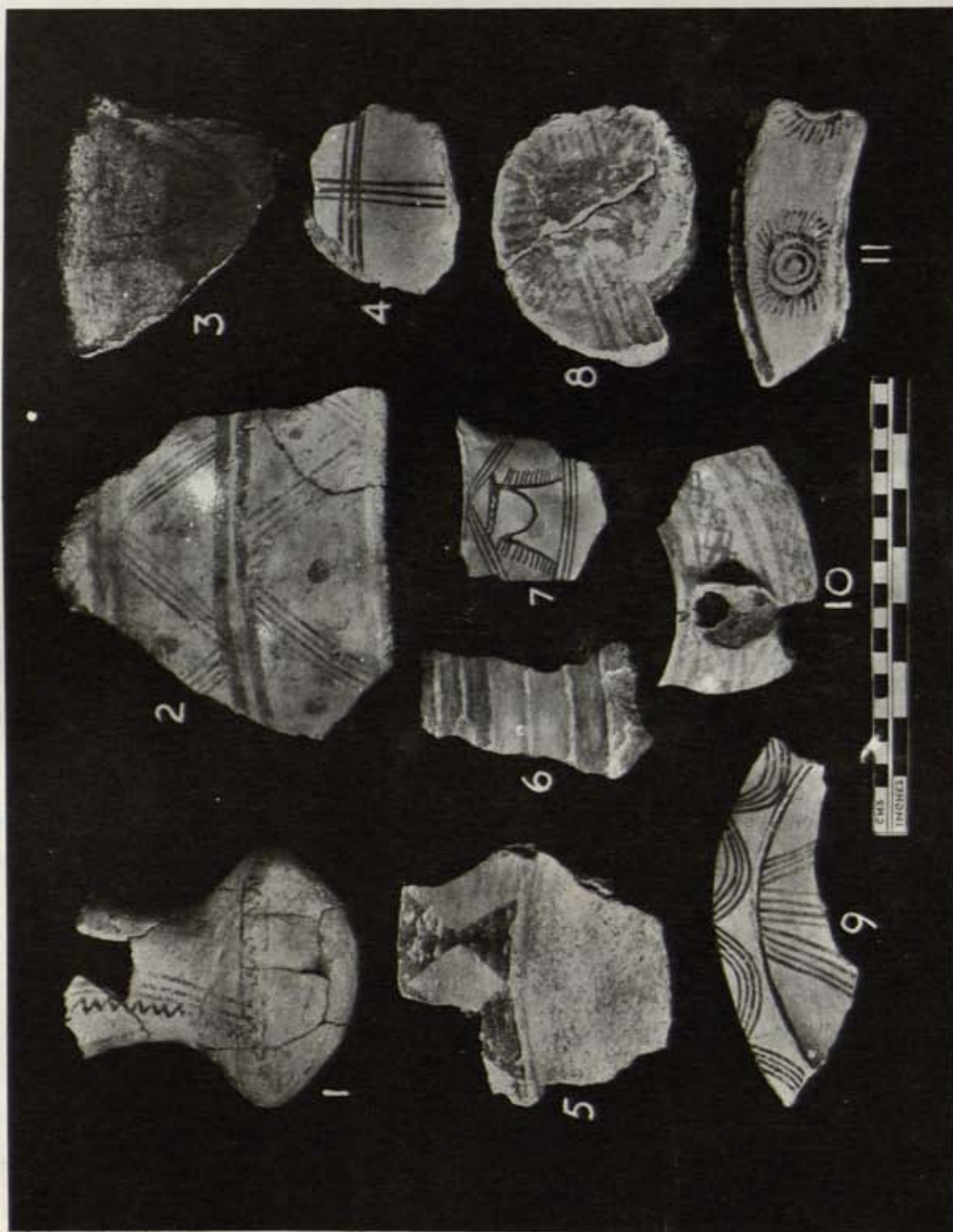
42. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a featureless rim, concave sides and blunt carination at the waist. From an early level of Period I.

43. Bowl of red ware, medium fabric, treated with light-red slip on both the sides, has an everted rim. From mid-level of Period I.

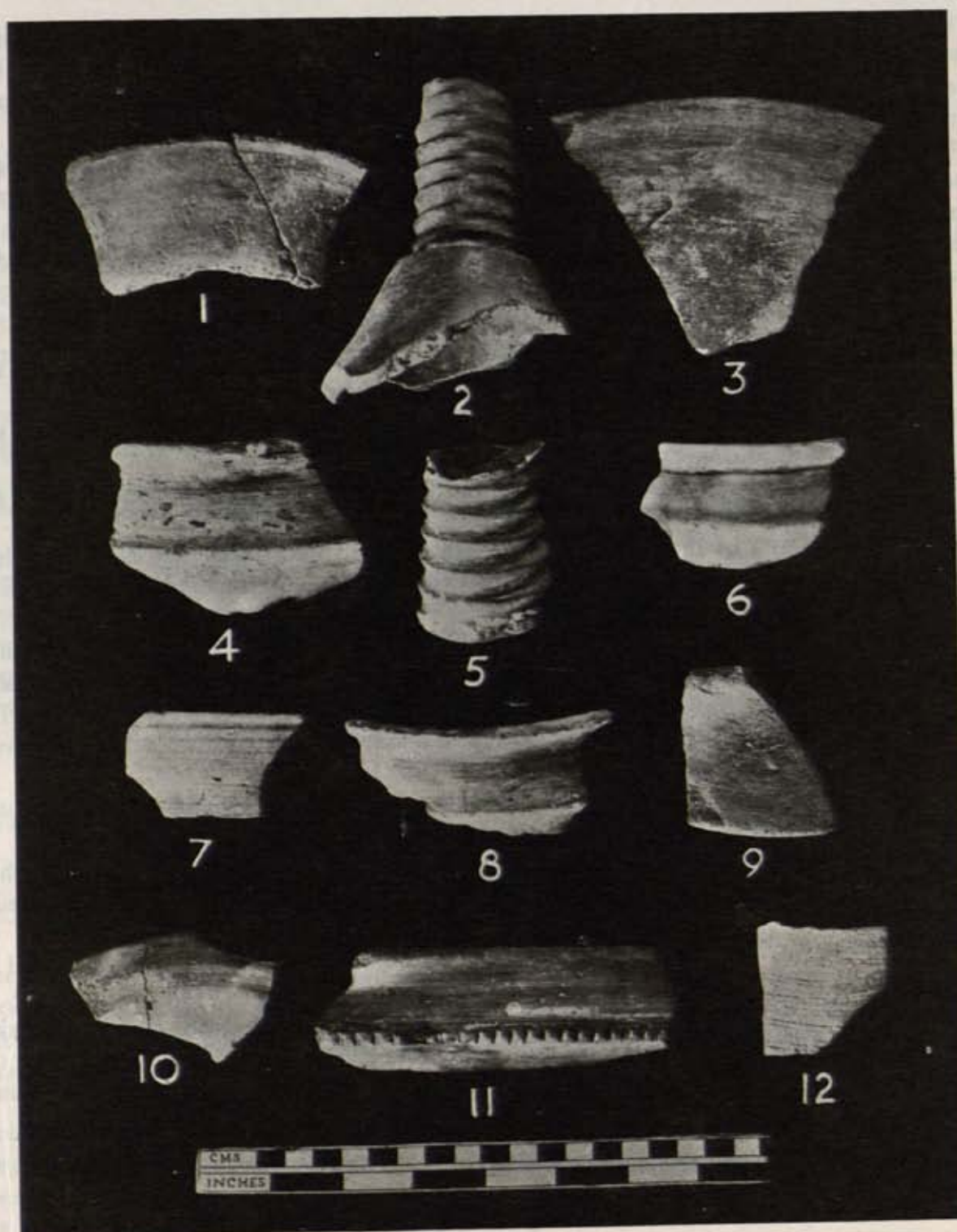
44. Bowl of grey ware, medium fabric, treated with grey slip on both the sides, has a vertical internally sharpened rim and tapering sides. The exterior has a number of irregular grooves and one groove along the rim on the interior. From the earliest level of Period I (Pl. XVII, 12).

44a. A variant of 44 in red ware, medium fabric, treated with red slip on both the sides, has a vertical featureless rim and tapering sides. The exterior has three grooves on the profile. From early level of Period I.





XVI. Nagda : Black on red ware and red ware pottery, Period I.



XVII. Nagda: Burnished and grey ware pottery, Period I.



45. Handmade bowl of red ware, coarse fabric, devoid of wash or slip, has a slightly incurved featureless rim, and thick walls. It is hand made and has suffered overfiring which has resulted in disshaping the vessel. From mid-level of Period I. (May have been used as a crucible in smelting operation).

46. Bowl of grey ware, coarse fabric, treated with grey slip on both the sides, has slightly incurved rim and convex sides. From late level of Period I (Pl. XVII, 3). A similar shape also occurs at Nevasa.<sup>29</sup>

47. Deep bowl of red ware, coarse fabric, treated with red slip on both the sides, has a vertical featureless thick rim. From early level of Period I.

#### (b) Lid-cum-bowls

48. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has an out-turned sharpened rim. From early level of Period I.

49. Lid-cum-bowl of red ware, coarse fabric, treated with light-red slip on both the sides, has horizontally splayed rim. From early level of Period I.

50. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has a flaring mouth. From early level of Period I.

51. Lid-cum-bowl of red ware, coarse fabric, treated with weak red slip on both the sides, has a flaring rim and a shallow depression on top and also on the exterior below the rim. From early level of Period I.

52. Lid-cum-bowl of red ware, coarse fabric, treated with weak red slip on both the sides, has a flaring mouth and thick sides. From late mid-level of Period I. A similar shape occurs at Maski.<sup>30</sup>

52a. A *variant* of 52 with flaring sides and a featureless thick rim. From mid-level of Period I. A similar shape occurs at Navdatoli.<sup>31</sup>

53. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed out and internally sharpened rim. From mid-level of Period I.

54. Lid-cum-bowl of red ware, coarse fabric, treated with weak light-red slip on both the sides, has a thickened rim and flaring sides. From early level of Period I. Similar shape also occurs at Bahal.

54a. A *variant* of 54, with thickened rim and flaring sides. From early level of Period I. A similar shape also occurs at Bahal.

55. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has a flattened rim with depression on the top. From mid-level of Period I.

56. Lid-cum-bowl of red ware, medium fabric, treated with red slip on both the sides, has a vertical rim and short sides. From mid-level of Period I.

#### A(iii). BLACK-ON-RED WARE DISHES

Type A. Externally bevelled rim and flaring sides, specimens 57 and 58.

Type B. Flaring sides and featureless rim, specimen 59.

Type C. Short vertical rim with flaring sides, specimens 60.



## D(iii). RED WARE DISHES

- Type A. Externally thickened and bevelled rim with flaring sides, specimens 61, 61a, 62, 63, 68 and 69.
- Type B. Externally thickened rim with depression on the top, specimen 64.
- Type C. Thickened rim, flattened at the top, specimen 65.
- Type D. Thickened externally obliquely cut rim and flaring sides, specimens 66 and 67.
- Type E. Flaring sides and externally bevelled rim, specimen 68a.
- Type F. Flaring sides and internally bevelled rim, specimen 70.
- Type G. Short vertical rim and flaring sides, specimens 71 and 72.
- Type H. Obliquely cut or externally bevelled rim with mild depression on the edge and flaring sides, specimen 73.
- Type I. Externally beaked rim with two mile grooves on it and flaring sides, specimen 74.
- Type J. Flaring sides and thick flat base, specimen 75.

## A(iv), C(iii), D(iv). BLACK-ON-RED, GREY AND RED WARES, DISH-ON-STAND

- Type A. Splayed out rim and flaring sides, specimens 76 and 76 b.
- Type B. Flanged and externally bevelled or beaked rim and flaring sides, specimen 76 a.
- Type C. Splayed and flanged rim with flaring sides, specimen 77.
- Type D. Splayed out and edged rim and flaring sides, specimens 78 and 79.
- Type E. Vertical thickened rim and flaring sides, specimen 80.

Fig. 7

## D(iii). RED WARE DISHES

Dishes conform to a shallow vessel type with sagger base, with difference only in the rim and are available in both plain and painted wares.

57. Dish of red ware, medium fabric, treated with light-red slip on the interior, has an externally bevelled rim and flaring sides. Painted in blackish-chocolate on the rim with a horizontal line. Three horizontal wavy lines run along the edge of the rim on the interior with three vertical wavy lines intersecting them at right angles flowing towards the centre. From early mid-level of Period I.

58. Dish of red ware, medium fabric, treated with light-red slip on both the sides, has flaring sides and externally bevelled rim. Painted in blackish-chocolate on the bevelled edge of the rim with a horizontal band and the internal base; carries two sets of three diagonally drawn lines intersecting at the centre with a dot, and two arcs within each triangle thus made. From late level of Period I.

59. Dish of red ware, medium fabric, treated with light-red slip on both the sides, has flaring sides and a featureless rim. Painted in blackish-chocolate on the edge of the rim with a



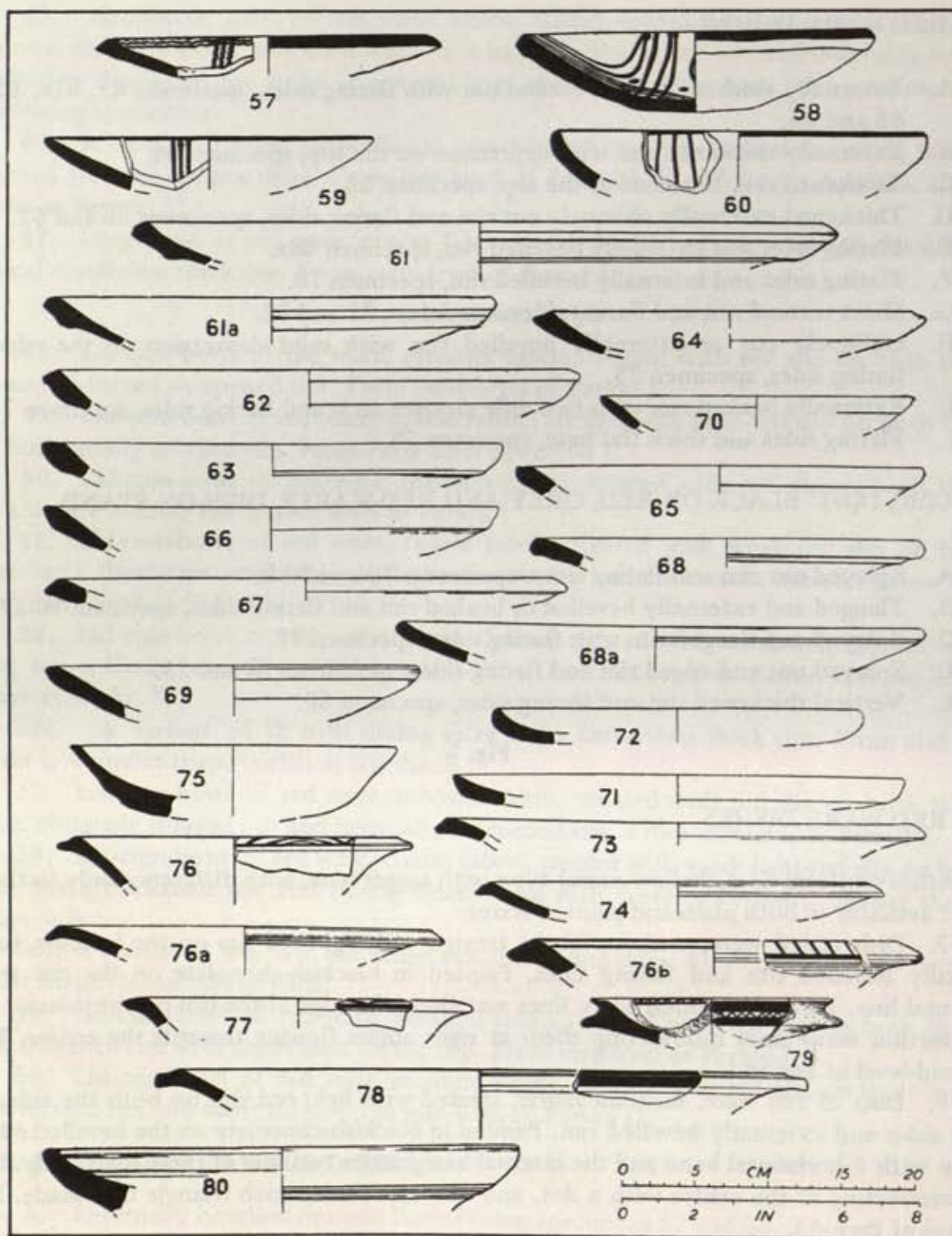


Fig. 7. Pottery: Period I.



horizontal band and the interior has three vertical lines at right angles to the rim. From late mid-level of Period I. A similar shape occurs at Navdatoli,<sup>32</sup> Harappa,<sup>33</sup> and Jorwe.<sup>34</sup>

60. Dish of red ware, medium fabric, treated with red slip on both the sides, has a short vertical featureless rim and flaring sides. Painted in black on the edge of the rim with a horizontal line, and the internal base has three vertical lines as in type 59. From mid-level of Period I. A similar shape occurs at Navdatoli.<sup>35</sup>

61. Dish of red ware, coarse fabric, treated with light-red slip on both the sides, but not properly and carefully on the outside, has an externally thickened and bevelled rim and flaring sides. It has a mild depression on the bevelled edge of the rim. From mid-level of Period I.

61a. A *variant* of 61 with thin red slip on the rim outside and inside, has an externally thickened rim and flaring sides. The sides have husk impressions which suggest that those were dried on a bed prepared with husk. From early level of Period I.

62. Dish of red ware, coarse fabric, treated with thin light-red slip inside and on the rim outside, has an externally thickened rim with bevelled outer edge and flaring sides. The exterior has husk impressions. From early level of Period I.

63. Dish of red ware, coarse fabric, treated with weak light-red slip inside and on the rim outside, has externally thickened rim with a depression on the flattish top and flaring sides. The exterior has husk impressions. From mid-level of Period I.

64. Dish of red ware, coarse fabric, treated with weak thin red slip inside and on the rim outside, has an externally thickened rim with a depression at the top. From late mid-level of Period I.

65. Dish of red ware, coarse fabric, treated with thin red slip on both the sides, has a thickened rim, flattened at the top. From early mid-level of Period I.

66. Dish of red ware, coarse fabric, treated with thin light-red slip inside and on the rim outside, has thickened and externally obliquely cut rim and flaring sides. The exterior has husk impressions. From early level of Period I.

67. Dish of red ware, coarse fabric, treated with thin red slip inside and on the rim outside, has a thickened and externally obliquely cut or bevelled rim. The exterior has husk impressions. From early level of Period I.

68. Dish of red ware, coarse fabric, treated with light-red slip on both the sides, has thickened rim and flaring sides. From early level of Period I.

68a. A *variant* of 68 with thin light-red slip on both the sides, has flaring sides and externally bevelled rim. From early level of Period I. A similar shape also occurs at Maski.<sup>36</sup>

69. Dish of red ware, coarse fabric, treated with red slip on both the sides, has flaring sides and externally thickened rim. From early level of Period I.

70. Dish of red ware, medium fabric, treated with red slip on both the sides, has flaring sides and internally bluntly bevelled rim. From mid-level of Period I.

71. Dish of red ware, coarse fabric, devoid of slip or wash, has a short vertical rim and flaring sides. From the earliest level of Period I.

72. Dish of red ware, medium fabric, treated with red slip on both the sides, has a short vertical rim and flaring sides. From early level of Period I. A similar shape also occurs at



Navdatoli.<sup>37</sup>

73. Dish of red ware, coarse fabric, treated with weak light-red slip inside and on the rim outside, has an obliquely cut or externally bevelled rim with a mild depression on the edge and flaring sides. The exterior has husk impressions. From early level of Period I.

74. Dish of red ware, coarse fabric, treated with thin light-red slip inside, has an externally beaked rim with two mild grooves on it and flaring sides. The exterior has husk impressions. From early level of Period I. A similar shape also occurs at Harappa.<sup>38</sup>

75. Handmade, dish-cum-bowl of red ware, coarse fabrics, treated with red slip on both the sides, has flaring sides and a thick flat base. From mid-level of Period I.

#### C(iv), D(iv). RED, GREY WARES, DISH-ON-STAND

The dish-on-stand is a common characteristic of the chalcolithic cultures. Though no complete dish-on-stand has been found at Nagda, the piecemeal finds of fragments of dishes, stems of stands or the stands themselves help reconstruction of the desired shapes. They are available in red and grey wares. Nos. 87-91 may have served as dishes for dish-on-stand as judged from the flatness of the shapes.

76. Dish of red ware, medium fabric, treated with red slip on both the sides, has a splayed out rim and flaring sides. Painted on the top of the rim in black with three concentric arcs enclosed between two horizontal bands. From early mid-level of Period I.

76a. A *variant* of 76 in grey ware, medium fabric, treated with grey slip on both the sides, has a flanged and externally bevelled or beaked rim and flaring sides. Painted in red ochre with a horizontal band at the outer edge of the rim. From mid-level of Period I (Pl. XVII, 10).

76b. A *variant* of 76 in red ware, medium fabric, treated with red slip on both the sides, has a splayed out rim and flaring sides. Painted in blackish-chocolate with two horizontal lines joined by oblique cross lines and two more horizontal lines below the inner edge of the rim. From early level of Period I.

77. Dish of red ware, medium fabric, treated with red slip on both the sides, has splayed and flanged rim with flaring sides. Painted in black on the top of the rim with a series of arcs enclosed between two horizontal lines. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>39</sup>

78. Dish of red ware, medium fabric, treated on both the sides with red slip, which is peeling off, has splayed out and ledged rim and flaring sides. Painted in black on the rim with two horizontal bands. From late mid-level of Period I.

79. Dish of red ware, medium fabric, treated with red slip on both the sides, has splayed and externally ledged rim. Painted in black on the rim and ledge with a pattern composed of a wavy horizontal line enclosed by two horizontal bands. The flattish form would suggest the composite shape of dish-on-stand. From early level of Period I.

80. Dish from dish-on-stand of red ware, medium fabric, treated with light-red slip inside



and wash outside, has a vertical thickened rim, two grooves on the underside of the rim and flaring sides. From early level of Period I. Conjectured as a fragment of a dish-on-stand from the traces of a stand on the external base.

#### A(v), C(v), D(v). BLACK-ON-RED, GREY AND RED WARES, DISHES

- Type A. Splayed out flanged rim and flaring sides, specimens 81 and 81a.
- Type B. Everted and externally ledged rim, specimen 82.
- Type C. Out-turned and thickened rim, specimen 83.
- Type D. Fragments of dishes-on-stand, specimens 84, 84a and 84b.
- Type E. Hollow stems of dishes-on-stand, specimens 85, 85a and 85b.
- Type F. Hollow corrugated stem of dish-on-stand, specimen 86.
- Type G. Hollow stem of dish-on-stand with flaring and externally bevelled base, specimen 87.
- Type H. Corrugated solid stem of dish-on-stand, specimen 88.
- Type I. Corrugated stem of dish-on-stand with narrow perforation, specimen 89.
- Type J. Corrugated hollow stem of dish-on-stand, specimens 90, 91 and 92.
- Type K. Base of dish-on-stand with flaring sides and flat edge, specimens 93 and 93a.
- Type L. Base of dish-on-stand with out-turned and lipped edge, specimen 94.
- Type M. Base of dish-on-stand with flaring sides and a slight depression at the outer edge, specimen 95.

#### A(vi). BLACK-ON-RED WARE BASINS

- Type A. Obliquely splayed out rim, specimen 96.
- Type B. Horizontally splayed, flanged and slightly externally bevelled rim, specimens 97, 98 and 99.

Fig. 8

81. Dish of red ware, coarse fabric, treated with red slip on both the sides, has splayed out flanged rim and flaring sides. From early level of Period I. A similar shape also occurs at Navdatoli<sup>40</sup> and Harappa.<sup>41</sup>

81a. A *variant* of 81 in grey ware, medium fabric, treated with grey slip on both the sides, has a horizontally splayed rim and flaring sides. From early level of Period I. A similar shape also occurs at Harappa.<sup>42</sup>

82. Dish of grey ware, medium fabric, treated with grey slip on both the sides, has an everted and externally ledged rim. From late level of Period I.

83. Dish of grey ware, medium fabric, treated with a shiny black slip on the interior and limitedly on the exterior up to a little above the ridge of carination on the waist, has an out-turned and thickened rim and concave sides, and the ridge of carination carries an incised



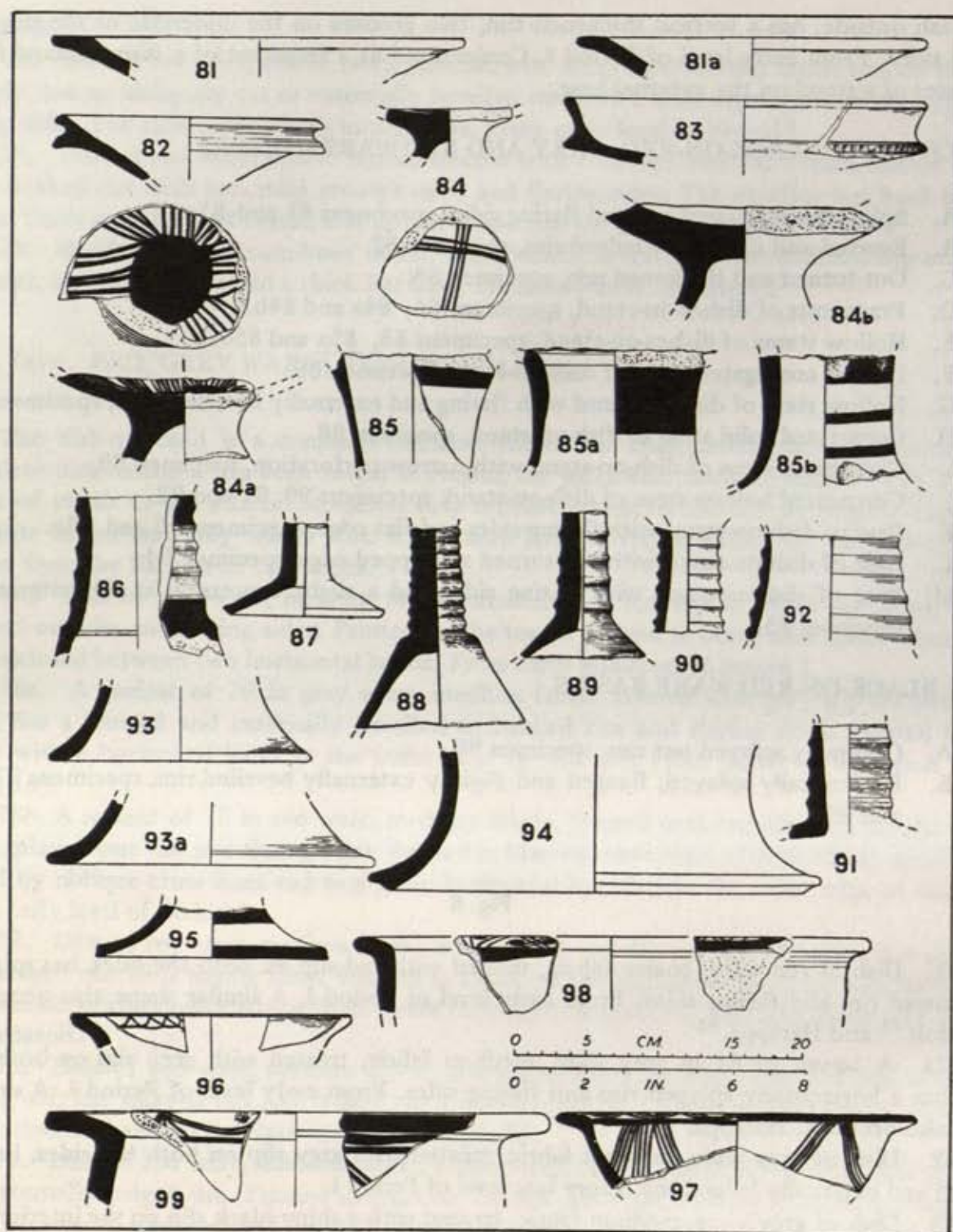


Fig. 8. Pottery: Period I.



decoration. From mid-level of Period I (Pl. XVII, 11).

84. Fragment of a dish with short thick stem of dish-on-stand of red ware, medium fabric, treated with red slip on the interior of the dish and exterior of the stem. The inner base of the dish is painted in black with two groups of three lines diagonally intersecting at the centre. From early mid-level of Period I (Pl. XVI, 4).

84a. A *variant* of 84 with red slip on both the sides of the dish and on the exterior of the stem. The dish is painted in black with the 'sun' symbol in the form of a disc with radiating rays. From early mid-level of Period I (Pl. XVI, 8).

84b. A *variant* of 84 in red ware, coarse fabric, treated with red slip on both sides of the dish and on the exterior of the stem. From late level of Period I.

85. Hollow stem of dish-on-stand of red ware, medium fabric, treated with red slip on the exterior and partially inside. The exterior is painted in black with a horizontal line at the top. From early level of Period I.

85a. A *variant* of 85 in red ware, painted in black on the exterior with a broad horizontal band. From early level of Period I.

85b. A *variant* of 85 in red ware treated with red slip on the exterior. The exterior is painted in black with three horizontal bands at regular intervals. From early level of Period I.

86. Hollow corrugated stem of dish-on-stand of red ware, medium fabric, treated with red slip on the exterior. Painted in black on the exterior with horizontal bands. From mid-level of Period I (Pl. XVI, 6). It may be part of the corrugated neck of a jar as well.<sup>43</sup>

87. Hollow stem with base of dish-on-stand of red ware, medium fabric, treated with red slip on the exterior of the stem and on both the sides of the base. The base is flaring and the edge is externally bevelled. From late level of Period I.

88. Solid corrugated stem of dish-on-stand of grey ware, medium fabric, treated with grey slip on the stem and the base. From early level of Period I (Pl. XVII, 2).

89. Corrugated stem of dish-on-stand of grey ware, medium fabric, treated exteriorly with grey slip and the base, the walls are thick, leaving a narrow perforation through the stem. From early level of Period I.

90. Corrugated hollow stem of dish-on-stand of grey ware, medium fabric, treated with grey slip on the exterior. From early level of Period I (Pl. XXVI, 5). A corrugated stem of grey ware has also occurred at Hastinapura.<sup>44</sup> A corrugated stem in grey ware has been recovered from debris layers between cemeteries R-37 and H at Harappa.<sup>45</sup> Corrugated stems have also been reported from Rangpur III,<sup>46</sup> Prabhas IIA, Ahar IA, Navdatoli IB and Bahal IA.

91. Hollow corrugated stem of dish-on-stand of red ware, medium fabric, treated with light-red slip on the exterior. From early level of Period I.

92. Hollow corrugated stem of dish-on-stand of grey ware, medium fabric, treated exteriorly with grey slip. From early level of Period I.

93. Base of dish-on-stand of grey ware, medium fabric, treated with grey slip on both the sides, has flaring base and flattish edge. From early level of Period I.

93a. A *variant* of 93. Has a flaring and flat base. From early level of Period I (Pl. XVII,

94. Base of dish-on-stand of grey ware, medium fabric, treated with light grey slip on the



exterior, has an out-turned and lipped edge. From early level of Period I. A similar shape also occurs at Harappa.<sup>47</sup>

95. Fragment of a base of a dish-on-stand of red ware, medium fabric, treated with red slip on both the sides, has flaring sides with slight depression at the outer edge of the base, which is painted in black with two horizontal bands. From early level of Period I.

96. Basin of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed out rim. Painted in blackish-chocolate on the interior with triangles and a horizontal rim band on the exterior. From early level of Period I.

97. Basin of red ware, medium fabric, treated with light-red slip on both the sides, has a horizontally splayed and flanged rim slightly bevelled externally. Painted in black on the top of the rim with a series of four concentric arcs, enclosed between two horizontal lines. The exterior is painted with two groups of four lines meeting at the apex. The interior has a group of four verticals flanked on either side by four concentric arcs. From late level of Period I (Pl. XVI, 9).

98. Basin of red ware, coarse fabric, treated with red slip on the top of the rim and inside, has a horizontally splayed rim. Painted in black on the top of the rim with panels of oblique lines of which a few intersect each other with filled up dots in the triangles thus made. The composite panels have been divided by vertical lines. The whole complex is enclosed between two horizontal bands. From mid-level of Period I.

99. Basin of red ware, coarse fabric, treated with red slip on both the sides, has a horizontally splayed and flanged rim. Painted in black on the top of the rim with a row of two parallel arcs joining at an apex from which two wavy bands as festoons run towards the line on the inner edge and is further enclosed at the outside by a band along the edge of the rim. The arcs enclose solar symbols. Two parallel lines immediately below the rim and two oblique parallel lines form a design (incomplete) on the exterior. From late level of Period I.

#### A(vii), D(vi). BLACK-ON-RED AND RED WARES, BASINS

Type A. Obliquely splayed and flanged rim, specimens 100 and 100a.

Type B. Horizontally splayed and flanged rim, specimen 101.

Type C. Everted and externally thickened rim and flaring sides, specimen 102.

Type D. Everted and flattened rim, specimen 103.

Type E. Everted rim thickened and flaring sides, specimen 104.

Type F. Out-turned rim with flattened top, specimen 105.

Type G. Out-turned rim with pinched decoration on the rim, specimen 105a.

Type H. Horizontally splayed rim with a depression at the top, specimen 106.

#### A(viii). BLACK-ON-RED WARE JARS

Type A. Vertical externally thinned rim, specimens 107 and 108.

Type B. Vertical rim and bulging profile, specimen 109.



- Type C. Everted rim, tall and slightly concave neck, specimens 110 and 112.
- Type D. Out-turned rim, concave neck and convex profile, specimens 111 and 114.
- Type E. Slightly splayed rim and concave neck, specimen 113.
- Type F. Out-turned rim with a depression at the outer edge and vertical neck, specimen 115.
- Type G. Horizontally splayed rim and tall concave neck, specimen 116.
- Type H. Obliquely splayed rim and vertical neck, specimen 117.
- Type I. Obliquely splayed rim and constricted neck, specimens 118 and 119.

Fig. 9

100. Basin of red ware, medium fabric, treated with red slip inside; the exterior has been treated with a granular wash<sup>48</sup>, has an obliquely splayed and flanged rim. Painted in black on the top of the rim in two panels. The two rows of cross-hatched diamonds separated by a median band is enclosed by a band at the outer and inner edges of the rim respectively. From late level of Period I.

100a. A *variant* of 100. The exterior has been treated with a granular wash and the inner base is rough. Painted in black on the top of the rim with a 'double triangle' design meeting at the apex, enclosed by horizontal lines at two ends. From mid-level of Period I (Pl. XVI, 5). A similar shape also occurs at Navdatoli.<sup>49</sup>

101. Basin of red ware, medium fabric, treated with red slip on both the sides, has a horizontally splayed and flanged rim with a depression on the top and a channel depression on the edge. Painted in black on the top of the rim with a row of 'suns' represented by three concentric circles and rays radiating clockwise from the outermost circle, enclosed between two horizontal lines. It has two horizontal lines on the depressions on and below the rim. From mid-level of Period I (Pl. XVI, 11).

102. Basin of red 'sturdy ware', medium fabric, treated with red slip on both the sides, has an everted and externally thickened rim and flaring sides. Painted in black on the exterior with a horizontal band below the rim, and on the entire surface of the external base. From late level of Period I. A similar shape also occurs at Jorwe<sup>50</sup> and Bahal.

103. Basin of red ware, coarse fabric, treated with red slip on both the sides, has an everted and flattened rim. From early level of Period I.

104. Basin of red ware, medium fabric, treated with light-red slip on both the sides, has an everted rim and thickened and flaring sides. From early level of Period I.

105. Basin of red ware, coarse fabric, devoid of slip or wash, has an out-turned rim flattened at the top. From mid-level of Period I.

105a. A *variant* of 105, has an out-turned rim with pinched decoration on the top and edge. The profile has mild ridges.

106. Basin of red ware, coarse fabrics, treated with red slip on the exterior, has a horizontally splayed rim with a depression on top. From mid-level of Period I. A similar shape also occurs at Jorwe.<sup>51</sup>



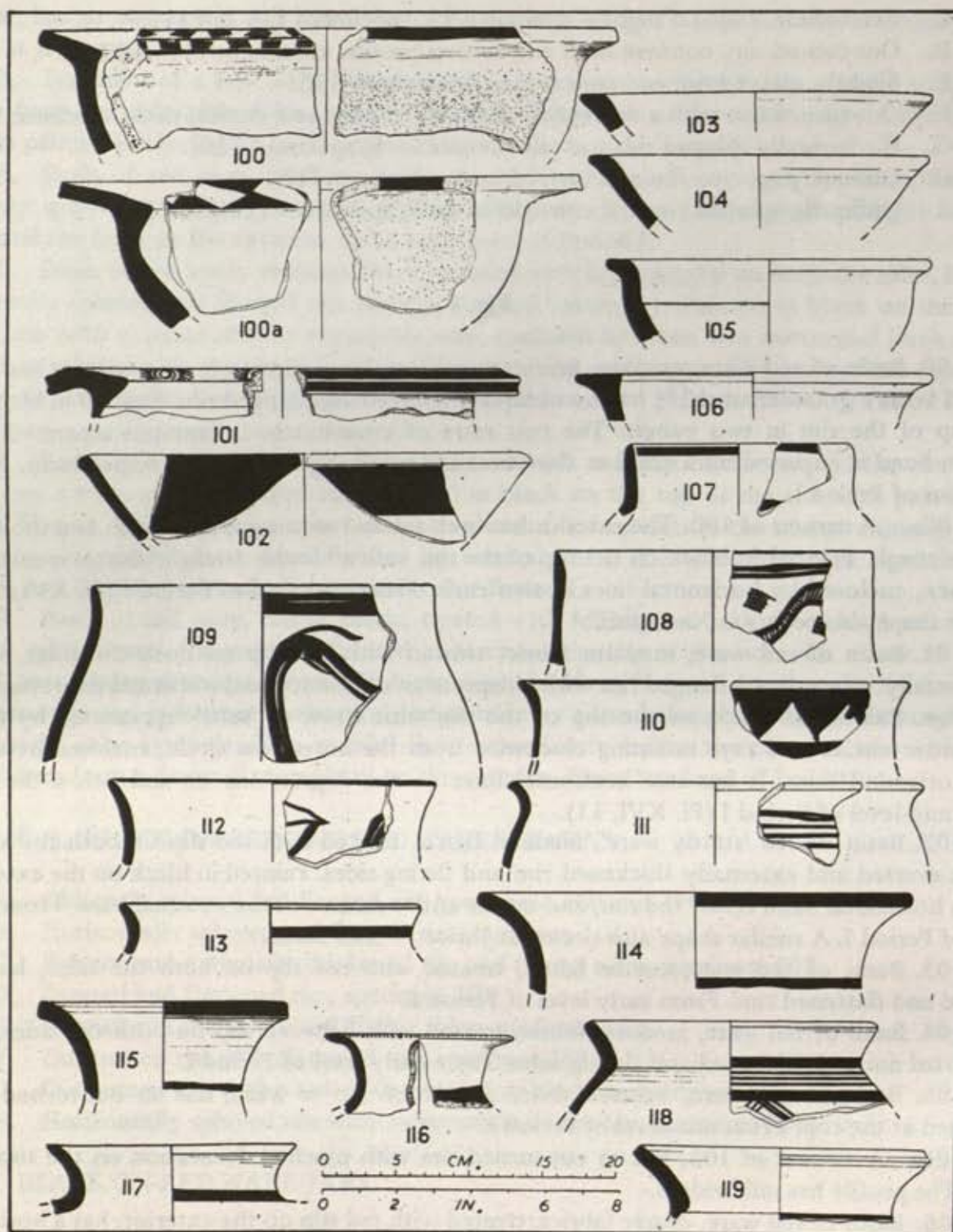


Fig. 9. Pottery: Period I.



107. Jar of red ware, medium fabric, treated with red slip on both the sides, has a vertical, externally thinned rim. Painted in black on the exterior with two horizontal bands and a horizontal band at mouth on the inner side. From mid-level of Period I. A similar shape also occurs at Bahal. The type occurs at Nevasa also.<sup>52</sup>

108. Jar of red ware, coarse fabric, treated with red slip outside and on the mouth inside, has vertical and internally sharpened rim and an unusually long neck. Painted in black on the exterior with two parallel horizontal wavy lines connected by cross lines and cross-hatched diamonds on either side of the wavy lines. It has two horizontal bands at the top. From early mid-level of Period I (Pl. XV B, 4). A similar shape also occurs at Navdatoli.<sup>53</sup>

109. Jar of red ware, medium fabric, treated with light-red slip outside and at the mouth inside, has a vertical rim and bulging profile. Painted in black on the exterior with the hind part of a tailed animal and two parallel horizontal lines above it. From early level of Period I (Pl. XV B, 7).

110. Jar of red ware, medium fabric, treated with red slip on both the sides, has an everted rim and a tall, slightly concave neck. Painted in black on the exterior with a row of filled triangles with their apexes pointed downwards and a horizontal band below. From early level of Period I (Pl. XV B, 6). A similar shape also occurs at Nasik.<sup>54</sup>

111. Jar of red ware, coarse fabric, treated with red slip on the exterior, has an out-turned rim concave neck and convex profile. Painted in blackish-chocolate on the exterior with four horizontal bands. From early level of Period I.

112. Jar of red ware, medium fabric, treated with light-red almost greyish slip on both the sides, has a slightly everted rim and a tall concave neck. Painted in blackish-chocolate on the exterior with a row of antelopes. From early level of Period I (Pl. XV B, 3). A similar shape also occurs at Navdatoli.<sup>55</sup>

113. Jar of red ware, medium fabric, treated with red slip on both the sides, has a slightly splayed rim and concave neck. Painted in blackish-chocolate with a horizontal band on the neck. From early level of Period I.

114. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an out-turned rim, flaring mouth, and a tall, slightly concave neck. Painted in black on the exterior with two horizontal bands, one on the rim and the other on the shoulder. From mid-level of Period I. A similar shape also occurs at Nasik.<sup>56</sup>

115. Jar of red ware, medium fabric, treated with red slip on both the sides, but the slip inside has peeled off, has an out-turned rim with a depression at the outer edge and a vertical neck. Painted in black on the exterior with two horizontal bands, one on the depressed outer edge of the rim and the other on the shoulder. From early level of Period I.

116. Jar of red ware, medium fabric, treated with a red almost greyish slip on both the sides, has a horizontally splayed rim and a tall concave neck. Painted in blackish-chocolate on the exterior with a horizontal band on the shoulder and the top of the rim has vertical strokes. From early level of Period I. A similar shape and design also occur at Navdatoli<sup>57</sup> and Maski<sup>58</sup>

117. Jar of red ware, medium fabric, treated with red slip on both the sides, the slip inside has peeled off, has an obliquely splayed rim and vertical neck. Painted in black on the



exterior with a horizontal band on the shoulder. From early level of Period I. A similar shape occurs also at Bahal.

118. Jar of red ware, medium fabric, treated with red slip on the exterior, has an obliquely splayed rim and constricted neck. Painted in black on the exterior with three thin horizontal parallel bands enclosed between two broad bands, a pattern formed of groups of three lines meeting angularly at the lower end of the multiple broad bands. From mid-level of Period I (Pl. XV B, 9). A similar shape also occurs at Navdatoli,<sup>59</sup> Bahal and Nevasa.<sup>60</sup>

119. Jar of red ware, medium fabric, treated with red slip on both the sides, the slip inside has peeled off, has an obliquely splayed externally grooved rim with a depression at the top of the rim and constricted neck. Painted in black on the shoulder with a horizontal line. From early mid-level of Period II.

#### A(ix), D(vii). BLACK-ON-RED AND RED WARES, JARS

- Type A. Splayed rim and bulging profile, specimen 120.
- Type B. Obliquely splayed rim and globular profile, specimen 121.
- Type C. Obliquely splayed rim and closing shoulders, specimen 122.
- Type D. Out-turned and splayed rim, specimens 123 and 123a.
- Type E. Horizontally splayed rim, a lip out side with a broad depression on the top at the edge and a tall corrugated neck, specimen 124.
- Type F. Thinned rim, closing sides and convex profile, specimens 125 and 125a.
- Type G. Splayed and externally bevelled rim, corrugated shoulders and a ridge at the waist, specimen 126.
- Type H. Splayed slightly beaked rim and constricted neck, specimen 127.
- Type I. Splayed and internally thinned rim, constricted neck, specimens 128 and 128a.
- Type J. Out-turned and featureless rim, specimen 129.
- Type K. Obliquely splayed and featureless rim, specimen 130.
- Type L. Out-turned rim flattened at the top, specimen 131.
- Type M. Obliquely splayed slightly beaked rim, constricted neck, specimen 132.
- Type N. Obliquely splayed rim and short concave neck, specimen 133.
- Type O. Splayed rim and constricted neck, specimen 134.
- Type P. Out-turned rim, flattened top, constricted neck and globular profile, specimen 135.
- Type Q. Out-turned rim and short neck, specimen 136.
- Type R. Splayed and externally clubbed rim and constricted neck, specimen 137.
- Type S. Out-turned splayed rim obliquely cut at the external edge, specimen 138.

Fig. 10

120. Jar of red ware, medium fabric, treated on both the sides with red slip, which has peeled off on the interior, has a splayed rim and bulging profile. Painted in black on the

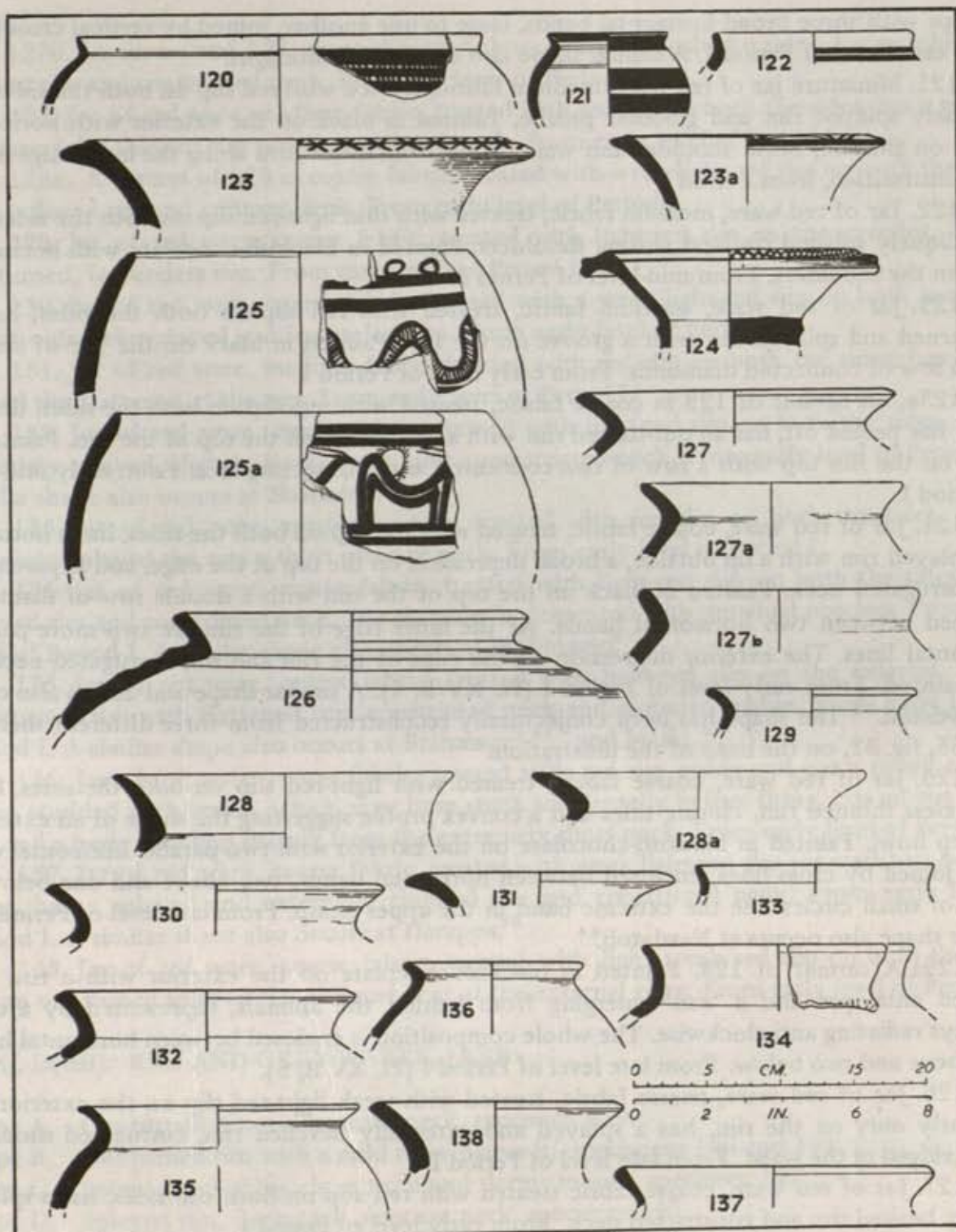


Fig.10. Pottery: Period I.



exterior with three broad horizontal bands, close to one another, joined by vertical cross lines. From early level of Period I. A similar shape also occurs at Brahmagiri.<sup>61</sup>

121. Miniature jar of red ware, medium fabric, treated with red slip on both the sides, has obliquely splayed rim and globular profile. Painted in black on the exterior with horizontal bands on the rim, neck, shoulder and waist. A horizontal line runs along the inner edge of the rim. Unstratified, from Period I.

122. Jar of red ware, medium fabric, treated with thin light-red slip on both the sides, has an obliquely splayed rim and closing shoulders. Painted in blackish-chocolate with horizontal lines on the shoulders. From mid-level of Period I.

123. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned and splayed rim with a groove on the top. Painted in black on the top of the rim with a row of connected diamonds. From early level of Period I.

123a. A *variant* of 123 in coarse fabric, treated with red slip on both the sides, the slip inside has peeled off, has an out-turned rim with a depression on the top of the rim. Painted in black on the rim top with a row of two concentric and intersecting arcs. From early mid-level of Period I.

124. Jar of red ware, coarse fabric, treated with red slip on both the sides, has a horizontally splayed rim with a lip outside, a broad depression on the top at the edge, and apparently a tall corrugated neck. Painted in black on the top of the rim with a double row of diamonds enclosed between two horizontal bands. At the inner edge of the rim are two more parallel horizontal lines. The exterior depression on the edge of the rim and the corrugated neck are also painted. From early level of Period I (Pl. XV B, 1). A similar shape and design also occur at Navdatoli.<sup>62</sup> The shape has been conjecturally reconstructed from three different sherds in type 65, fig. 52, on the basis of the illustration.<sup>63</sup>

125. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has a featureless thinned rim, closing sides and a convex profile suggesting the shape of an extended or deep bowl. Painted in blackish-chocolate on the exterior with two parallel horizontal wavy lines, joined by cross lines, enclosed between horizontal bands, two above and one below. A series of small circles line the extreme band in the upper group. From late level of Period I. A similar shape also occurs at Navdatoli.<sup>64</sup>

125a. A *variant* of 125. Painted in blackish-chocolate on the exterior with a row of stylized antelopes and a 'sun' emerging from behind the animals, represented by a circle and rays radiating anti-clockwise. The whole composition is enclosed between horizontal bands two above and two below. From late level of Period I (Pl. XV B, 5).

126. Jar of red ware, coarse fabric, treated with weak light-red slip on the exterior and interiorly only on the rim, has a splayed and externally bevelled rim, corrugated shoulders and is ridged at the waist. From late level of Period I.

127. Jar of red ware, coarse fabric treated with red slip on both the sides, has a splayed, slightly beaked rim and constricted neck. From early level of Period I.

127a. A *variant* of 127, treated with weak light-red slip on both the sides, has an obliquely splayed rim and constricted neck. From mid-level of Period I. A similar shape also occurs at



Maski.<sup>65</sup>

127b. A *variant* of 127, treated with light-red slip on both the sides, has an obliquely splayed rim and constricted neck. From late level of Period I.

128. Jar of red ware, medium fabric, treated with red slip on both the sides, has a splayed and internally thinned rim and a constricted neck. From early level of Period I.

128a. A *variant* of 128 in coarse fabric, treated with weak light-red slip on both the sides, has a splayed rim and concave neck. From early level of Period I.

129. Jar of red ware, coarse fabric, treated with light-red slip on the exterior, has an out-turned, featureless rim. From early level of Period I.

130. Jar of red ware, coarse fabric, treated with a weak light-red slip on both the sides, has an obliquely splayed and featureless rim. From early level of Period I.

131. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned rim flattened at the top. From early level of Period I.

132. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has an obliquely splayed, slightly beaked rim, and a constricted neck. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>66</sup>

133. Jar of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed rim and a short concave neck. From early level of Period I.

134. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has a splayed rim and constricted neck. The shoulder is decorated with punched notches. From early level of Period I. A similar shape also occurs at Brahmagiri.<sup>67</sup>

135. Jar of red ware, coarse fabric, treated with light-red slip on the exterior, has an out-turned rim with flattened top, constricted neck and globular profile. From early level of Period I. A similar shape also occurs at Brahmagiri.<sup>68</sup> and Maski.<sup>69</sup>

136. Jar of red ware, coarse fabric, treated with red slip inside and has a rough exterior being studded with grains, which may have stuck accidentally before firing. Has an out-turned rim and a body receding sharply from the extremely short neck. From early level of Period I.

137. Jar of red ware, coarse fabric, treated with weak light-red slip (or wash) on both the sides, has a splayed and externally clubbed rim and constricted neck. From early level of Period I. A similar shape also occurs at Harappa.<sup>70</sup>

138. Jar of red ware, coarse fabric, treated with light weak red slip on both the sides, has an out-turned splayed rim obliquely cut at the external edge. From early level of Period I.

#### C(vi), D(viii). RED AND GREY WARES, JARS

Type A. Out-turned rim and concave neck, specimen 139.

Type B. Out-turned rim with a mild ridge below it, specimens 140 and 141.

Type C. Splayed and obliquely cut rim and flaring mouth, specimen 142.

Type D. Splayed rim, flaring tall, concave neck, specimen 143.

Type E. Out-curved splayed rim, constricted neck, specimen 144.

Type F. Out-turned rim, with an almost imperceptible groove on the edge and flaring mouth,



- specimen 145.
- Type G. Out-turned, externally obliquely cut drooping rim and flaring mouth, specimens 146, 147 and 148.
- Type H. Out-turned, splayed and externally dropping rim, flaring mouth and tall concave neck, specimen 149.
- Type I. Externally beaked rim, specimen 150.
- Type J. Horizontally splayed and flanged rim with a mild ridge at the inner edge of the rim, specimen 151.
- Type K. Out-turned and splayed rim, specimen 152.
- Type L. Out curved and splayed rim, specimen 153.
- Type M. Out curved rim with flattened top, specimen 154.
- Type N. Short vertical sharpened rim, specimen 155.
- Type O. Splayed rim with grooved flattened top and concave neck, specimen 156.
- Type P. Vertical internally ledged rim and tall neck, specimen 157.
- Type Q. Bud-shaped rim and flaring mouth, specimen 158.

A(x), C(vii), D(ix). BLACK-ON-RED, GREY AND RED WARES, CARINATED JARS

- Type A. Everted rim, short concave neck, closing ridged carinated shoulders, specimen 159.
- Type B. Splayed rim, closing shoulders and ridged carinated waist, specimens 160 and 160a.
- Type C. Obliquely splayed out and flanged rim, closing shoulders and ridged carination at the waist, specimens 161 and 161a.
- Type D. Obliquely splayed externally bevelled rim, closing shoulders and ridged carination at the waist, specimens 162 and 162a.
- Type E. Obliquely splayed rim, closing shoulders and ridged carination at the waist, specimens 163 and 163a.
- Type F. obliquely splayed and flanged rim with closing shoulders. The rim is further concavely bevelled, specimen 164.
- Type G. Nail head rim and closing shoulders, specimen 165.

Fig. 11

139. Jar of red ware, coarse fabric, treated with weak light red slip on both the sides, has an outcurved rim and concave neck. From early mid-level of Period I.

140. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned rim with a mild ridge on the exterior just below the rim. From early level of Period I.

141. Jar of red ware, medium fabric, treated with red slip on both the sides; slip inside has peeled off; has an out-turned and splayed rim with a mild ridge below and constricted concave neck. From early level of Period I.

142. Jar of red ware, medium fabric, treated with light red slip on both the sides; the slip

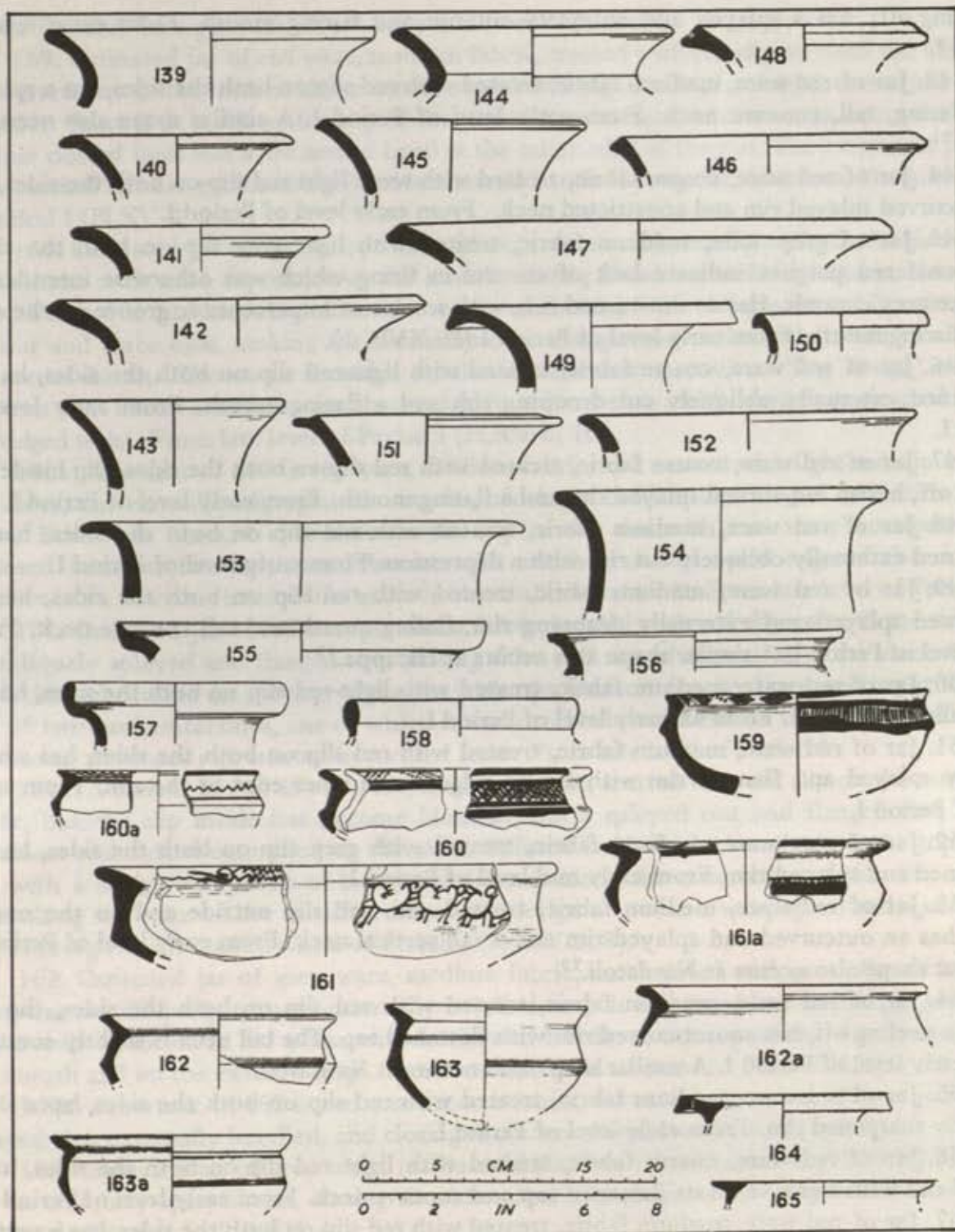


Fig.11. Pottery: Period I.



is peeling off; has a splayed and obliquely cut rim and flaring mouth. From early level of Period I.

143. Jar of red ware, medium fabric, treated with red slip on both the sides, has a splayed rim, flaring, tall, concave neck. From early level of Period I. A similar shape also occurs at Maski.<sup>71</sup>

144. Jar of red ware, coarse fabric, treated with weak light-red slip on both the sides, has an outcurved splayed rim and constricted neck. From early level of Period I.

145. Jar of grey ware, medium fabric, treated with light grey slip on both the sides. Occasional red patches indicate lack of control in firing which was otherwise intended to produce grey ceramic. Has an out-turned rim, with an almost imperceptible groove on the edge and a flaring mouth. From early level of Period I (Pl. XVII, 1).

146. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has an out-turned, externally obliquely cut drooping rim and a flaring mouth. From early level of Period I.

147. Jar of red ware, coarse fabric, treated with red slip on both the sides, slip inside has peeled off, has an out-turned splayed rim and a flaring mouth. From early level of Period I.

148. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned externally obliquely cut rim with a depression. From early level of Period I.

149. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned splayed and externally drooping rim, flaring mouth and tall concave neck. From early level of Period I. A similar shape also occurs at Harappa.<sup>72</sup>

150. Jar of red ware, medium fabric, treated with light-red slip on both the sides, has an externally beaked rim. From an early level of Period I.

151. Jar of red ware, medium fabric, treated with red slip on both the sides, has a horizontally splayed and flanged rim with a mild ridge at the inner edge of the rim. From early level of Period I.

152. Jar of grey ware, medium fabric, treated with grey slip on both the sides, has an out-turned and splayed rim. From early mid-level of Period I.

153. Jar of red ware, medium fabric, treated with red slip outside and on the mouth inside, has an outcurved and splayed rim and a tall vertical neck. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>73</sup>

154. Jar of red ware, medium fabric, treated with red slip on both the sides, the slip inside is peeling off, has an out-curved rim with flattened top. The tall neck is slightly concave. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>74</sup>

155. Jar of red ware, medium fabric, treated with red slip on both the sides, has a short vertically sharpened rim. From early level of Period I.

156. Jar of red ware, coarse fabric, treated with light red slip on both the sides, has a splayed rim with a groove on its flattened top and concave neck. From early level of Period I.

157. Jar of red ware, medium fabric, treated with red slip on both the sides, has a vertical internally ledged rim and tall neck. From early level of Period I.

158. Jar of red ware. Coarse fabric, treated with red slip on both the sides, has a bud-



shaped rim and flaring mouth. From early mid-level of Period I.

159. Carinated jar of red ware, medium fabric, treated with red slip on both the sides, has an everted featureless rim, a short concave neck closing shoulders, ridged carination at the shoulder. Painted in black on the top of the rim with cross-hatched diamonds interspaced with oblique dotted lines and a horizontal band at the outer edge of the rim. The exterior is painted with vertical strokes enclosed between horizontal bands of irregular thickness. From mid-level of Period I (Pl. XV B, 2).

160. Carinated jar of red ware, coarse fabric, treated with red slip on both the sides, has a splayed rim with mild depression at the mouth, closing shoulders and ridged carination at the waist. Painted in blackish-chocolate on the top of the rim with oblique dotted lines in groups of four and three each, making the two sides of a triangle and enclosed between two sets of horizontal bands. The outer shoulder on the exterior has a series of 'flag design' enclosed between two horizontal lines, one above and the other below, with another horizontal line on the ridged waist. From late level of Period I (Pl. XV B, 10).

160a. A *variant* of 160 in red ware, medium fabric, and treated with light-red slip on both the sides, has an obliquely splayed out rim, closing shoulders and ridged carination at the waist. Painted in blackish-chocolate on the top of the rim with two wavy horizontal lines enclosed between two horizontal bands, with another at the outer edge of the rim. The exterior has a wavy horizontal line and a horizontal line below it. From late level of Period I.

161. Carinated jar of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed and flanged rim, closing sides and ridged carination at the waist. Painted in blackish-chocolate on the top of the rim with two horizontal wavy lines meeting at the loop end of two horizontal lines, one of which is wavy, and below the rim on the outside with a row of running antelopes represented in stylised form. From late level of Period I.

161a. A *variant* of 161 in red ware, medium fabric, treated with red slip on the outside and inside, but the slip inside has become blackish, has a splayed out and flanged rim, closing shoulders and ridged carination at the waist. Painted in blackish-chocolate on the top of the rim with a design composed of two parallel bands along the outer edge of the rim, and one band along the edge of the mouth, enclosing a design of which a wavy spiral and a curved arc can be recognised. From late level of Period I (Pl. XV B, 8).

162. Carinated jar of grey ware, medium fabric, and treated with grey slip on both the sides, has an obliquely splayed externally bevelled rim, closing shoulders and ridged carination at the waist. Painted in red ochre with horizontal bands on the top of the rim, inner edge of the mouth and on the exterior ridge. From late mid-level of Period I (Pl. XVII, 8).

162a. A *variant* of 162 in red ware, coarse fabric, devoid of slip or wash, has an obliquely splayed rim, externally bevelled, and closing shoulders. From late level of Period I.

163. Carinated jar of grey ware, medium fabric, treated with grey slip on both the sides, has an obliquely splayed rim, closing shoulders and ridged carination at the waist. From early mid-level of Period I (Pl. XVII, 4).

163a. A *variant* of 163 in grey ware, medium fabric, and treated with reddish grey slip on both the sides, has an obliquely splayed rim, closing shoulders and ridged carination at the



waist. It has a groove on the exterior below the rim. From mid-level of Period I (Pl. XVII, 6).

164. Carinated jar of grey ware, medium fabric, treated with grey slip on both the sides, has an obliquely splayed and flanged rim with closing shoulders. The rim is further concavely bevelled. There are two exterior perforations at the outer edge of the rim for suspension. From early mid-level of Period I.

165. Carinated jar of grey ware, medium fabric and treated with grey slip on both the sides, has a nail-headed rim, and closing shoulders. From early level of Period I.

#### A(xi), C(viii), D(x). BLACK-ON-RED, GREY AND RED WARES, *LOTA* TYPE JARS

- Type A. Obliquely splayed rim and flaring mouth, specimens 166 and 166a.
- Type B. Out-turned rim, flaring mouth and tall concave neck, specimen 167.
- Type C. Obliquely splayed rim, flaring mouth and concave neck, specimen 168.
- Type D. Tall concave neck, short shoulder and carinated waist, specimen 169.
- Type E. Out-turned and splayed rim, specimen 170.
- Type F. Slightly everted rim with two grooves below it on the exterior and a tall concave neck, specimen 171.
- Type G. Vertical rim and short concave neck, specimen 172.

#### A(xii), D(xi). BLACK-ON-RED AND RED WARES, SPOUTED JARS

- Type A. Short vertically rim, globular body, specimens 173 and 173a.

#### D(xii). RED WARE DOUGH-PLATES

- Type A. Short vertical rim, slightly concave sides and a thick flat base, specimens 174 and 174a.
- Type B. Vertical tapering rim, thick oblique sides with a convex profile and thicker base, specimen 175.
- Type C. Thick rim, convex sides and thicker gritty base, specimen 176.
- Type D. Tapering sides and thick base, specimen 177.
- Type E. Vertical externally sharpened rim, slightly convex sides and thick base, specimen 178.
- Type F. Thick convex sides, specimen 179.

#### D(xiii). MISCELLANEOUS SHAPES

##### (a) Spout

Though not found in large numbers, certain parts and fragments of sherds throw light on miscellaneous shapes and uses of pottery. These consist of spouts, tubular as well as chann-

elled, applique handles, knobbed and lugged lids, open bottomed basin, miniature bowl, bowl-on-stand and ring stand etc. While the spouts belong to the medium fabric and are painted, the other adjuncts represent vessels of coarse ware.

Type A. Tubular, with an oblique mouth, specimen 180.

Type B. Channelled, specimen 181.

(b) Lid

Type A. Lid with a solid knob, specimen 182 and 182a.

Type B. Lid with a solid knob pinched at the top, specimens 183 and 183a.

Type C. Flat lug knob, specimen 184.

(c) Strap-handle

Type A. Strap-handles, specimens 185, 186 and 187.

(d) Miniature bowl

Type A. Miniature bowl-on-stand with out-turned rim, flaring mouth and a ridge on the waist, specimen 188.

Type B. Out-turned rim, vertical sides, thick rounded base, specimen 189.

(e) Basin

Type A. Horizontally splayed rim with a large perforation at the bottom, specimen 190.

(f) Stand

Type A. Thick sides, tapering body, with an outward turning, probably for the rim, specimen 191.

Fig. 12

c(ix), D(xiv). RED, GREY WARES, LOTA TYPE JARS

166. Jar of red ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed rim and flaring mouth. Painted in black inside with oblique lines intersecting one another, thus making irregular triangles, and a horizontal band along the edge of the rim on top. From early level of Period I.

166a. A variant of 166. Has a splayed rim and flaring mouth. Painted in black on the



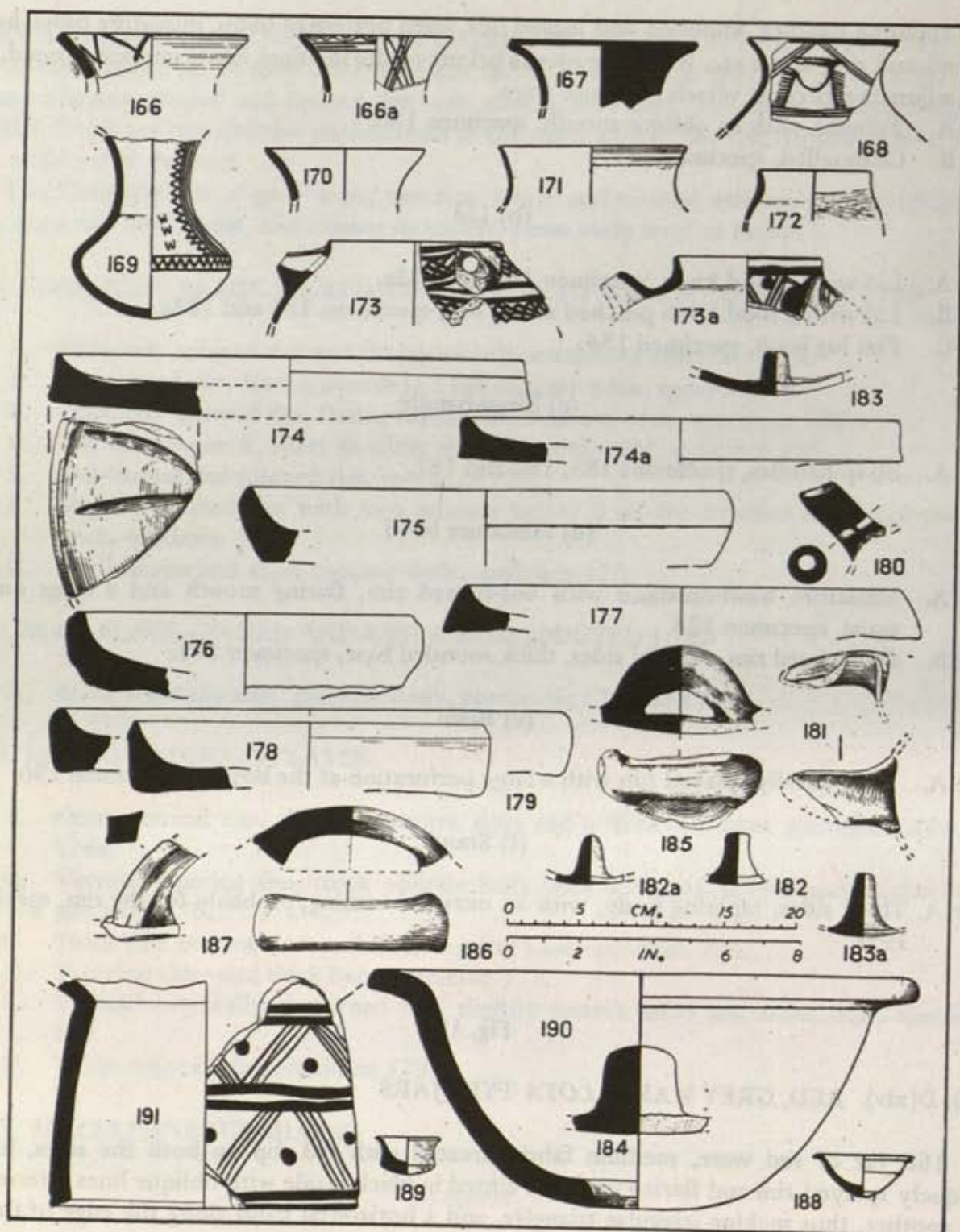


Fig.12. Pottery: Period I.

exterior with two groups of three oblique lines intersecting each other, and inside, the mouth has two horizontal bands, and a row of double arcs along the edge of the rim. From mid-level of Period I.

167. Jar, of red ware, medium fabric, treated with red slip on both the sides, has an out-turned rim, flaring mouth and a tall, concave neck. Painted in black on the exterior with a thick horizontal band on the neck. From mid-level of Period I. A similar shape also occurs at Navdatoli.<sup>75</sup>

168. Jar of red ware, fine fabric, treated with red slip on the exterior and up to the neck inside, has an obliquely splayed rim, flaring mouth and concave neck. Painted in black on the exterior with a stylized antelope within three concentric triangles and a horizontal band above. The antelope is formed of two uprights, each with short horizontal lines in a vertical order, bridged by a curve. The horns are represented by two wavy lines joined to a head. From early mid-level of Period I (Pl. XVI, 7). A similar shape also occurs at Navdatoli.<sup>76</sup>

169. Jar of red ware, medium fabric, treated with red slip on the exterior, has a tall concave neck, short shoulder and is carinated at the waist. Painted in black on the exterior with a zigzag line enclosed between two horizontal bands at the waist and three vertical lines on the body and neck flanked by a zigzag line joining the horizontal band at right angles and three 'W' signs in vertical order over the horizontal band. It is a distinctive type and occurs but rarely. The mouth and rim may, inferably, resemble those of types 166-168. From mid-level of Period I (Pl. XVI, 1). A similar shape occurs at Navdatoli.<sup>77</sup> The type also occurs at Nevasa.<sup>78</sup>

170. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned and splayed rim. From early level of Period I.

171. Jar of grey ware, fine fabric, treated with grey slip on both the sides, with thin walls, has a slightly everted rim with two grooves below it on the exterior and a tall concave neck. From early level of Period I (Pl. XVII, 7).

172. Jar of red ware, medium fabric, devoid of wash or slip; the exterior is rough and is marked with straw impressions; has a short concave neck, and an almost vertical featureless rim. From early level of Period I.

#### D(xv). RED WARE SPOUTED JARS

173. Jar of red ware, medium fabric, treated with red slip on the exterior and slightly along the mouth inside, has a short vertical rim and globular body with a channel spout below the rim. Painted in black on the exterior with two rows of criss-cross design each enclosed between two horizontal bands, and another horizontal band below the rim. The spout appears to have been painted also. From early level of Period I (Pl. XVI, 10).

173a. A variant of 173 with light-red slip on the exterior and on the mouth inside, has a short vertical rim, and globular body with tubular spout on the shoulder. Painted in black on the exterior with two horizontal rim bands and three zigzag lines making triangles, the angular spaces having filled up circles. The entire spout is also painted. From early mid-level of Period I.



## D(xvi). RED WARE DOUGH-PLATES

Dough-plates are so called as they were presumably used for preparing dough. They may as well have been used for baking of bread, as is indicated by signs of being kept on the oven in the form of dark burnt patches. They are handmade. The base invariably has grains. This suggests that after potting these have been dried on a bed of grains or the grains have been studded purposely to give strength to bear the heat on the ovens. A similar shape also occurs at Harappa.<sup>79</sup>

174. Dough-plate of red ware, coarse fabric treated with thin light-red slip inside and exteriorly only on the sides, has a short vertical rim, slightly concave sides and a thick flat base. The inner base has a couple of depressions, suggesting a radiating pattern. Inner surface is burnt black. The occasional burning (?) of bread has possibly imparted to the upper surface a burnt black colour and the base is terracotta red in colour, obviously due to repeated applications of heat on the oven. From early level of Period I (Pl. XVI, 3).

174a. A variant of 174. Has a short vertical rim, slightly concave sides and a thick flat base. Inner surface is burnt black. From early level of Period I. A similar shape also occurs at Navdatoli.<sup>80</sup> The shape also occurs at Nevasa.<sup>81</sup>

175. Dough-plate of red ware, coarse fabric, treated with light-red slip inside, has a vertical tapering rim, thick oblique sides with a convex profile and thicker base. From late level of Period I. A similar shape also occurs at Navdatoli.<sup>82</sup>

176. Dough-plate of red ware, coarse fabric, treated with thin light-red slip inside and exteriorly on the sides, has a thick rim, convex sides and thicker gritty base. From mid-level of Period I. A similar shape occurs at Navdatoli.<sup>83</sup>

177. Dough-plate of red ware, coarse fabric, treated with thin red slip on both the sides, has tapering sides and a thick base. From early level of Period I.

178. Dough-plate of red ware, coarse fabric, treated with thin red slip on both the sides, has a vertically externally sharpened rim, slightly convex sides and a thick base. The exterior has husk impressions. From late mid-level of Period I.

179. Dough-plate of red ware, coarse fabric, treated with thin red slip on both the sides, has thick convex sides. From mid-level of Period I. A similar shape also occurs at Navasa.<sup>84</sup>

## D(xvii). RED WARE SPOUTS

180. Spout, tubular of red ware, medium fabric treated with red slip on outside, has an obliquely cut mouth. Painted completely in black outside exposing a band of red slip. From late level of Period I. A similar type also occurs at Nasik.<sup>85</sup>

181. Spout, channel, <sup>86</sup> of red ware, medium fabric, treated with slip. Painted in black on both sides. From Period I.

## D(viii). RED WARE LIDS

182. Lid, with a solid knob of red ware, medium fabric, treated with weak red slip



on both the sides. From early level of Period I. Lids with central knob also occur at Bahal.

182a. A *variant* of 182. From early level of Period I.

183. Lid with solid knob pinched at the top, of red ware, devoid of slip or wash. The interior is rough and has husk impressions. From mid-level of Period I.

183a. A *variant* of 183. From early level of Period I.

184. Lid, with flat lug knob, of red ware, coarse fabric, treated with red slip on both the sides. From mid-level of Period I.

#### D(xix). RED WARE STRAP-HANDLES

185. Strap-handle of red ware, coarse fabric, devoid of wash or slip. From early level of Period I.

186. Strap-handle of red ware, coarse fabric, devoid of slip or wash. From early level of Period I.

187. Strap-handle with medium ridge in red ware, coarse fabric, treated with weak red slip on both the sides. From early level of Period I.

188. Miniature bowl-on-stand of red ware, medium fabric, treated with red slip on both the sides, has an out-turned rim, flaring mouth and a ridge on the waist. The base is broken and suggests that it had a pedestal. From mid-level of Period I.

189. Miniature toy bowl, handmade, of red ware, medium fabric, devoid of slip or wash, has an out-turned rim, vertical sides and thick rounded base. From late level of Period I.

190. Basin of indeterminate use, of red ware, medium fabric, treated with red slip on both the sides, has a horizontally splayed rim and a large perforation or hole through the bottom. From late level of Period I.

191. Stand of red ware, coarse fabric, treated with weak red slip on both the sides, has thick sides, tapering body and an outward turning towards the top probably for the rim. Painted in purplish-chocolate on the exterior in two panels, with a row of four sets of oblique lines symmetrically placed with small filled up circles in the angular spaces, between bands. From late level of Period I. (Pl. XVI, 2). Similar stands also occur at Jorwe<sup>87</sup> and Navdatoli.<sup>88</sup>

#### B(i). BLACK-AND-RED WARE BOWLS

Type A. Everted and externally mildly beaded rim, a bulbous profile suggesting a mild ridge at the body, specimens 192, 192a, 192b, 192c, 192d, 192e, 192f, 192g, 192h, 192j, 192k, 192l, and 192m.

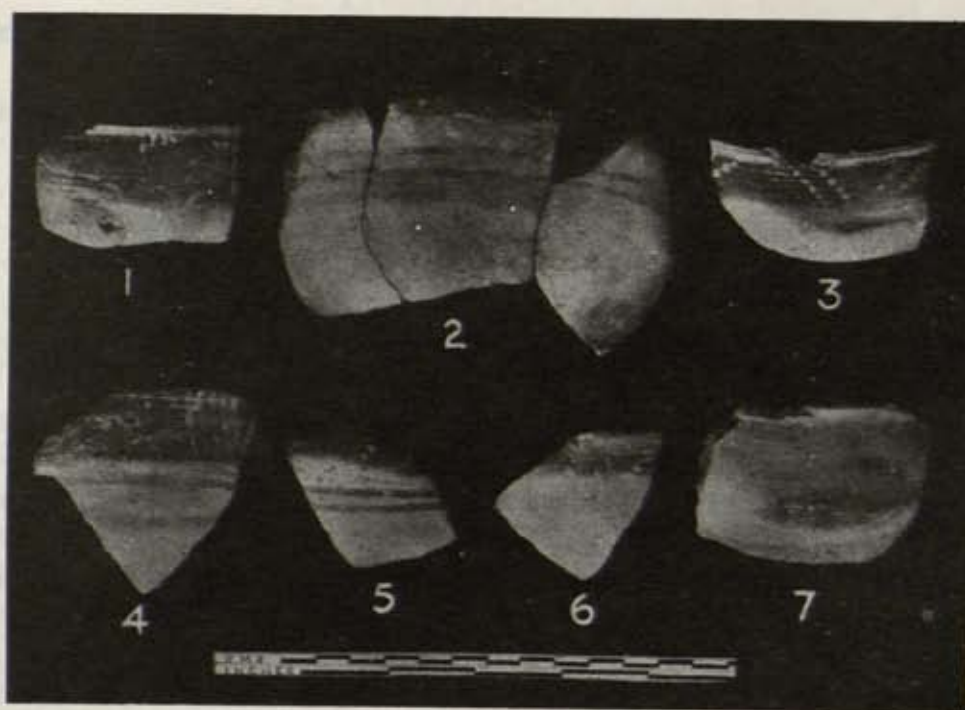
Type B. Everted internally bluntly sharpened rim and convex profile, specimens, 193, 193a, 193b, 193c and 193d.

Type C. Everted rim and bulbous body, specimens, 194 and 194a.

Type D. Everted externally beaded rim and flaring sides, specimen, 195.

Type E. Everted rim with slight concavity below it and convex globular profile, specimen 196.





XVIII A. Nagda : Black-and-red ware pottery, Period I.



XVIII B. Nagda : Grey ware jar with paring marks, Period I.

- Type F. Vertical slightly everted rim and convex rounded profile, specimens 197 and 197a.  
 Type G. Vertical featureless rim and concavo-convex profile, specimens 198, 198a, 198b, 198c, and 198d.

#### B(ii). BLACK-AND-RED WARE BOWL-CUM-DISH

- Type A. Incurved rim and convex profile, specimens 199 and 199a.  
 Type B. Flat dish with sagger base, specimen 200.

#### B(iii). BLACK-AND-RED WARE SHERDS WITH GRAFFITI

Three sherds with graffiti, nos. 201, 202 and 203.

Fig. 13

192. Bowl, of black-and-red-ware, medium fabric, treated with slip on both the sides, has an everted and externally mildly beaded rim, a bulbous profile suggesting a mild ridge at the body. The exterior is wholly reddish instead of being partly black on the top. Painted in evanescent blackish-chocolate with three oblique lines in dots enclosed between two horizontal lines. From late level of Period I. This is the commonest shape of bowls in this ware.

192b. A *variant* of 192 with red slip on both the sides, has a less bulbous profile. Painted in whitish pigment on the exterior with six vertical strokes. From early level of Period I.

192b. A *variant* of 192 with a prominently everted rim. Painted in purplish-chocolate on the exterior with five vertical strokes flanked by pairs of oblique dotted lines on either side. From early level of Period I.

192c. A *variant* of 192 with more pronounced bulge at profile. Painted in whitish pigment on the exterior with two parallel zigzag lines in dots. From late level of Period I. (Pl. XVIII A, 3).

192d. A *variant* of 192. The black part on the exterior is painted in whitish pigment with oblique lines in dots. From late level of Period I.

192e. Larger *variant* of 192. Painted in whitish pigment on the black part of the exterior with oblique dotted lines. From late level of Period I.

192f. A *variant* of 192. The black part on the exterior is painted with short vertical strokes and a horizontal line on the waist in purplish-chocolate pigment which has almost faded. Just below the waist, it has a horizontal perforation through a lumpy lug, obviously for suspension. From late level of Period I (Pl. XVIII A, 1).

192g. A *variant* of 192. Interiorly black but the exterior is almost throughout red, owing perhaps to conditions of firing, and is painted with short oblique strokes in purplish-chocolate pigment. From late level of Period I (Pl. XVIII A, 7). A similar shape also occurs at Navdatoli.<sup>89</sup>



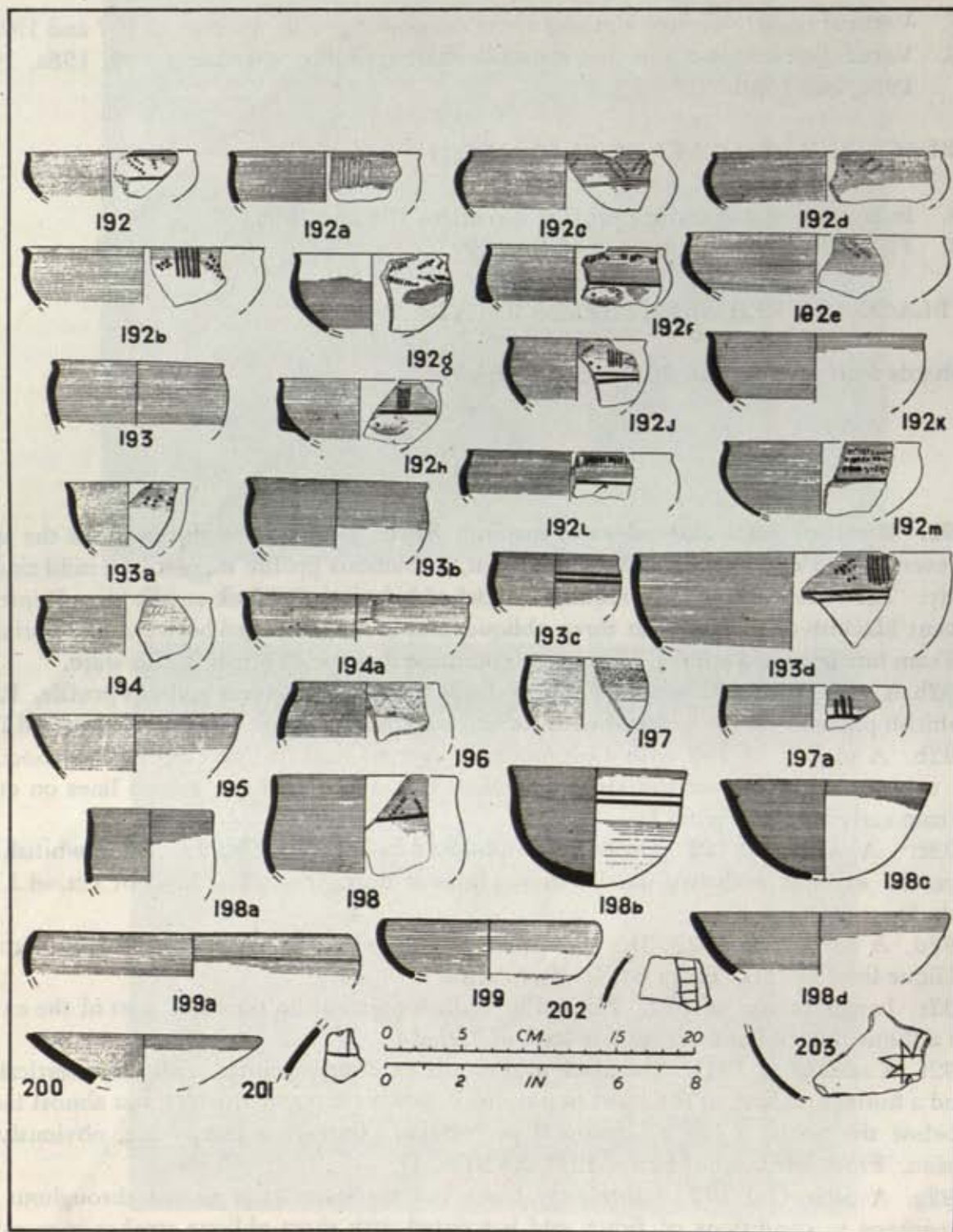


Fig.13. Pottery: Period I.



192h. A *variant* of 192. Painted in purplish-chocolate pigment with longer vertical strokes and a horizontal line on the waist. From late level of Period I.

192j. A *variant* of 192. Painted in purplish-chocolate on the exterior with vertical strokes and dots on either side and two horizontal lines below. From mid-level of Period I (Pl. XVIII A, 5),

192k. A *variant* of 192. Unpainted. From mid-level of Period I.

192 l. A *variant* of 192. It is painted in purplish-chocolate with vertical strokes above a horizontal line, in outline, which has faded beyond recognition. From late level of Period I. A similar shape also occurs at Navdatoli.<sup>90</sup>

192m. A *variant* of 192. The black part on the exterior is painted with three horizontal lines in dots above a horizontal line. Some of the dots overlap. The pigment is purplish. From mid-level of Period I.

193. Bowl of medium fabric, treated with slip on both the sides, has an everted internally bluntly sharpened rim and a convex profile. It is deeper than the bowls described above. From early level of Period I.

193a. A *variant* of 193, though smaller; and the profile is receding. Painted in purplish-chocolate on the exterior with three oblique dotted lines. From early level of Period I (Pl. XVIII A, 6).

193b. A *variant* of 193. Unpainted. From early mid-level of Period I.

193c. A *variant* of 193. Painted in purplish-chocolate with two horizontal lines. From early level of Period I.

193d. A *variant* of 193. Painted in purplish-chocolate on the exterior with five vertical strokes, flanked on one side by three oblique lines formed by dots; further below are two horizontal lines. From early mid-level of Period I (Pl. XVIII A, 4).

194. Bowl of medium fabric, treated with slip on both the sides, has an everted rim and bulbous body. Painted in whitish pigment on the exterior with three short oblique strokes. From early level of Period I.

194a. A *variant* of 194. From early level of Period I.

195. Bowl of medium fabric, treated with slip on both sides, has an everted externally beaded rim and flaring sides. From early level of Period I.

196. Bowl of medium fabric, treated with slip on both sides, has an everted rim with a slight concavity below it and a convex globular profile. Painted in whitish pigment on the exterior with a wavy line forming diamonds at the right end. From early level of Period I. A similar shape occurs at Navdatoli.<sup>91</sup>

197. Deep bowl of medium fabric, treated with slip on both the sides, has a vertical slightly everted rim and convex rounded profile. There is a mild groove below the rim. Painted in whitish pigment on the exterior with criss-cross design enclosed between horizontal lines, one above and two below. From early level of Period I. A similar design appears at Navdatoli.<sup>92</sup>

197a. A *variant* of 197. Painted in purplish-chocolate on the exterior with three vertical strokes and a horizontal line below. From early level of Period I.



198. Deep bowl of medium fabric, treated with slip on both the sides, has a vertical featureless rim, and a concavo-convex profile. Painted in purplish-chocolate on the exterior with oblique lines in dots forming two arms of a triangle. It has a horizontal line below. From early level of Period I.

198a. A *variant* of 198. Unpainted bowl of medium fabric treated with slip on both the sides. From early level of Period I.

198b. A *variant* of 198. Painted in purplish-chocolate on the exterior with two horizontal lines. From mid-level of Period I (Pl. XVIII A, 2).

198c. A *variant* of 198. Has flaring sides, featureless rim and rounded base. From early level of Period I.

198d. A *variant* of 198 but not so deep. From late level of Period I.

199. Bowl-cum-dish. Has an incurved rim and convex profile. From late level of Period I.

199a. A *variant* of 199 with a groove on the convex profile outside. From mid-level of Period I.

200. Flattish dish with sagger base. From late level of Period I.

201. A sherd with an indeterminate graffiti. From late level of Period I.

202. Sherd with a 'ladder' design incised on the exterior as graffiti. From late level of Period I.

203. Sherd having an incised graffiti design on the exterior resembling a star with eight corners. From late level of Period I.

D(xx). RED WARE JAR

Fig. 14

204. Jar of red ware, coarse fabric, treated with red slip on the exterior and the mouth in the interior, has an out-turned obliquely splayed and externally bevelled rim, concave neck and globular profile. The shoulder is decorated with a band of irregularly incised chevrons and a horizontal line below. The entire profile has paring marks, which make the vessel very unusual in the ceramic industries of Nagda. From Period I (Pl. XVIII B, 1). Similar paring on the profile has been noticed on vessels at Gilund.

## F. PARALLELS OF POTTERY TYPES ON OTHER SITES

The pottery types on other sites have been compared\* with the pottery types on other sites recently excavated or explored. Figs. 15-21, 28-34 and 41-48 relate, respectively, to Periods I, II and III and are placed after the detailed descriptions for each Period.

The sites compared with are given below along with their abbreviations used. The references relate to the site and these are followed by the type number used in the published reports.

\* The comparative charts have been prepared by J.S. Nigam.

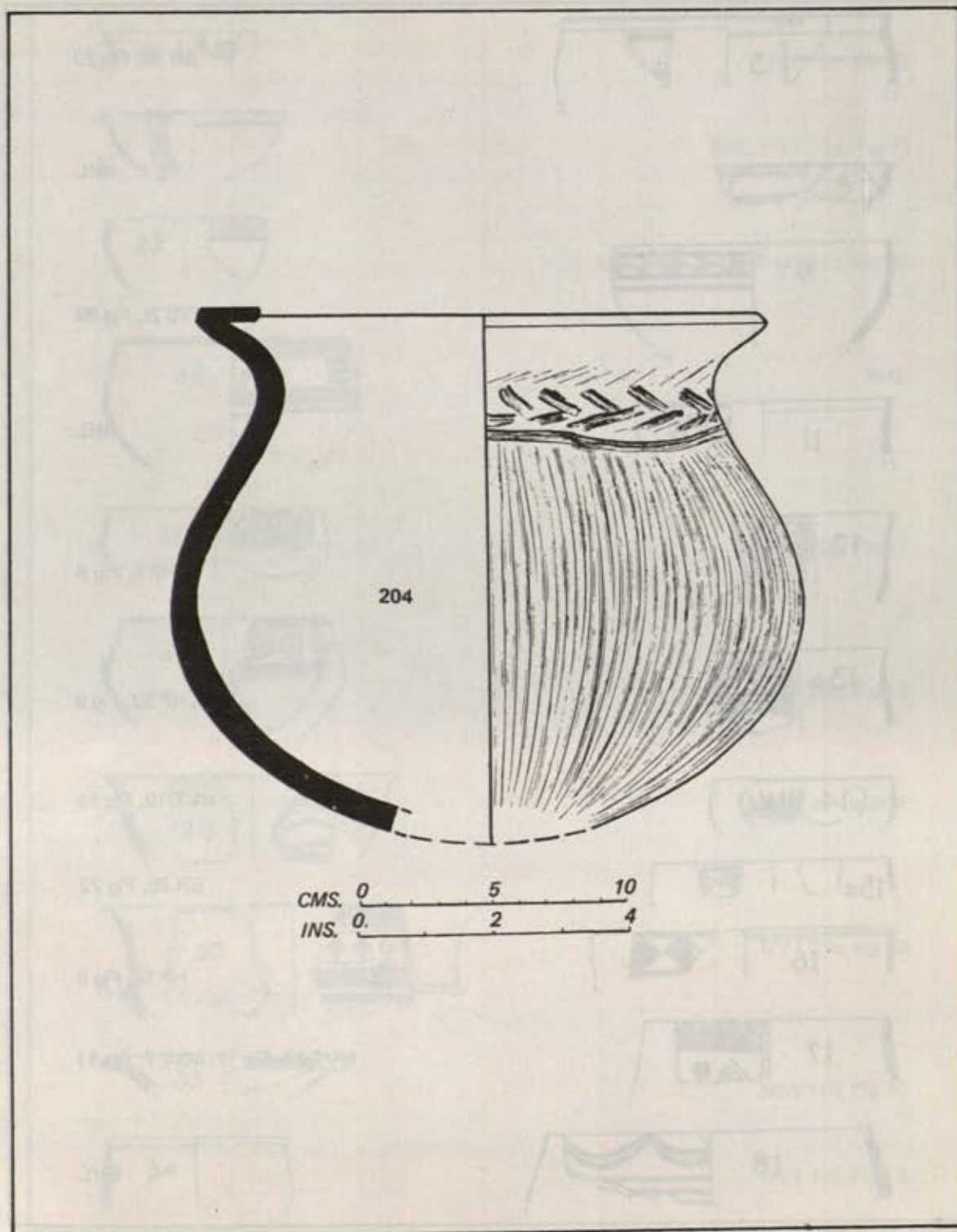


Fig.14. Pottery: Period I.



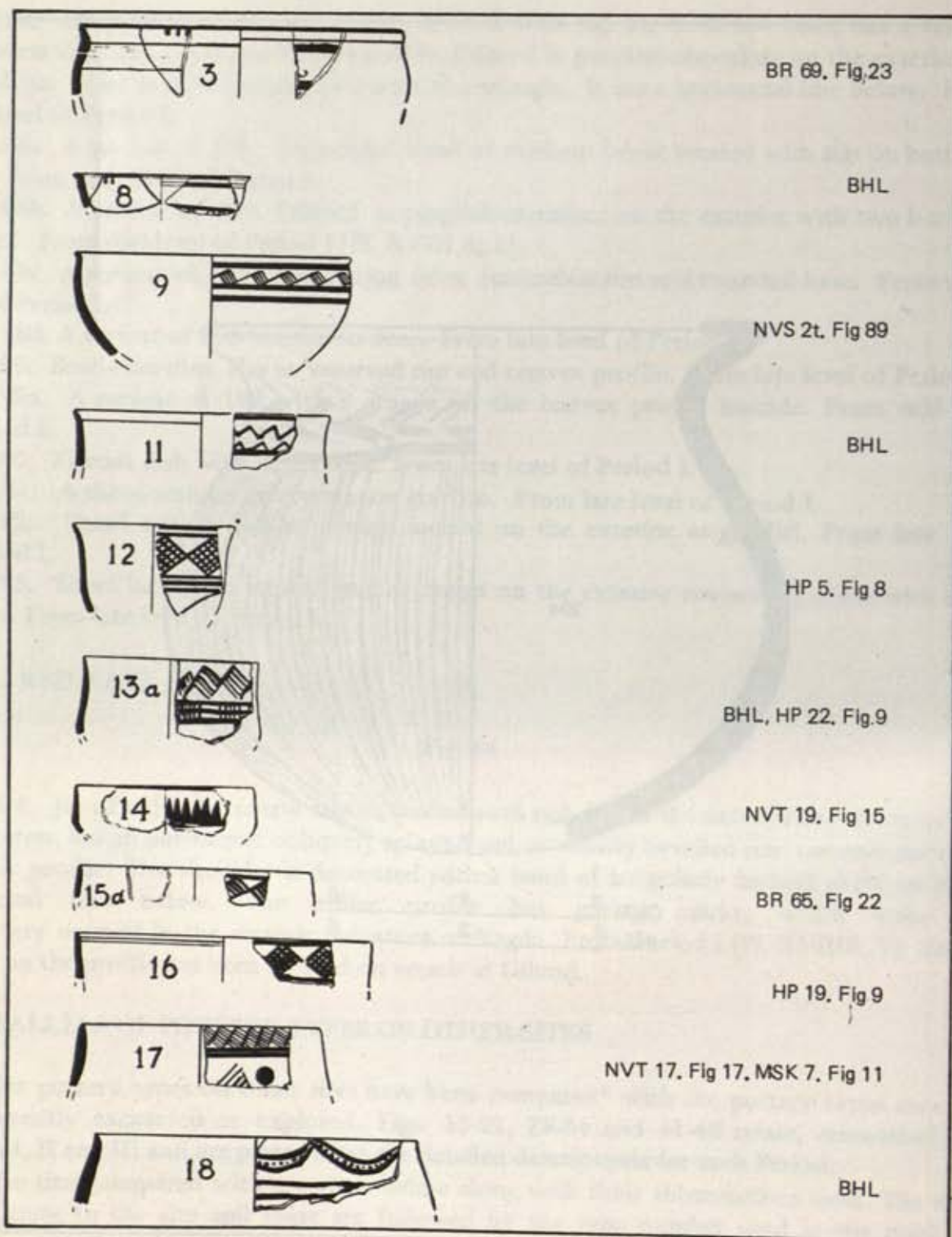


Fig. 15. Comparison of Pottery types and Painted designs with those on other sites, Period I.

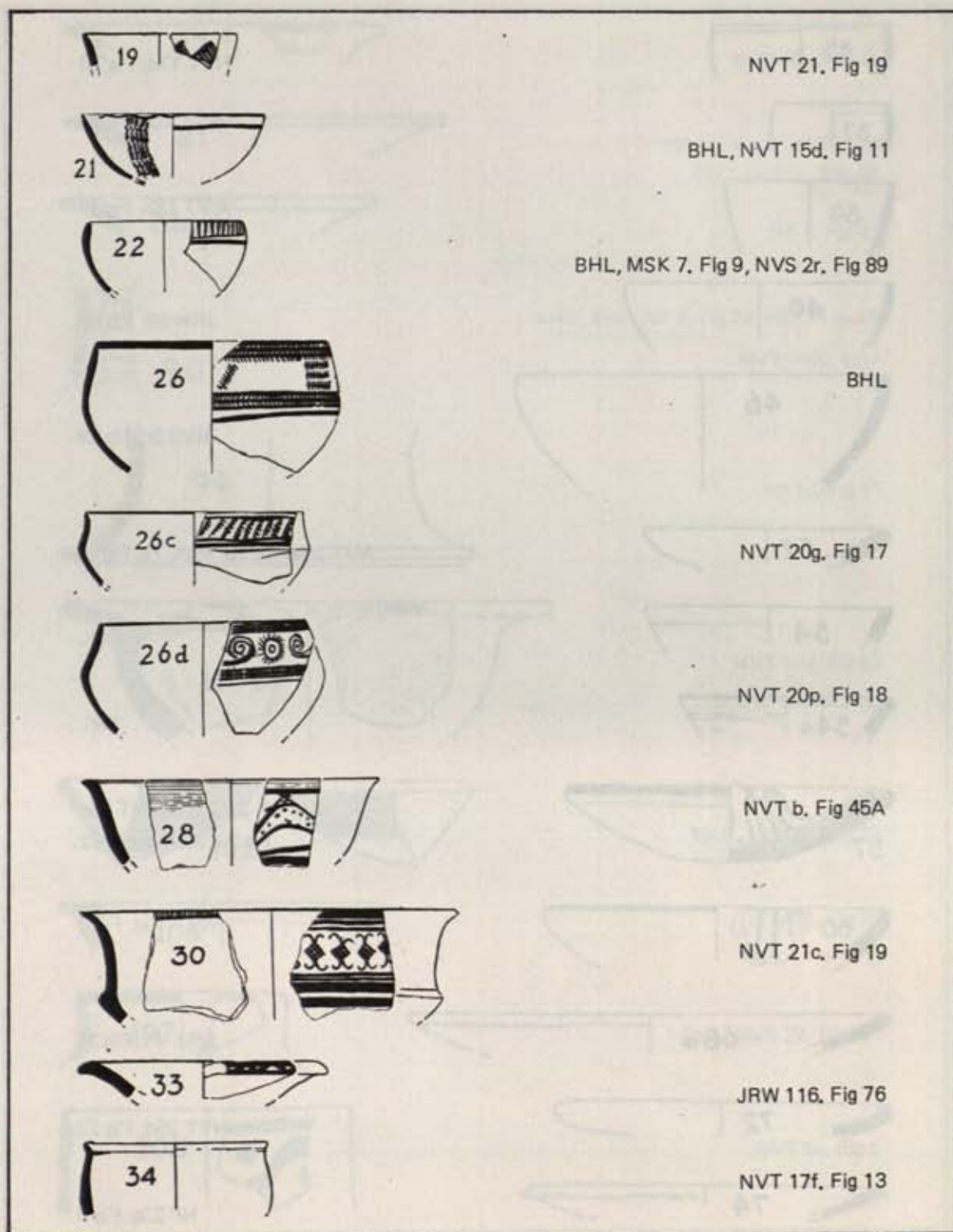


Fig. 16. Comparison of Pottery types and Painted designs with those on other sites, Period I.



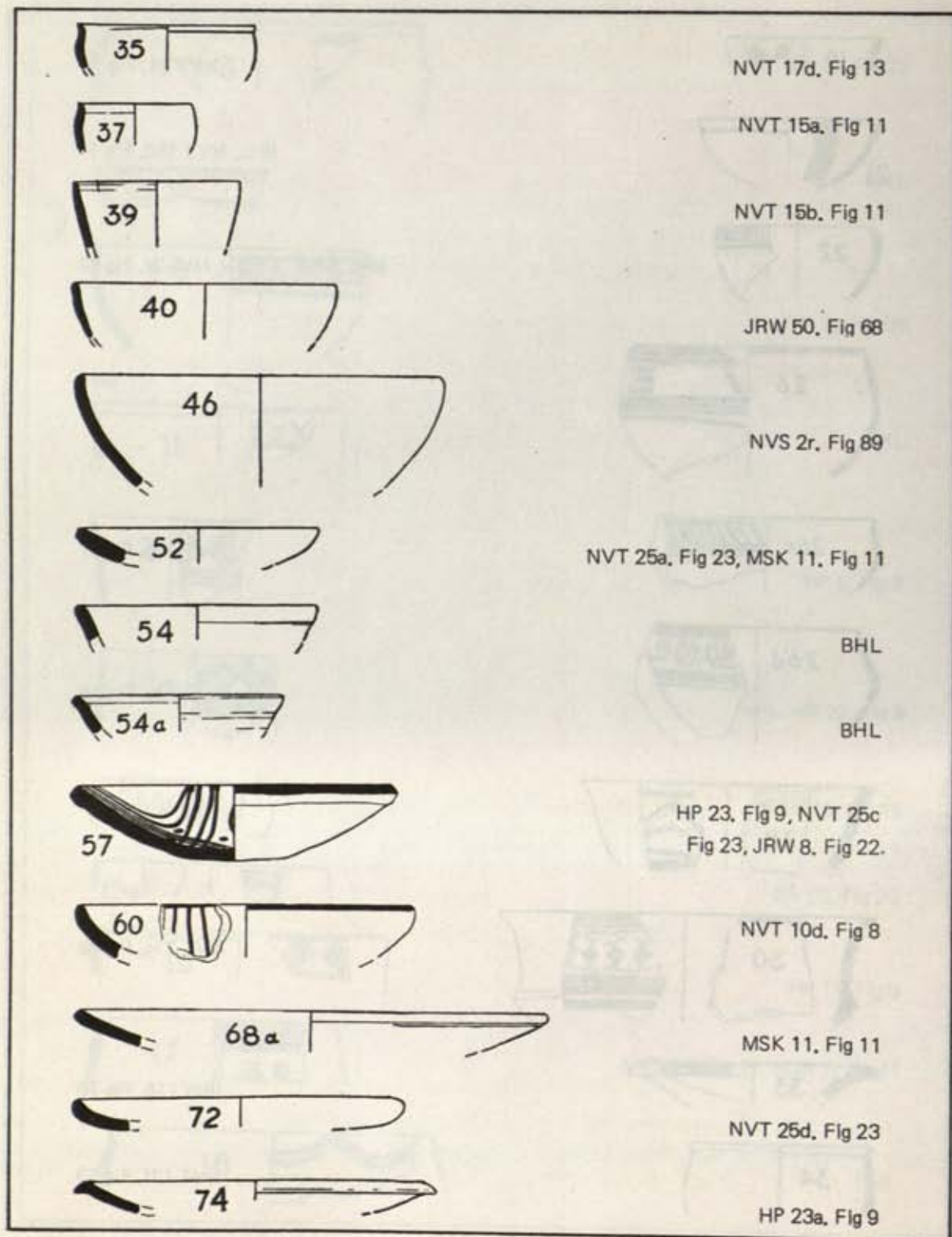


Fig.17. Comparison of Pottery types and Painted designs with those on other sites, Period I.

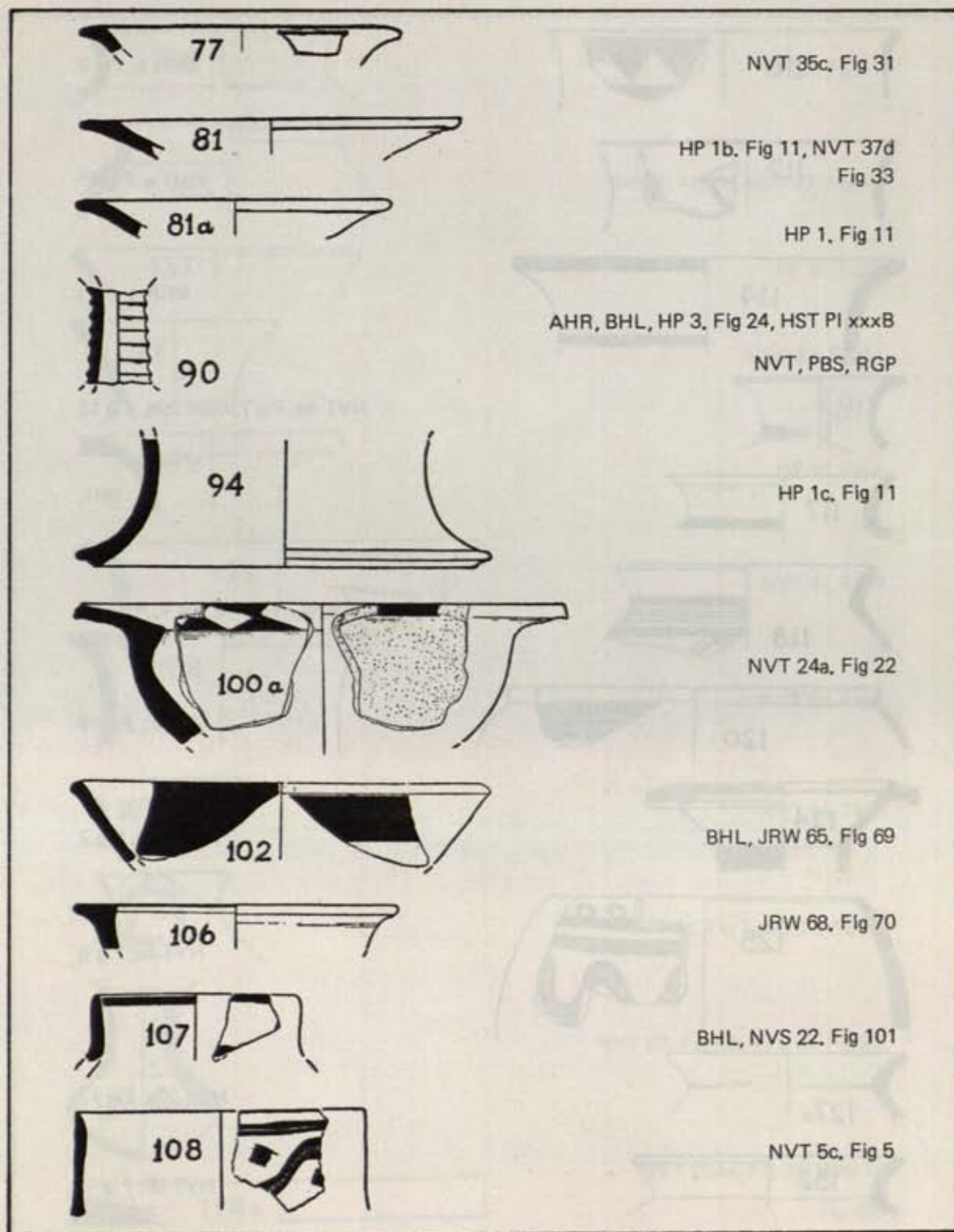


Fig. 18. Comparison of Pottery types and Painted designs with those on other sites, Period I.



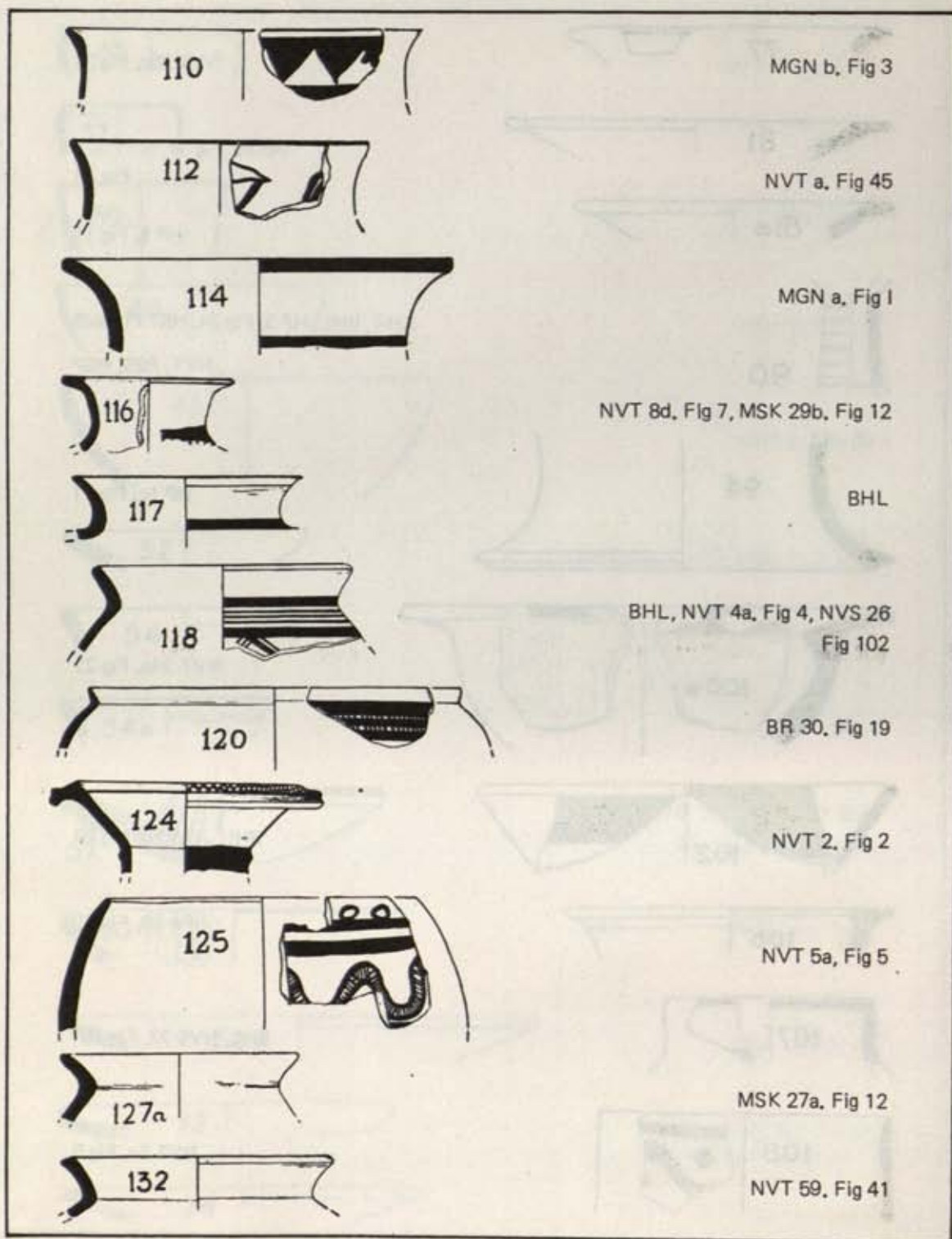


Fig. 19. Comparison of Pottery types and Painted designs with those on other sites, Period I.

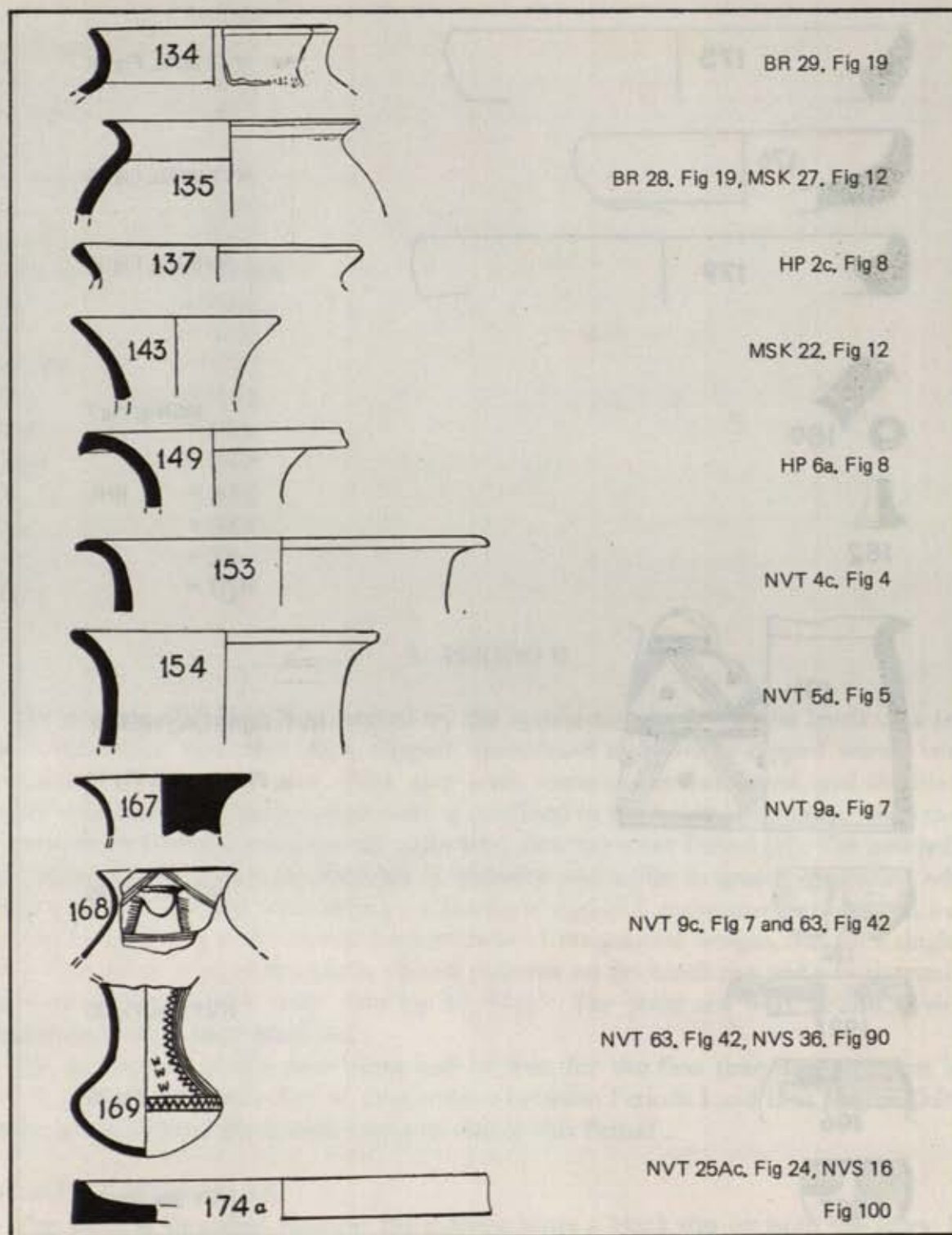


Fig. 20. Comparison of Pottery types and Painted designs with those on other sites, Period I.



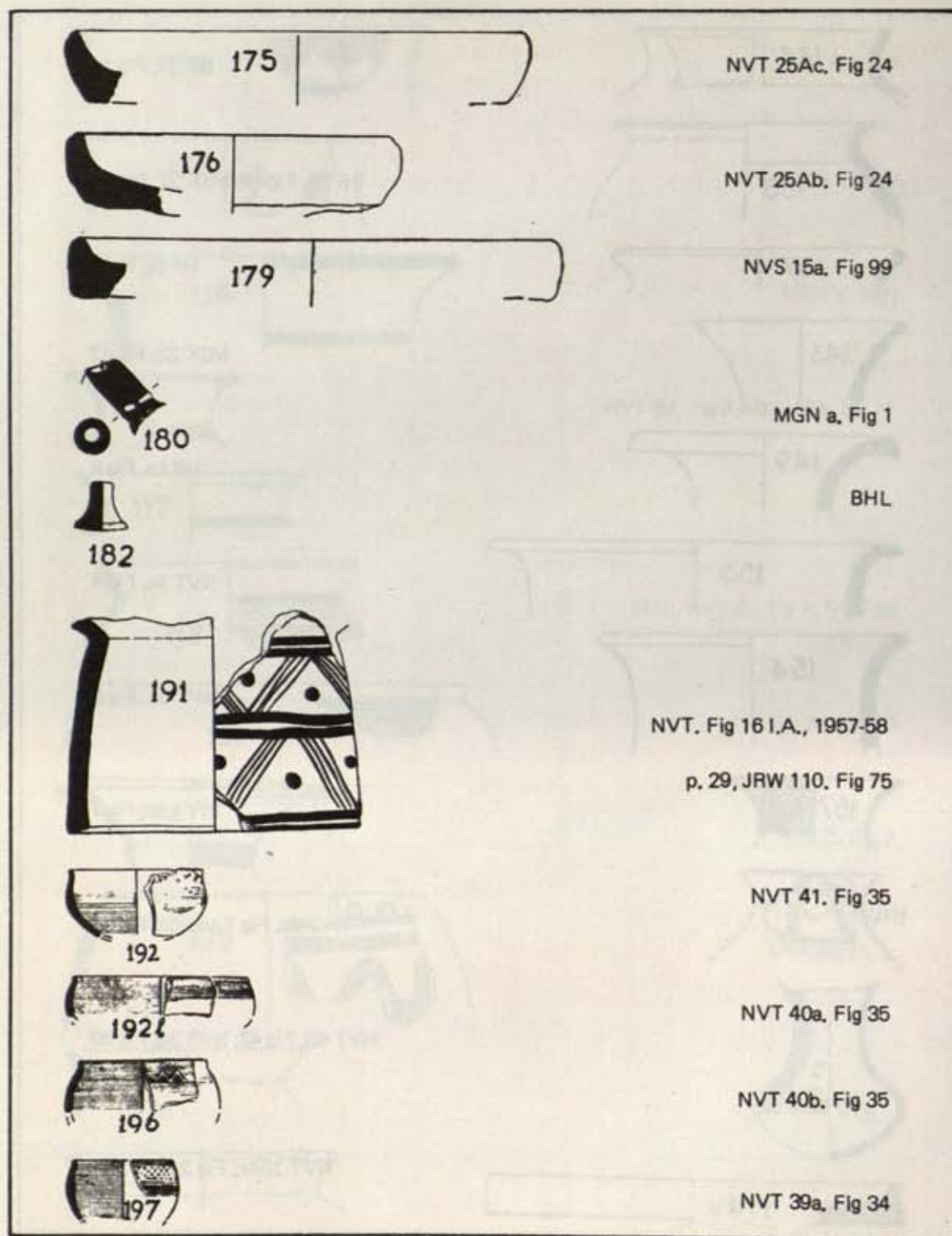


Fig. 21. Comparison of Pottery types and painted designs with those on other sites, Period I.

Ahar	= AHR
Ahichchhatra	= AC
Bahal	= BHL
Brahmagiri	= BR
Harappa	= HP
Hastinapura	= HST
Jorwe	= JRW
Kausambi	= KSB
Maheshwar	= MHSR
Maski	= MSK
Nasik	= MGN
Navdatoli	= NVT
Nevasa	= NVS
Prabhas	= PBS
Rangpur	= RGP
Ropar	= RPR
Sravasti	= SRV
Tripuri	= TP
Ujjain	= UJN

### 3. PERIOD II

The pottery of Period II is marked by the appearance in the lowest levels of a few new ceramic industries, viz., the black slipped, vesiculated and double-slipped wares, while the characteristic black-on-red ware, thick grey ware, occasionally burnished, and the black-and-red ware continue. The black-on-red ware is confined to the lower levels only, while the other two wares from Period I continue till quite late, into the next Period (II). The painted black-on-red ware and the grey ware diminish in quantity and suffer in quality gradually, while the black-and-red ware, which represented a minority in Period I, maintains its character, but with a significant difference in the almost total absence of the painted designs, but for a single sherd bearing a group of vertical strokes in whitish pigment on the black top and a horizontal line in purplish-chocolate on the waist (see fig. 27, 91a). The plain red ware is also obviously a continuation of the earlier tradition.

The occurrence of the new wares and of iron for the first time in the earliest level of Period II provide a definite line of demarcation between Periods I and II at Nagda. Culturally, however, some traits of the former continue also in this Period.

#### A. BLACK SLIPPED WARE

The ware is so called because the pottery bears a black slip on both the sides. It is of medium fabric and the core is blackish. The shapes occurring in this ware are bowl, dish, lid and basin.



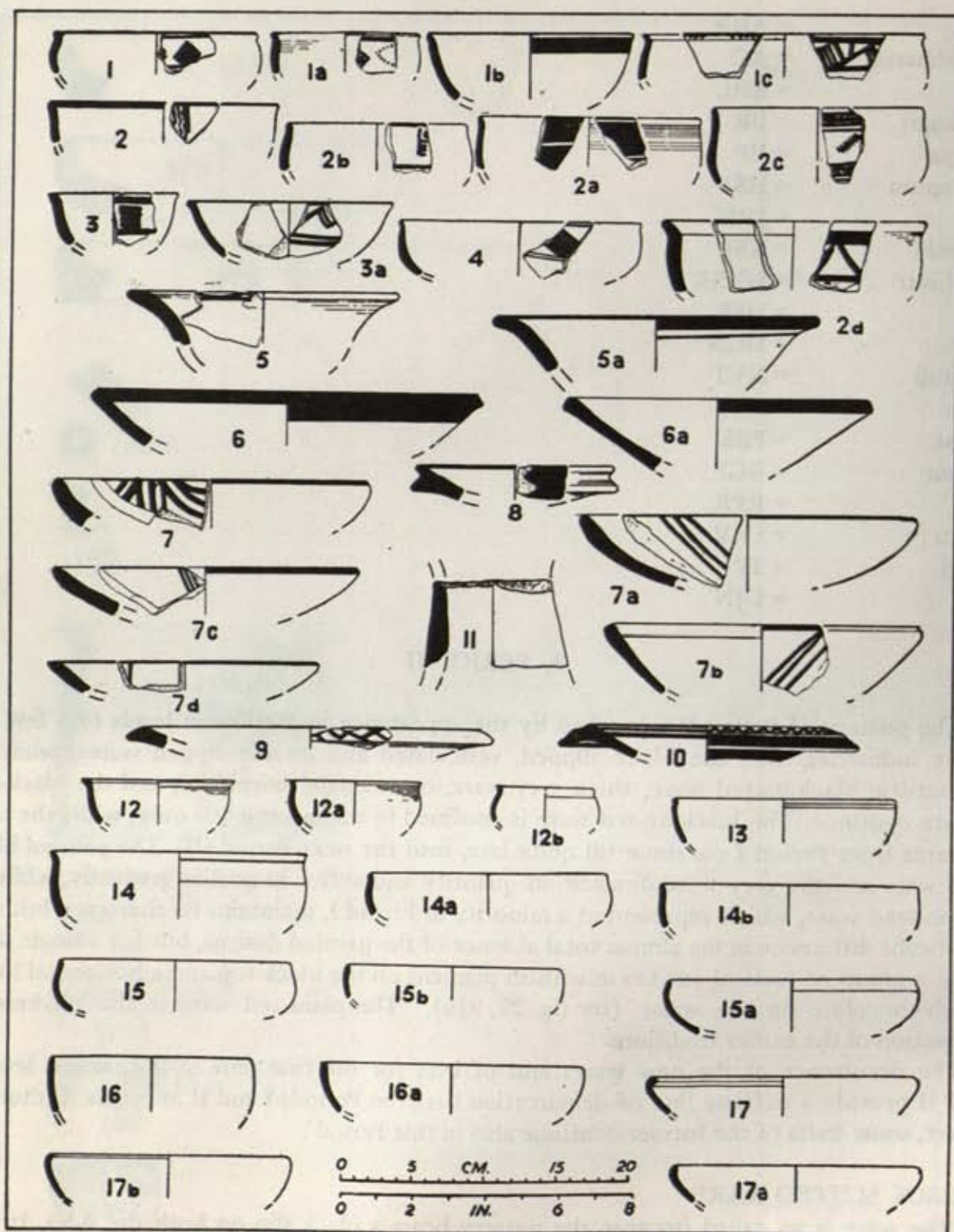


Fig. 22. Pottery: Period II.

## B. VESICULATED WARE

The characteristic feature of this ware is the presence of grains or small flakes of stone mixed in the clay. This is the distinguishing point between it and the plain red ware. The pottery usually bears red slip or wash. The available shapes in this ware are the basins and the jars.

## C. DOUBLE SLIPPED WARE

This rare ceramic industry at Nagda has been tentively designated as double slipped ware in the absence of any better term as it bears an evanescent black slip on the red slipped surface. This ware occurs at Ujjain<sup>93</sup> in Period I in fair abundance, Ahichchhatra<sup>94</sup> and possibly in Kausambi in comparable levels. The available shape in this ware at Nagda is the cordoned bowl.

### D (i). BLACK-ON-RED WARE BOWLS

The bowls can be classified into four groups, viz., (a) bowls with everted rim, convex bulging profile, with variants, nos. 1, 1a, 1b, and 1c; (b) bowls with everted rim and slightly convex profile, nos. 2, 2a, 2b, 2c and 2d; (c) bowls with everted rim and receding sides, nos. 3, 3a and 4; and (d) bowls with flaring mouth almost suggesting basins, nos. 5 and 5a. All are of medium fabric and treated with red slip on both the sides.

### D (ii), E (i). BLACK-ON-RED AND RED WARES, DISHES

Dishes can be classified into three groups, viz., (a) deep dishes which may have served additionally as lids, nos. 6 and 6a; (b) with flaring sides and sagger base, nos. 7, 7a, 7b and 7d; and (c) dish-on-stand, though no single complete specimen has been found, nos. 8, 9 and 10. A hollow stem of the dish-on-stand, no. 11.

## Fig. 22

1. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted rim flattened at the top and bulgingly convex profile. Painted in black with a horizontal rim line and a row of cross-hatched diamonds with two horizontal lines below. From mid-level of Period II.

1a. A variant of 1, painted in black on the exterior with a cross-hatched diamond and possibly a diamond outlined in dots. The design is enclosed between two horizontal lines. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>95</sup>

1b. A variant of 1 in red sturdy ware, medium fabric, treated with red slip, has an everted rim, flaring sides and convexity at the waist. Painted in black on the exterior with a horizontal rim band. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>96</sup>



1c. A *variant* of 1 in red sturdy ware, medium fabric, treated with red slip on both the sides, has an everted rim. Painted in black on the interior with a row of vertical strokes on the mouth and row of 'flag design' enclosed between two horizontal lines on the exterior. Very well-fired. From late level of Period II. A similar shape also occurs at Kausambi.<sup>97</sup>

2. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted rim, and slightly convex sides. Painted in black on both the sides. The interior has a horizontal line at the mouth and the exterior has a horizontal rim line with one vertical line flanked by three wavy lines. From mid-level of Period II.

2a. A *variant* of 2 in sturdy ware, medium fabric, treated with red slip on both the sides, has a slightly everted rim and slightly convex sides. Painted in black on both the sides with bands. Well-fired. From mid-level of Period II. A similar shape also occurs at Navdatoli.<sup>98</sup>

2b. A *variant* of 2 in red ware, medium fabric, treated with light-red slip on both the sides. Painted in blackish-chocolate on the exterior with a 'tooth brush' design, enclosed between two horizontal bands. From early level of Period II.

2c. A *variant* of 2, painted in purplish-chocolate on the exterior with a bi-pinnate enclosed between panels of herring bone design. From early level of Period II. A similar shape occurs at Navdatoli<sup>99</sup> and also at Nevasa.<sup>100</sup>

2d. A *variant* of 2 in red ware, medium fabric, rather thick, treated with light-red slip on both the sides, has an obliquely splayed rim and slightly convex profile. Painted in blackish-chocolate on the exterior with a horizontal line at the top edge of the rim and one below joined by oblique lines forming triangles. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>101</sup>

3. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted rim and convex profile. Painted in black on the exterior with a cross-hatched square enclosed between two horizontal lines. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>102</sup>

3a. A *variant* of 3, has an everted rim flattened at the top and slightly flaring sides. Painted in black on both the sides. The interior rim top has short vertical strokes, and the exterior has a 'flag design' enclosed between horizontal lines, one above and two below. From early level of Period II.

4. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted and externally beaded rim and blunt carination at the waist. Painted in black on the exterior with a cross-hatched diamond enclosed between horizontal lines, one above and two below. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>103</sup>

5. Bowl or basin of red ware, medium fabric, treated with red slip on both the sides, has a horizontally splayed and flattened rim and flaring sides. Painted in black on the top of the rim with a series of arcs and along a horizontal line below. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>104</sup>

5a. Bowl or basin, variant of 5, has a splayed rim and tapering body. Painted in black on the exterior and interior with horizontal rim bands. From early level of Period II.

6. Dish-cum-lid of red sturdy ware, medium fabric, treated with red slip on both the



sides, has a thickened, externally bevelled rim and flaring sides. Painted in black on both the sides with horizontal rim bands. From early level of Period II.

6a. Deep dish-cum-lid, *variant* of 6, has a thickened externally bluntly bevelled rim, and flaring sides. Painted in black on top and exterior with horizontal line. From mid-level of Period II.

7. Dish of red ware, medium fabric, treated with red slip on both the sides, has a vertical featureless rim and convexly flaring sides. Painted in black on the interior with three vertical lines flanked by concentric curves, two on the left and three on the right and a horizontal line along the edge of the rim. A similar shape also occurs at Navdatoli<sup>105</sup>; also at Kausambi.<sup>106</sup>

7a. A *variant* of 7. Painted in black with a horizontal band along the edge of the rim and inside with three lines drawn towards the centre from the edge. From mid-level of Period II.

7b. Dish-cum-lid, *variant* of 7, medium fabric, treated with red slip on both the sides. Painted in blackish-chocolate on the exterior with three oblique lines. From early level of Period II.

7c. A *variant* of 7, in red ware, medium fabric, treated with weak red slip on both the sides. Painted in blackish-chocolate with a band along the rim and three parallel lines drawn towards the centre. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>107</sup>

7d. A *variant* of 7, appears to have been similarly painted as 7c. From early level of Period II.

## E (ii). RED WARE DISH-ON-STAND

8. Dish, possibly from the dish-on-stand, of red ware, medium fabric, treated with red slip on both the sides, has an externally lipped rim and flaring sides. Painted in black on both the sides with a horizontal line at the mouth; the lips and lower part are also painted. From early level of Period II.

9. Dish-on-stand of red ware, medium fabric, treated with red slip on both the sides, has a splayed externally bevelled rim and flaring sides. Painted in black on the top of the rim with cross-hatched lines. From mid-level of Period II.

10. Dish-on-stand? of red ware, medium fabric, treated with red slip on both the sides, has a splayed out rim with two depressions on top of it and flaring sides. Painted in black with a zigzag band on the outer groove along the edge of the rim and three horizontal lines along the mouth inside. The exterior is painted broadly in black in two bands. From early level of Period II.

11. Hollow stem of the dish-on-stand of red ware, coarse fabric, treated with weak light-red slip on the exterior. From early level of Period II. Similar stems have occurred at Navdatoli<sup>108</sup>; also at Kausambi.<sup>109</sup>



C(i), E(iii). PLAIN RED WARE, SLIPPED AND UNSLIPPED, DOUBLE SLIPPED, AND GREY WARES, BOWL

Figs. 22 and 23

The bowls in plain red ware, both slipped and unslipped, can be divided into 14 groups, namely, Type A, with externally beaded rims and convex profile, specimens 12, 12a, and 12b; Type B, with externally beaded rim and receding convex profile, specimen 13; Type C, everted rim and concavo-convex profile, specimens 14, 14a and 14b; Type D, slightly incurved rims with convex sides, specimens 15, 15a and 15b; Type E, featureless rim with convex sides, specimens 16 and 16a; Type F, incurved internally beaded rims with flaring sides, specimens 17, 17a, 17b, 17c, 17d, 17e and 17f; Type G, incurved and internally beaded rim, flaring sides and flat base, specimen 18; Type H, flanged rim and flaring sides, specimen 19; Type I, thickened featureless rim and flaring sides, specimen 20; Type J, cordoned bowl with tall straight sides, specimen 21; Type K, cordoned bowls with inclined rims and convex sides, specimens 22 and 23; Type L, thickened and externally clubbed rim with flat top, specimen 24; and Type M, bowl with sharply concave profile, specimen 25.

There is only one bowl, Type N, in the grey ware represented by a tall bowl with incurved rim and convex sides, specimen 26.

Fig. 22

12. Bowl of red ware, medium fabric, treated with weak red slip on both the sides, has an externally beaded rim and convex profile. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>110</sup>

12a. A *variant* of 12. From late level of Period II.

12b. A *variant* of 12, treated with red slip on the exterior only, has an everted rim and externally beaded prominent bulging profile. From late level of Period II.

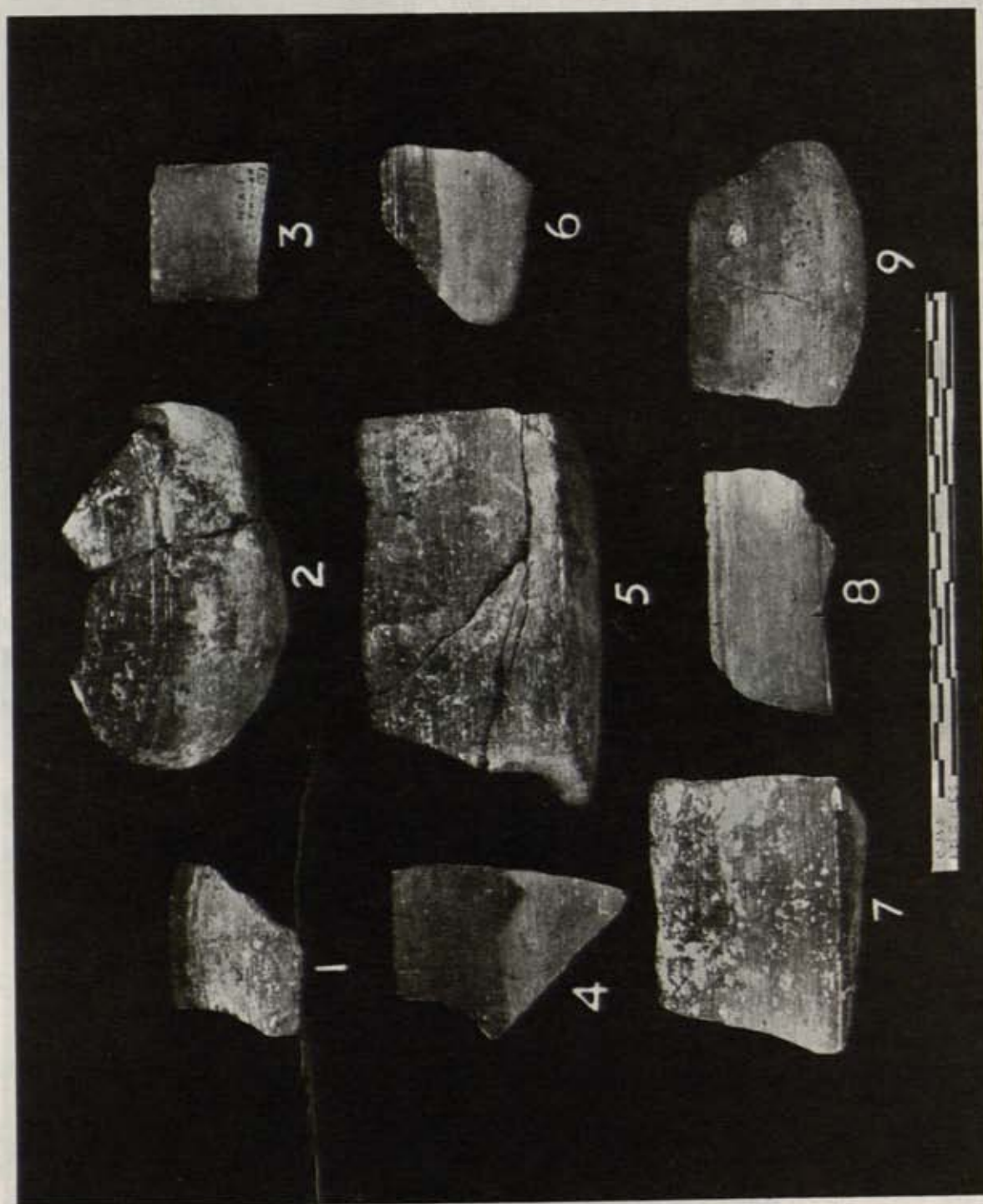
13. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an externally beaded rim and convex profile. From late level of Period II.

14. Bowl of red sturdy ware, medium fabric, treated with weak light-red slip on both the sides, has an everted rim and concavo-convex profile. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>111</sup>

14a. A *variant* of 14, of red ware, medium fabric, treated with weak red slip on both the sides. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>112</sup>

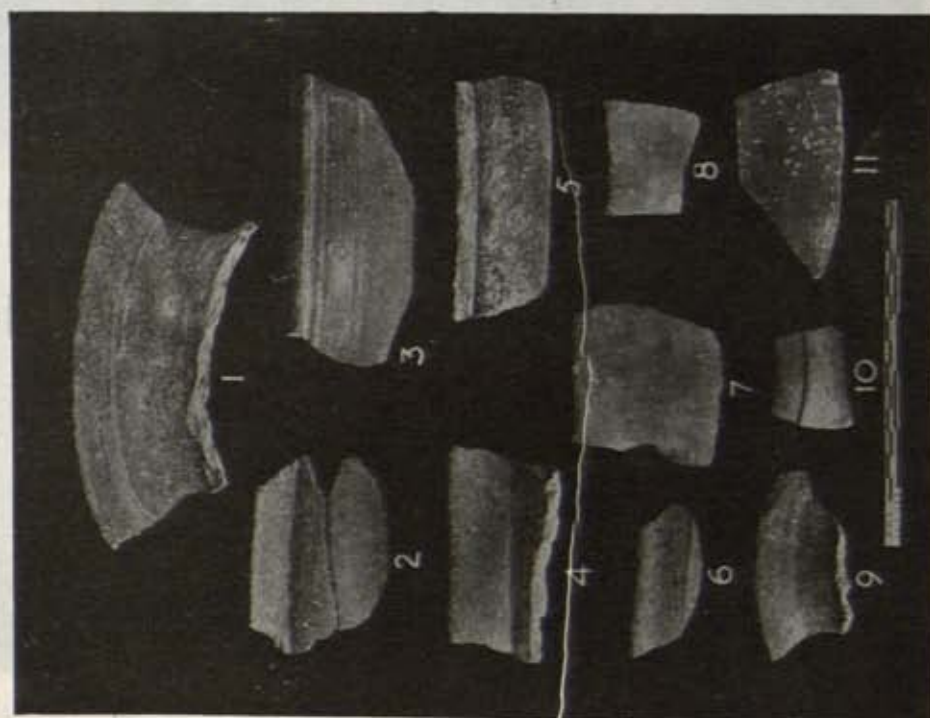
14b. A *variant* of 14, has an internally bluntly bevelled rim, almost vertical sides and convexity at the waist for the base. From late level of Period II.

15. Bowl-cum-dish of red ware, medium fabric, treated with weak light-red slip on both the sides, has a slightly incurved rim and convex sides. From late level of Period II. A similar shape occurs at Tripuri<sup>113</sup> and also at Ahichchhatra.<sup>114</sup>

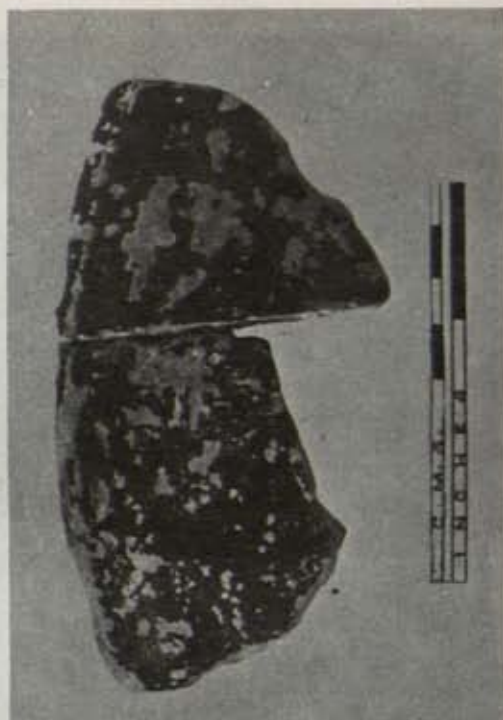


XIX. Nagda : Black-and-red ware pottery, Periods I-III.





XX A. Nagda: Vesiculated, grey, red slipped and double slipped wares, Periods I and II.



XX B. Nagda : Northern Black Polished ware sherd, Period III.

15a. A *variant* of 15, has incurved rim, and convex profile and is shallow to suggest a possible use as dish. From late level of Period II. A similar shape also occurs at Tripuri.<sup>115</sup>

15b. A *variant* of 15, has a slightly incurved rim. From mid-level of Period II. A similar shape also occurs at Navdatoli<sup>116</sup> and at Hastinapura.<sup>117</sup>

16. Bowl of red ware, medium fabric, treated with reddish-chocolate slip on both the sides, has a vertical featureless rim, and convex profile. From early level of Period II. A similar shape also occurs at Nevasa,<sup>118</sup> Sravasti,<sup>119</sup> Ujjain,<sup>120</sup> and Ahichchhatra.<sup>121</sup>

16a. A *variant* of 16, with red slip on both the sides, has a slightly incurved rim and convex profile. From late level of Period II. A similar shape also occurs at Tripuri<sup>122</sup> and Ujjain.<sup>123</sup>

17. Bowl of red ware, medium fabric, devoid of slip or wash, has an incurved and internally beaded rim. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>124</sup>

17a. A *variant* of 17, has flaring sides. From late level of Period II. A similar shape also occurs at Navdatoli,<sup>125</sup> Nasik<sup>126</sup> and Ujjain.<sup>127</sup>

17b. A *variant* of 17. From mid-level of Period II. A similar shape also occurs at Hastinapura.<sup>128</sup>

17c. A *variant* of 17. From late level of Period II. A similar shape also occurs at Kausambi.<sup>129</sup>

17d. A *variant* of 17, treated with red slip on both the sides, has incurved rim and tapering sides with thick walls. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>130</sup>

17e. A *variant* of 17, treated with weak light-red slip on both the sides, has a slightly incurved rim, mildly corrugated profile and a flat base. From early level of Period II.

17f. A *variant* of 17, devoid of wash or slip, has an incurved and externally bluntly bevelled rim, flaring sides. From late level of Period II.

18. Bowl of red ware, medium fabric, treated with light-red wash, has an incurved rim, concavity below the rim on the exterior, flaring sides and flat base. From mid-level of Period II.

19. Bowl or dish of red ware, medium fabric, treated with light-red slip on both the sides, has an obliquely splayed and flanged rim and flaring sides. From early level of Period II.

20. Bowl of red ware, coarse fabric, treated with weak light-red slip on both the sides, has slightly incurved thickened rim and flaring sides. From early level of Period II. A similar shape also occurs at Ujjain.<sup>131</sup>

21. Bowl of double-slipped ware, fine fabric, treated with evanescent black slip on both the sides, has a vertical rim and a cordon below it. From late level of Period II. A similar shape also occurs at Ujjain.<sup>132</sup>

22. Bowl of red ware, medium fabric, treated with bright-red slip on both the sides, has an incurved rim with a ridge or cordon below the rim. From mid-level of Period II. A similar shape also occurs at Kausambi<sup>133</sup> and Ujjain.<sup>134</sup>

23. Bowl of double slipped ware, fine fabric, treated with evanescent black slip on the exterior, has enclosing sides and an externally cordoned rim. From early level of Period II (Pl. XXA, 10).

24. Bowl of red ware, coarse fabric, treated with a weak light-red slip on the top of the



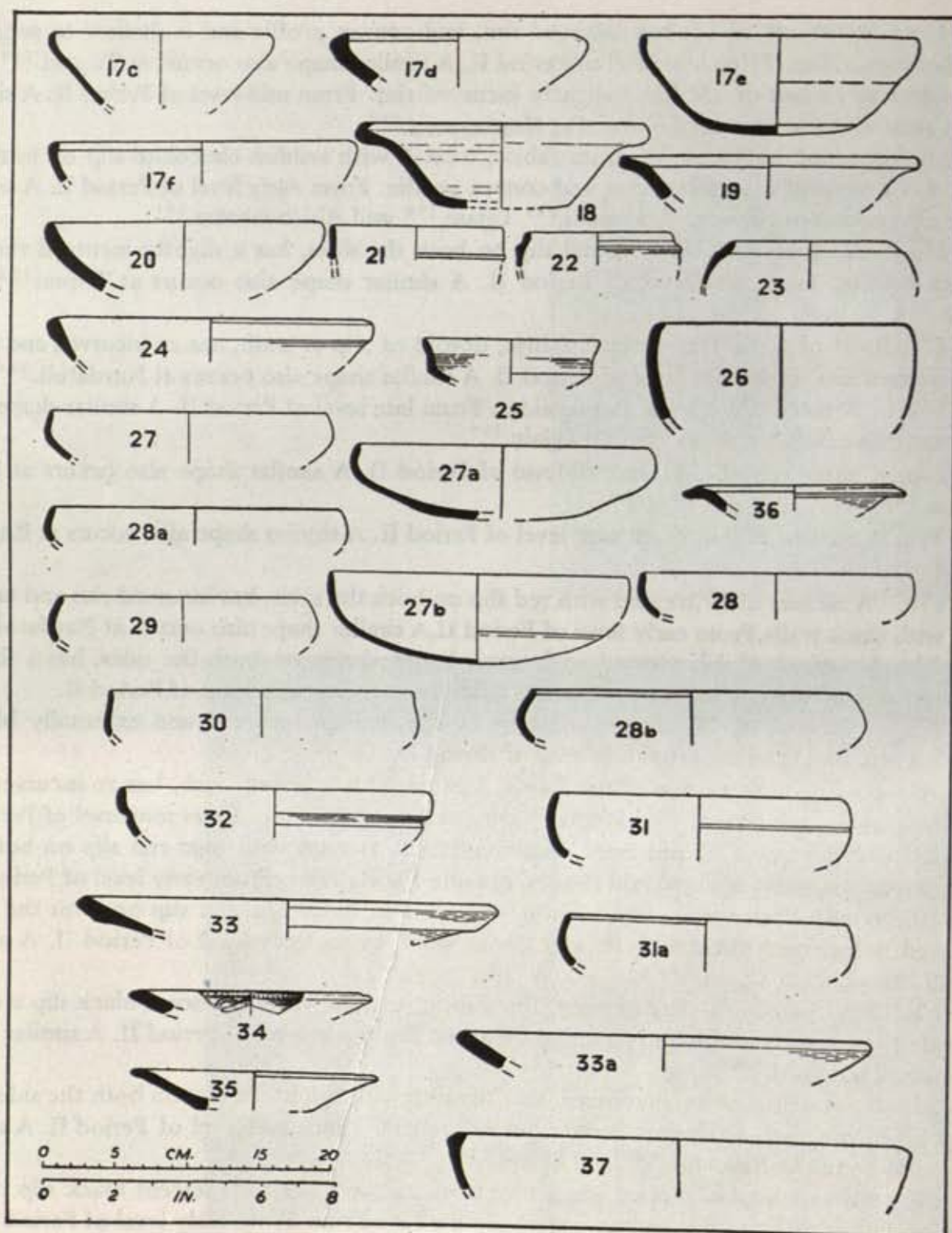


Fig. 23. Pottery: Period II.

rim and inside, the exterior is rough, has externally thickened and clubbed rim with flat top. From an early level of Period II.

25. Bowl of red ware, medium fabric, treated with a light-red slip (pinkish) on both the sides, has an obliquely splayed rim, and sharply concave sides somewhat suggestive of the typical Jorwe shape. From late level of Period II (Pl. XXA, 6). A similar shape also occurs at Navdatoli<sup>1 3 5</sup> and Nevasa.<sup>1 3 6</sup>

26. Bowl of grey ware, medium fabric, treated with light-grey slip on both the sides, has an incurved rim and oval sides. From early level of Period II (Pl. XXA, 7). From its uniqueness it may represent a product of circumstantially reduced firing. A similar shape also occurs at Ujjain.<sup>1 3 7</sup>

#### E (iv). PLAIN RED WARE DISHES

The dishes in plain red ware divide themselves broadly into two groups, namely, Type A with convex sides, tapering body and sagger base, and Type B tapering body and thickened rim. The first group can, however, be sub-divided on the basis of the form of the rim or differences in profile into the following sub-types, namely, (i) incurved rim, short sides, tapering body and sagger base, specimens 27, 27a and 27b, (ii) incurved rim and bulgingly convex profile, specimens 28, 28a, 28b and 29; (iii) incurved rim with concavo-convex profile, specimen 30; (iv) slightly thickened rim and convex sides, specimens 31 and 31a; (v) incurved rim with a deep and broad groove outside, presenting the appearance of a collared rim, and tapering body, specimen 32; and (vi) thick flattish dish with tapering body, specimens 33 and 33a.

#### E (v). RED AND GREY WARES, LID-CUM-DISH

Splayed out rim, nos. 34, 35 and 36.

#### E(vi). RED WARE BASINS

The basins in plain red ware and vesiculated ware are divided into the following groups:—

Type A. Incurved and externally collared rim, specimens 37, 37a and 37b.

Type B. Out-turned rim and convex profile, specimens 38 and 38a.

Type C. Externally beaded rim, specimen 39.

Type D. Horizontally splayed rim, specimens 40, 40a and 40b.

Type E. Nail-headed rim and tapering sides, specimen 41.

Type F. Externally clubbed rim, specimens 42, 43 and 44.

#### Figs. 23 and 24

27. Dish of red ware, medium fabric, treated with weak light-red slip on both the sides,



has an incurved rim, short sides, tapering body and sagger base. From mid-level of Period II. A similar shape also occurs at Navdatoli<sup>138</sup> and Tripuri.<sup>139</sup>

27a. A *variant* of 27, in red ware, medium fabric, treated with a weak light-red slip on both the sides. From late level of Period II. A similar shape also occurs at Nasik<sup>140</sup> and Hastinapura.<sup>141</sup>

27b. A *variant* of 27, in red ware, medium fabric, treated with red slip on both the sides, has a vertical, featureless rim and a sagger base. From late level of Period II. A similar shape also occurs at Nevasa.<sup>142</sup>

28. Dish of red ware, medium fabric, treated with weak light-red slip on both the sides, has slightly incurved rim and bulgingly convex sides. From mid-level of Period II. A similar shape also occurs at Nasik<sup>143</sup> and Hastinapura.<sup>144</sup>

28a. A *variant* of 28 in red ware, treated with red slip on both the sides, has slightly incurved rim and convex sides. From late level of Period II. A similar shape also occurs at Navdatoli,<sup>145</sup> Maheshwar,<sup>146</sup> Tripuri,<sup>147</sup> Ujjain,<sup>148</sup> and Achichchhatra.<sup>149</sup>

28b. A *variant* of 28, in red ware, medium fabric, treated with red slip and polish on both the sides. Has a vertical featureless rim, and convex profile. From late level of Period II.

29. Dish of red ware, medium fabric, treated with weak light-red slip on both the sides, has convex sides and a featureless incurved rim. From late level of Period II. A similar shape also occurs at Nasik,<sup>150</sup> Tripuri,<sup>151</sup> and Kausambi.<sup>152</sup>

30. Dish of red ware, medium fabric, treated with red slip on both the sides, has a vertical featureless rim, convex body with slight concavity below the rim. From late level of Period II. A similar shape also occurs at Nasik<sup>153</sup>, Tripuri<sup>154</sup>, Kausambi<sup>155</sup> and Hastinapura.<sup>156</sup>

31. Dish of red ware, medium fabric, treated with red slip on both the sides, has a slightly incurved rim and convex profile and slightly thickened walls. Has a mild groove on the exterior. From early level of Period II.

31a. A *variant* of 31, has closing rim and a more convex profile. From late level of Period II. A similar shape also occurs at Kausambi.<sup>157</sup>

32. Dish of red ware, medium fabric, treated with red slip on both the sides, has slightly incurved rim and a deep groove on the exterior to present the appearance of a collared rim. From late level of Period II.

33. Dish of red ware, coarse fabric, treated with weak light-red slip on the rim and inside, the external profile is left deliberately coarse, has an externally thickened and obliquely cut rim and tapering, almost flattish, body. From early level of Period II.

33a. A *variant* of 33, has a tapering flattish body and a featureless thickened rim. From early level of Period II. A similar shape also occurs at Navdatoli<sup>158</sup> and Jorwe.<sup>159</sup>

34. Lid-cum-dish of grey ware, coarse fabric, treated with greyish slip on both the sides, has a splayed out rim and tapering sides. The interior is decorated with a double row of vertical notches at the edge of the rim, and an incised design consisting of concentric circles and a horizontal line along the edge of the mouth. From late level of Period II.

35. Lid-cum-dish of red ware, coarse fabric, treated with red slip on both the sides, has



horizontally splayed rim, flaring sides and a flat discoid base. From early level of Period II.

36. Lid-cum-dish of grey ware, medium fabric, treated with grey slip on both the sides, has a splayed rim with two grooves on the top and a tapering body. From early level of Period II. A similar shape also occurs at Navdatoli.<sup>160</sup>

37. Collared basin of red ware, medium fabric, treated with red slip on both the sides, has an incurved and externally collared rim with a mild groove on the exterior, below the rim. From early level of Period II. A similar shape also occurs at Hastinapura.<sup>161</sup>

### Fig. 24

37a. A *variant* of 37, has an incurved and externally collared rim with a groove on the profile. From late level of Period II.

37b. A *vairant* of 37, has an incurved and externally collared rim. From a late level of Period II. A similar shape also occurs at Hastinapura<sup>162</sup>, Ropar<sup>163</sup>, Nasik<sup>164</sup>, and Maheshwar.<sup>165</sup>

38. Basin of vesiculated ware, medium fabric, treated with red slip on both the sides, has splayed and out-turned rim and convex profile. From mid-level of Period II (Pl. XXA, 2).

38a. A *variant* of 38 with coarse fabric, devoid of wash or slip. Base turned black as a result of obvious use on the oven. From late level of Period II (Pl. XXA, 5).

39. Basin of red ware, medium fabric, treated with red slip on both the sides, has an externally beaded rim and tapering body. From early level of Period II.

40. Basin of red ware, coarse fabric, devoid of slip or wash, has a horizontally splayed rim with a depression on the top and tapering body. From late level of Period II.

40a. A *variant* of 40, has an incurved externally ledged rim and tapering sides with convexity at the waist for the base. From mid-level of Period II.

40b. A *variant* of 40, treated with light-red slip on both the sides, has a splayed and flanged rim and flaring sides. From late level of Period II.

41. Basin of red ware, medium fabric, treated with red slip on both the sides, has a nail-headed rim and tapering body. From late level of Period II.

42. Basin of red ware, coarse fabric, treated with red slip on both the sides, has an incurved and externally clubbed rim. From mid-level of Period II.

43. Basin of red ware, coarse fabric, treated with red slip on both the sides, has a clubbed rim and tapering sides. From late level of Period II.

44. Basin of red ware, medium fabric, treated with red slip on both the sides, has an externally clubbed rim and tapering body. From late level of Period II.

### D (iii). BLACK-ON-RED WARE JARS

The jars among the painted pottery have tall concave necks and splayed our rims, being represented by specimens 45 and 46.

45. Jar of red ware, medium fabric, treated with red slip on both the sides, has a vertical



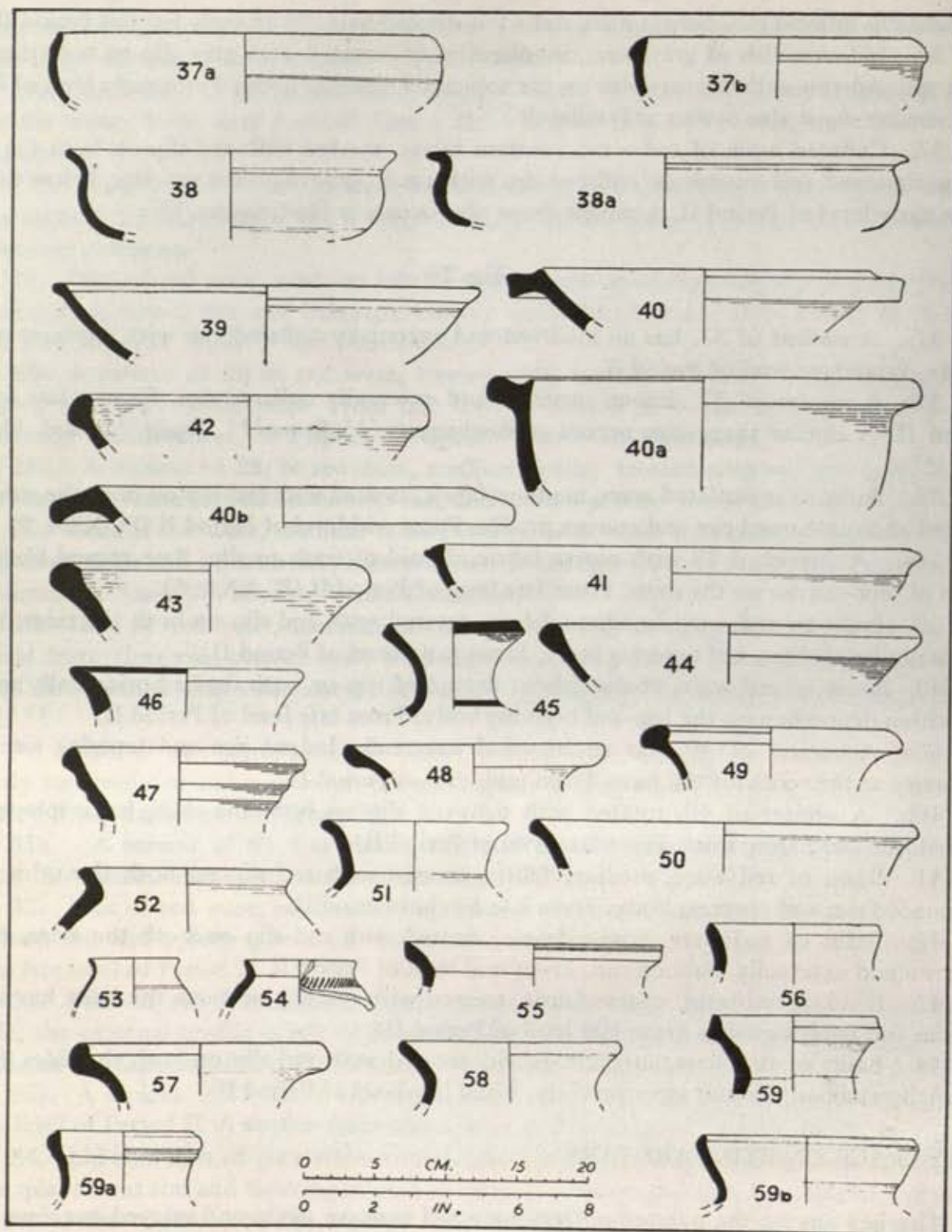


Fig.24. Pottery: Period II.

externally chamfered rim and tall concave neck. Painted in black on the exterior with horizontal lines, one at the chamfered edge of the rim and the other at the junction of the neck and shoulder. From mid-level of Period II.

46. Jar of red ware, medium fabric, treated with light-red slip on both the sides, has an everted rim and flaring mouth. Painted in black on both the sides with a horizontal line along the rim. From mid-level of Period II. A similar shape occurs at Jorwe.<sup>166</sup>

The jars in plain red ware can be divided into twenty groups:—

- Type A. Externally clubbed rim, splayed neck, specimens 47, 48, 70, 70a and 72.
- Type B. Clubbed rim, flaring concave neck, specimen 49.
- Type C. Everted externally thickened rim and splayed neck, specimens 50, 65, 65a and 65b.
- Type D. Everted rim, splayed neck and tapering shoulders, specimen 51.
- Type E. Splayed rim and constricted neck, specimens 52, 64 and 64a.
- Type F. Outcurved rim and flaring mouth, specimens 53 and 54.
- Type G. Out-turned externally and vertically cut rim, specimen 55.
- Type H. Vertical and externally bevelled rim and concave neck, specimen 56, 67 and 67a.
- Type I. Vertical and externally thickened rim, specimens 57, 71, 71a and 71b.
- Type J. Obliquely splayed rim and concave neck, specimen 58.
- Type K. Vertical rim with a pronounced ridge on the exterior and a concave neck, specimen 59.
- Type L. Slightly incurved and externally thickened rim, specimens 59a and 59b.
- Type M. Curved rim, large mouth and tall concave neck, specimens 60, 60a and 60b.
- Type N. Incurved and internally scalloped rim, specimen 61.
- Type O. Internally bevelled top and splayed neck, specimen 62.
- Type P. Out-turned rim and concave neck, specimens 63, 63a and 63b.
- Type Q. Out-turned, externally beaded rim and tall concave neck, specimen 66.
- Type R. Externally flaring rim and concave neck, specimen 68.
- Type S. Incurved externally thickened rim and flaring neck, specimens 69 and 69a.
- Type T. Vertical thickened rim, specimen 73.

Fig. 24

47. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an externally clubbed rim, splayed neck with corrugations on the exterior. From early level of Period II.

48. Jar of red ware, coarse fabric, treated with red slip on both the sides, has externally clubbed rim and splayed neck. From early level of Period II.

49. Jar of red ware, coarse fabric, treated with red slip on both the sides, has a clubbed



rim, and flaring concave neck. From late level of Period II. A similar shape also occurs at Kausambi.<sup>167</sup>

50. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an everted externally thickened rim and splayed neck. From early level of Period II.

51. Jar of coarse gritty greyish ware, coarse fabric, devoid of slip or wash, has an everted rim, splayed neck and tapering shoulders. From late level of Period II.

52. Jar of red ware, coarse fabric, treated with red slip on the exterior and inside up to the neck, has a splayed rim and constricted neck. From early level of Period II.

53. Miniature jar of red ware, medium fabric, treated with red slip on the exterior and partially inside, has an outcurved rim, flaring mouth and two mild grooves outside on the shoulder. From mid-level of Period II. A similar shape also occurs at Nevasa.<sup>168</sup>

54. Miniature jar of red ware, coarse fabric, treated with red slip on the exterior and partially inside, has a splayed rim and short neck. The shoulder is decorated with a row of incised vertical strokes. From mid-level of Period II. A similar shape also occurs at Tripuri.<sup>169</sup>

55. Jar of red ware, coarse gritty fabric devoid of slip or wash, has an out-turned externally vertically-cut rim with a mild groove at the cut. The neck is concave. From mid-level of Period II. A similar shape also occurs at Ujjain.<sup>170</sup>

56. Jar of red ware, medium fabric, treated with red slip on both the sides, has a vertical externally bevelled rim and concave neck. From early level of Period II.

57. Jar of red ware, coarse fabric, treated with red slip on both the sides, has a vertical and externally thickened rim, and concave neck. Unstratified, from Period II.

58. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has an obliquely splayed rim and concave neck. From early level of Period II.

59. Jar of red ware, coarse fabric, treated with weak red slip on both the sides, has a vertical rim with pronounced ridge on the exterior and a concave neck. From mid-level of Period II.

59a. A *variant* of 59, has slightly incurved, externally thickened rim with a groove on the exterior. From late level of Period II. A similar shape also occurs at Ujjain.<sup>171</sup>

59b. A *variant* of 59, coarse gritty fabric, treated with red slip on both the sides; has a slightly incurved and externally bluntly bevelled rim and splayed neck. Unstratified, from Period II.

### Fig. 25

60. Jar of red ware, coarse fabric, devoid of slip or wash, has a large mouth, enclosing curved rim and a tall concave neck. From late level of Period II.

60a. A *variant* of 60, in red ware, medium fabric, treated with red wash, has a vertical scalloped rim. From mid-level of Period II. Similar shapes also occur at Kausambi.<sup>172</sup>

60b. A *variant* of 60 in red ware, coarse fabric, treated with red slip outside and partially inside, has a splayed rim with a depression inside producing a shallow ledge on the interior. From mid-level of Period II.

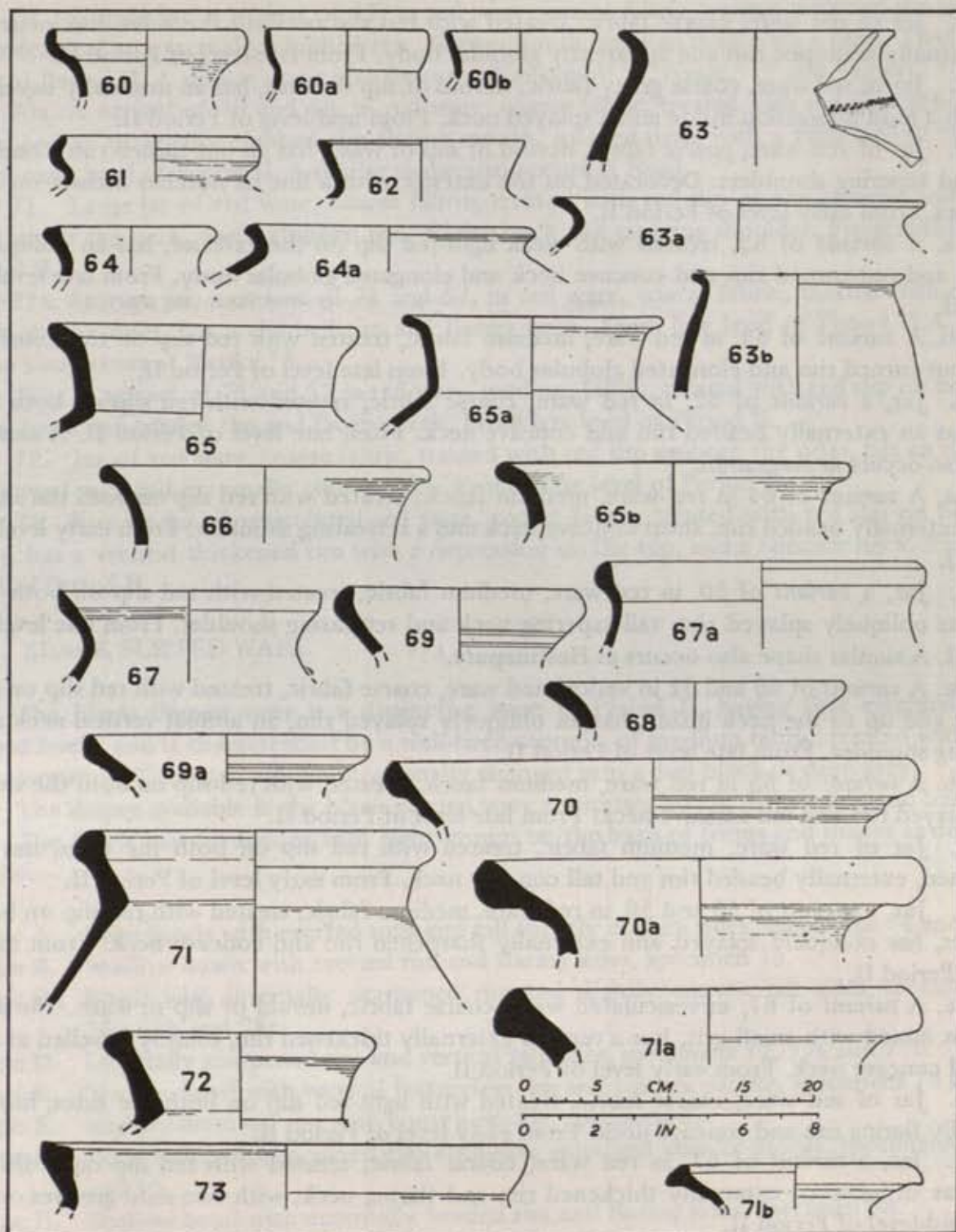


Fig.25. Pottery: Period II.



61. Jar of red ware, coarse fabric, treated with red slip on both the sides, has incurved and internally scalloped rim and apparently globular body. From late level of Period II.

62. Jar of red ware, coarse gritty fabric, devoid of slip or wash, has an internally bevelled top with a mild depression inside and a splayed neck. From mid-level of Period II.

63. Jar of red ware, coarse fabric, devoid of slip or wash, has an out-turned rim, concave neck and tapering shoulders. Decorated on the exterior with a line of notches incised on the shoulders. From early level of Period II.

63a. A *variant* of 63, treated with weak light-red slip on the exterior, has an obliquely splayed and out-turned rim and concave neck and elongated globular body. From late level of Period II.

63b. A *variant* of 63, in red ware, medium fabric, treated with red slip on the exterior, has an out-turned rim and elongated globular body. From late level of Period II.

64. Jar, a *variant* of 52, in red ware, coarse fabric, treated with red slip on both the sides, has an externally beaded rim and concave neck. From late level of Period II. A similar shape also occurs at Kausambi.<sup>173</sup>

64a. A *variant* of 64 in red ware, medium fabric, treated with red slip on both the sides, has an externally beaded rim, short concave neck and a retreating shoulder. From early level of Period II.

65. Jar, a *variant* of 50, in red ware, medium fabric, treated with red slip on both the sides, has obliquely splayed rim, tall tapering neck and retreating shoulder. From late level of Period II. A similar shape also occurs at Hastinapura.<sup>174</sup>

65a. A *variant* of 65 and 52 in vesiculated ware, coarse fabric, treated with red slip on the exterior and up to the neck inside, has an obliquely splayed rim, an almost vertical neck and retreating shoulder. From late level of Period II.

65b. A *variant* of 65 in red ware, medium fabric, treated with red slip on both the sides, has a splayed rim and tall concave neck. From late level of Period II.

66. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned, externally beaded rim and tall concave neck. From early level of Period II.

67. Jar, a *variant* of 55 and 56, in red ware, medium fabric, treated with red slip on both the sides, has obliquely splayed and externally sharpened rim and concave neck. From mid-level of Period II.

67a. A *variant* of 67, in vesiculated ware, coarse fabric, devoid of slip or wash. The clay has been mixed with small grit, has a vertical externally thickened rim, bluntly bevelled at the top, and concave neck. From early level of Period II.

68. Jar of red ware, coarse fabric, treated with light-red slip on both the sides, has an externally flaring rim and concave neck. From early level of Period II.

69. Jar, a *variant* of 57, in red ware, coarse fabric, treated with red slip on both the sides, has an incurved externally thickened rim and flaring neck, with two mild grooves on it. From mid-level of Period II.

69a. A *variant* of 69, in red ware, coarse fabric, treated with red slip on both the sides, has a prominent ridge on the neck. From early level of Period II.



70. Storage jar, a *variant* of 47, in red ware, coarse fabric, treated with red slip on both the sides, has an externally clubbed rim, flaring mouth, splayed neck with a ridge. From early level of Period II. A similar shape also occurs at Kausambi<sup>175</sup>, Nasik,<sup>176</sup> and Tripuri.<sup>177</sup>

70a. A *variant* of 70 and 48, in red ware, coarse fabric, treated with red slip on both the sides, has an externally clubbed rim flaring mouth, splayed neck with a ridge below the rim. From early level of Period II. A similar shape also occurs at Nasik.<sup>178</sup>

71. Large jar of red ware, coarse fabric, treated with red slip on the exterior and inside only up to the neck, has a clubbed rim, flaring neck and tapering shoulder. From mid-level of Period II.

71a. Storage jar, a *variant* of 71 and 57, in red ware, coarse fabric, treated with red slip on both the sides, has a clubbed rim and flaring neck. From late level of Period II. A similar shape also occurs at Nasik.<sup>179</sup>

71b. A *variant* of 71 and 57 in red ware, medium fabric, treated with red slip on both the sides, has a nail-headed rim and flaring neck. From late level of Period II.

72. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an obliquely splayed neck and externally clubbed rim. From a late level of Period II.

73. Storage jar of vesiculated red ware, coarse fabric, treated with red slip on both the sides, has a vertical thickened rim with a depression on the top, and a concave neck. From late level of Period II.

#### A(i). BLACK SLIPPED WARE

The black slipped ware is a distinctive ware of Period II, having first emerged in the lowest levels, and is characterized by a well-fired ceramic, of medium fabric, treated with a slip and burnished. The black colour occasionally changed into a dull black or deep grey.

The shapes available in the black slipped ware comprises bowls, dishes, lids, and basins.

The *bowls* can be divided into eight groups on the basis of forms and shapes as described below:—

- Type A. Deep bowls with everted rims and tall slightly convex sides, specimens 74 and 74a.
- Type B. Shallow bowls with everted rim and flaring sides, specimen 75.
- Type C. Bowls with internally sharpened rim and slightly convex tall sides, specimens 76, 76a, 76b and 76c.
- Type D. Internally sharpened rim and vertical tall sides, specimens 77, 77a and 77b.
- Type E. Shallow bowl with vertical featureless rim and convex profile, specimens 78 and 82.
- Type F. Slightly incurved rim with convex profile, specimen 81.
- Type G. Deep bowl with incurved rim enclosing sides and convex profile, specimens 79, 79a and 80.
- Type H. Shallow bowl with externally beaded rim and flaring sides, specimen 88.

Only one type of *lid* has been found in this ware, Type A, with flaring and everted



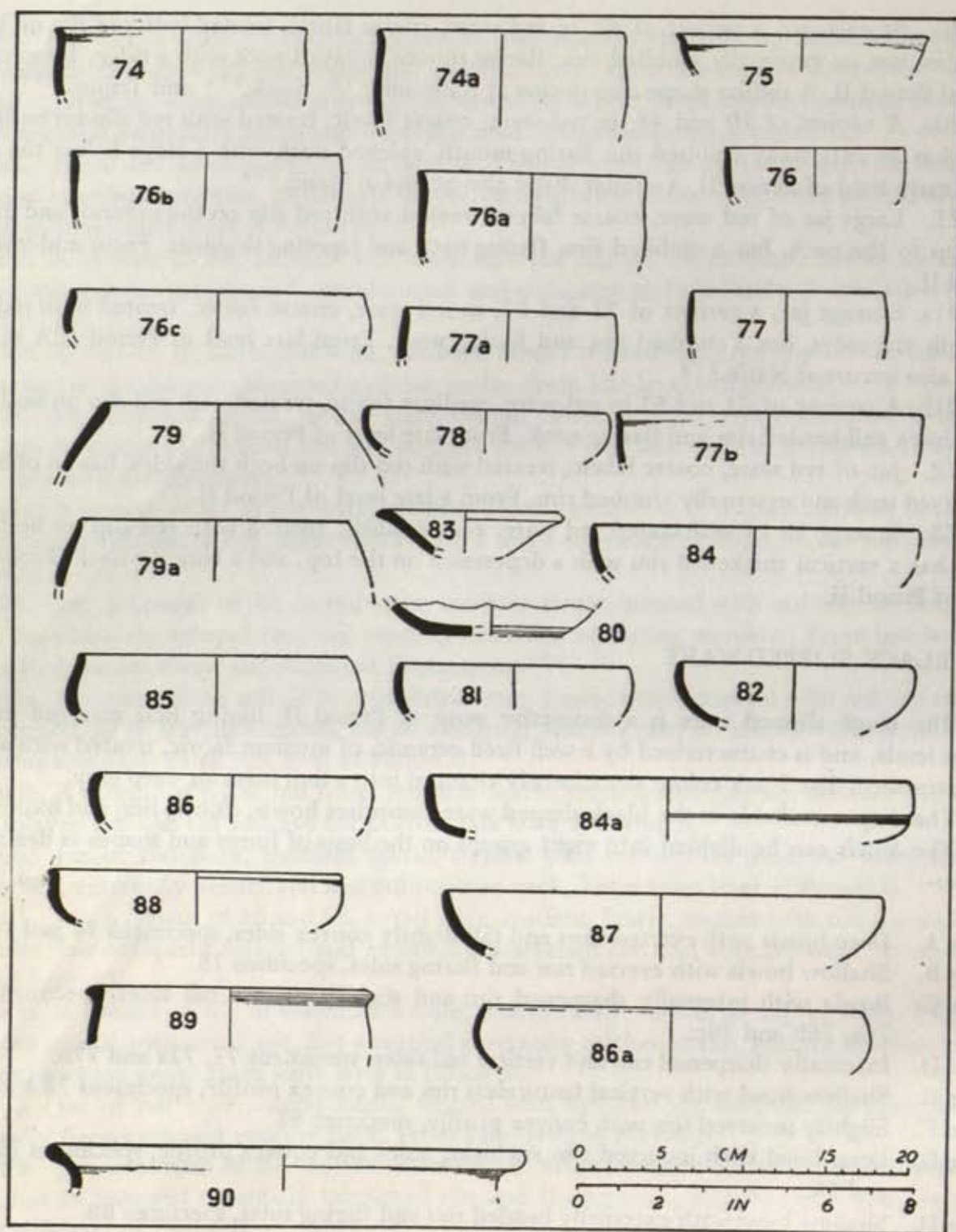


Fig.26. Pottery: Period II.

rim and flaring sides and reminiscent of type 83, tulip shaped vases from Brahmagiri.

*Dishes* can be divided into four groups as follows:—

Type A. Sharpened rim, flaring sides and apparently sagger base, specimens 84 and 84a.

Type B. Internally sharpened and incurved rim and convex sides, specimen 85.

Type C. Incurved rim and closing convex sides, specimens 86 and 86a.

Type D. Vertical rim and flaring sides, specimen 87.

*Basins*, which occur comparatively rarely, divide themselves into the following two groups:—

Type A. Deep collared basin of tall sides, specimen 89.

Type B. Externally clubbed rim slightly flaring sides, specimen 90.

### Fig. 26

74. Bowl with everted, internally sharpened rim, and tall convex sides. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>180</sup>

74a. Deep bowl, a *variant* of 74. From late level of Period II. Similar shapes also occur at Navdatoli<sup>181</sup> and Maheshwar.<sup>182</sup>

75. Shallow bowl with an everted rim and flaring sides. From early level of Period II.

76. Bowl with internally sharpened rim and slightly convex tall sides. From late level of Period II.

76a. A *variant* of 76. From a late level of Period II. Similar shapes also occur at Navdatoli<sup>183</sup>, Maheshwar<sup>184</sup> and Nevasa.<sup>185</sup>

76b. A *variant* of 76. From mid-level of Period II. A similar shape also occurs at Navdatoli.<sup>186</sup>

76c. Shallow bowl, a *variant* of 76, with convex profile. From late level of Period II.

77. Bowl with internally sharpened rim and tall vertical sides. From late level of Period II. A similar shape also occurs at Ujjain.<sup>187</sup>

77a. A *variant* of 77. From mid-level of Period II.

77b. A *variant* of 77, has a slightly everted and internally bluntly bevelled rim. Unstratified, from Period II.

78. Shallow bowl of convex profile and has a vertical featureless rim. Unstratified, from Period II.

79. Deep bowl with an internally thickened rim. From late level of Period II. A similar shape also occurs at Navdatoli.<sup>188</sup>

79a. A *variant* of 79 has a convex profile, closing sides and featureless rim. From late level of Period II.

80. Base possibly of a bowl of type 79, has a discoid base and flaring sides. From late level of Period II. A similar shape also occurs at Maheshwar.<sup>189</sup>

81. Bowl with slightly incurved rim having two mild grooves on the convex profile.



From early level of Period II. A similar shape also occurs at Navdatoli<sup>190</sup> and Ujjain.<sup>191</sup>

82. Bowl with a slightly incurved rim. From mid-level of Period II. A similar shape also occurs at Hastinapura<sup>192</sup> and Kausambi<sup>193</sup>

83. Lid-cum-bowl(?) with flared and everted rim and flaring sides. From mid-level of Period II.

84. Dish with a sharpened rim, flaring sides and apparently sagger base. From mid-level of Period II. A similar shape occurs at Maheshwar<sup>194</sup>, Nevasa<sup>195</sup>, Kausambi<sup>196</sup> and Ujjain.<sup>197</sup>

84a. A *variant* of 84, with a mild groove at the body. From early level of Period II.

85. Dish with closing sides, featureless rim and convexity at the waist. Unstratified, from Period II. A similar shape also occurs at Maheshwar<sup>198</sup>, Nasik<sup>199</sup>, Tripuri<sup>200</sup> and Ahichchhatra.<sup>201</sup>

86. Dish with incurved rim. From early level of Period II. A similar shape also occurs at Hastinapura<sup>202</sup> and Kausambi.<sup>203</sup>

86a. A *variant* of 86, has an incurved rim and closing convex sides unstratified, from Period II. Similar shapes also occur at Kausambi.<sup>204</sup>

87. Dish with a vertical rim and flaring sides. From early level of Period II. A similar shape also occurs at Ujjain<sup>205</sup>

88. Shallow bowl with externally beaded rim. From late level of Period II. A similar shape also occurs at Nevasa.<sup>206</sup>

89. Deep basin, has collared rim and convex sides. From mid-level of Period II.

90. Basin with an out-turned externally clubbed and flaring rim. From early level of Period II.

#### F(i). BLACK-AND-RED WARE

The black-and-red ware from Period II is not technically different from that of Period I, except that in Period II this ceramic does not bear (with one exception no. 91a, fig. 27) any trace of painting, and that the shapes, except a few, are not common. The shapes in Period II, comprise: (i) bowls, (ii) dish-cum-bowls (iii) dishes, and rarely (iv) basin. This ceramic, therefore, occupies a distinctive position as in the previous Period, as judged from the limited and specific uses to which it was put, as also from the small quantity in comparison with the larger quantities of the plain red wares. It is, as before, of medium fabric and treated with a slip and is burnished. The colour of red varies, being dull or bright red, as well as creamy, depending upon the conditions of firing and components. The surface is micaceous in common with other ceramics of the region.

*Bowls* can be divided into eleven groups as follows:—

Type A. Everted externally mildly beaded rim and a bulbous profile, specimens 91 and 91A (cf. type 192 of Period I, fig. 13).



- Type B. Everted externally beaded rim and flaring sides, specimen 92 (cf. type 195 of Period I, fig. 13);
- Type C. Everted and sharpened rim with convex profile, specimen 93 (cf. type 193 of Period I, fig. 13);
- Type D. Everted and sharpened rim with a convexly flaring body, specimens 94 and 94a.
- Type E. Flared and everted rim, concave sides, carination at the waist and sagger base. A unique shape, specimen 95.
- Type F. Vertical sharpened rim and slightly convex sides, specimen 96.
- Type G. Internally sharpened rim and tapering body, specimen 97.
- Type H. Vertical featureless rim and convex sides, specimen 98.
- Type I. Slightly everted rim, and concavo-convex profile, specimen 99, (cf. type 198 of Period I, fig. 13).
- Type J. Featureless rim and closing sides, specimen 100 (cf. type 197 of Period I, fig. 13).
- Type K. Externally thickened and grooved rim and convex sides, specimen 101.

*Dish-cum-bowls* can be divided into two groups as follows:—

- Type A. Slightly everted rim, convex sides with a blunt carination at the waist, specimens 102 and 102a.
- Type B. Internally beaded rim and tapering sides, specimen 103.

*Dishes* can be divided into two groups, as follows:

- Type A. Closing sides, thickened featureless rim and sagger base, specimens 104, 104a and 104b.
- Type B. A variant of the above shape with incurved rim, specimen 104c.

*Basins* have just one type as described below:—

- Type A. There is only one type represented by an externally clubbed and flaring rim, short concave neck and shoulder, and sagger base, specimen 105.

### Fig. 27

91. Bowl with an everted, externally mildly beaded rim and bulbous profile. From an early level of Period II. (cf. type 192 of fig. 13, Period I).

91a. A *variant* of 91. Painted in purplish-chocolate on the exterior with a horizontal line and in whitish pigment with four vertical strokes above in the black portion. From mid-level of Period II (Pl. XIX, 6).

92. Bowl with an everted externally beaded rim and flaring sides. (cf. type 195 of fig. 13, Period I). From early level of Period II.



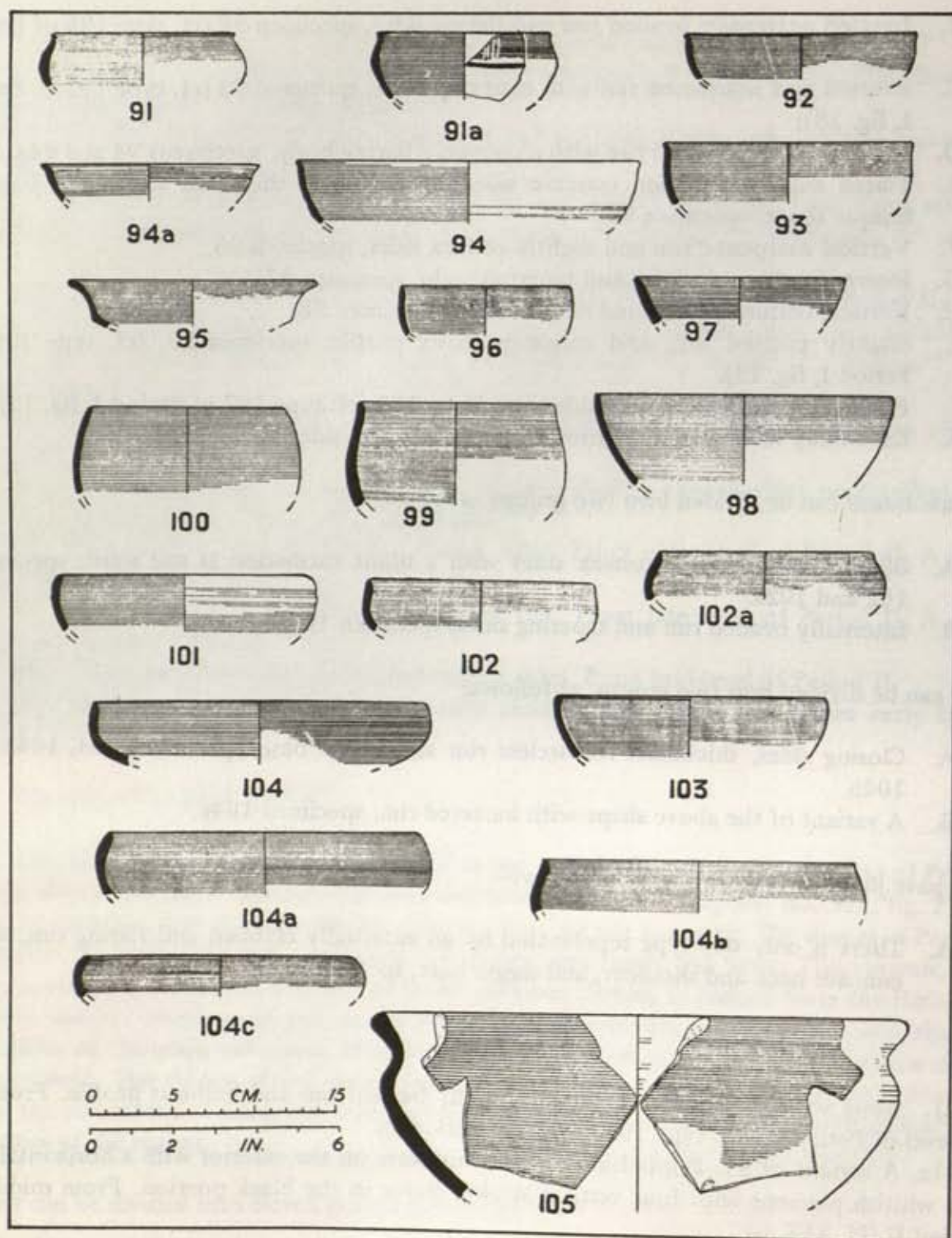


Fig.27. Pottery: Period II.

93. Bowl with an everted and sharpened rim and convex profile. (cf. type 193 of fig. 13, Period I). From mid-level of Period II. A similar shape also occurs at Navdatoli<sup>207</sup> and Nevasa.<sup>208</sup>

94. Bowl with an everted and sharpened rim and a convexly flaring body. From early level of Period II.

94a. A *variant* of 94. From mid-level of Period II (Pl. XIX, 8).

95. Bowl with a flared and everted rim, concave sides, carinated at the waist and sagger base. From mid-level of Period II (Pl. XIX, 1). A similar shape also occurs at Nevasa.<sup>209</sup>

96. Bowl with a vertical, sharpened rim, and convex sides. From late level of Period II. A similar shape also occurs at Ujjain.<sup>210</sup>

97. Bowl with a featureless rim and tapering body. From mid-level of Period II. A similar shape also occurs at Navdatoli,<sup>211</sup> Nevasa,<sup>212</sup> Kausambi,<sup>213</sup> and Ujjain.<sup>214</sup>

98. Deep bowl with a vertical featureless rim and convex flaring sides. From early level of Period II (Pl. XIX, 4). A similar shape also occurs at Kausambi,<sup>215</sup> Hastinapura,<sup>216</sup> Ujjain<sup>217</sup> and Sravasti.<sup>218</sup>

99. Deep bowl with a slightly everted rim and concavo-convex profile (cf. type 198 of fig. 13, Period I). From late level of Period II. A similar shape also occurs at Nasik<sup>219</sup> and Tripuri.<sup>220</sup>

100. Bowl with a featureless rim and closing sides. (cf. type 197 of fig. 13, Period I). From late level of Period II. A similar shape also occurs at Maheshwar<sup>221</sup> and Tripuri.<sup>222</sup>

101. Bowl with externally thickened and grooved rim and convex sides. The upper part of the exterior has escaped from turning black. From early level of Period II.

102. Dish-cum-bowl with slightly everted rim, convex sides and blunt carination at the waist. From mid-level of Period II.

102a. A *variant* of 102. A similar shape also occurs at Ahichchhatra.<sup>223</sup>

103. Dish-cum-bowl with internally beaded rim and tapering sides. From late level of Period II.

104. Dish with thickened featureless rim, closing sides and sagger base. From late level of Period II. A similar shape also occurs at Nevasa<sup>224</sup> and Ahichchhatra.<sup>225</sup>

104a. A *variant* of 104, with incurved rim and a groove on the exterior. From early level of Period II.

104b. A *variant* of 104, with internally sharpened rim. From mid-level of Period II.

104c. A *variant* of 104, with incurved rim. From early level of Period II. A similar shape also occurs at Sravasti.<sup>226</sup>

105. Basin with an obliquely splayed and externally thickened rim, concave neck and shoulder and two grooves at the carinated waist. From early level of Period II.

Figs 28-34 Illustrate Parallels of Nagda Pottery on Other Sites.

#### 4. PERIOD III

A. Northern Black Polished Ware:— The ware has been dealt with in detail in previous



reports<sup>227</sup>, so it will not be of much avail to repeat the same matter. Incidentally only one sherd has been recovered from the excavations. It is a bowl having coal black polish on both the sides, with a reddish brown patch on the surface where the polish has peeled off. The core is grey.

B. Black-and-Red ware:— This ware has been found in all the three periods at Nagda. In this Period the types are confined to the straight-sided dishes, bowls and a miniature vessel of which only one example has been found. They are plain and the fabric is generally medium. The ceramic is slipped uniformly on both the sides.

C. Black Slipped ware:— This industry was noticed in the preceding Period itself and may be taken as a continuance of the same ware. The slip has been applied on both the sides. The usual shapes met with in this ware are deep bowls, dishes with straight or incurved sides.

D. Red ware:— The majority of the pottery falls under this group. The pottery is normally treated with a red slip, though unwashed or unslipped specimens are also amply available. The shapes in this ware are bowls, dishes, lids, basins, carinated jars (*hāṇḍis*), and other jars.

E. Vesiculated ware:— It is a *variant* of the plain red ware distinguished by the use of grains of stones or flakes mixed with the clay. This ware appeared in the preceding Period and continues in the present Period. This technique has been normally noticed in carinated and other jars.

F. Grey Ware:— It is coarse in texture and of thick fabric.

#### A (i) NORTHERN BLACK POLISHED, D(i) PLAIN RED AND C(i) BLACK SLIPPED WARES, BOWLS

The bowls in Northern Black Polished Ware, plain red ware and black slipped ware can be generally divided into twenty-one types, viz.,

- Type A. Internally thickened rim and flaring sides, specimen 1.
- Type B. Vertical rim and flaring sides, specimens 2 and 2a.
- Type C. Vertical, either scalloped or sharpened rim and tapering sides, specimens 3, 4 and 4a.
- Type D. Internally beaded rim and tapering profile, specimen 5.
- Type E. Sharpened almost knife-edged rim with mildly corrugated tapering profile, specimen 6.
- Type F. Incurved and externally collared rim, specimens 7 and 7a.
- Type G. Slightly incurved and internally beaded rim, specimens 8 and 8a.
- Type H. Externally beaded rim, and slightly concave profile, specimen 9.
- Type I. Everted and externally beaded rim, specimens 10 and 10a.
- Type J. Everted and externally beaded rim, slightly convex profile and pedestal base, specimen 11.
- Type K. Vertical and internally sharpened rim, specimen 12.
- Type L. Slightly incurved featureless rim, specimen 13.
- Type N. Featureless rim and convex profile, specimens 14 and 14a.
- Type O. Vertical sides, sharpened rim and rounded base, specimen 15.
- Type P. Thickened rim with grooves on either side, specimen 16.

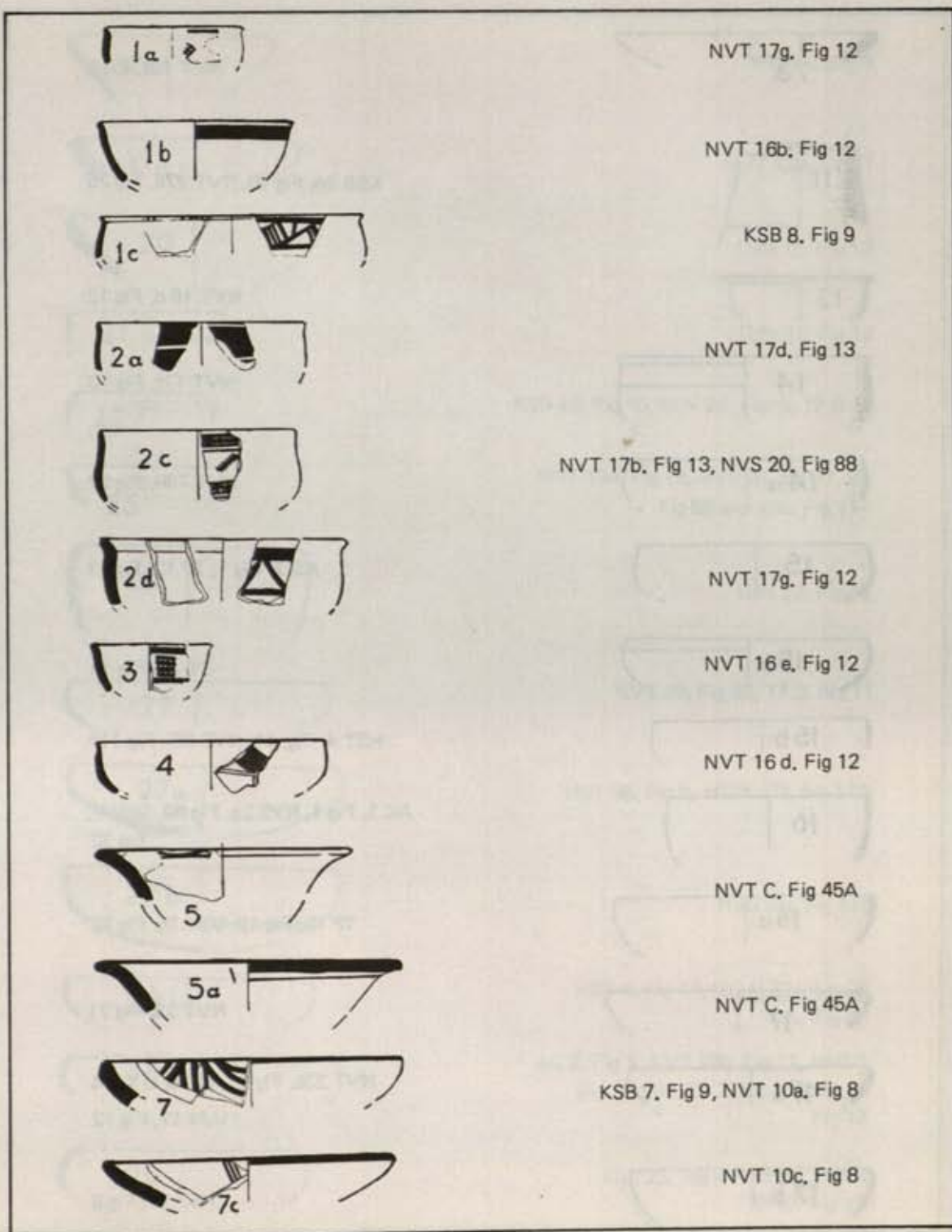


Fig.28. Comparison of Pottery types and painted designs with those on other sites, Period II.



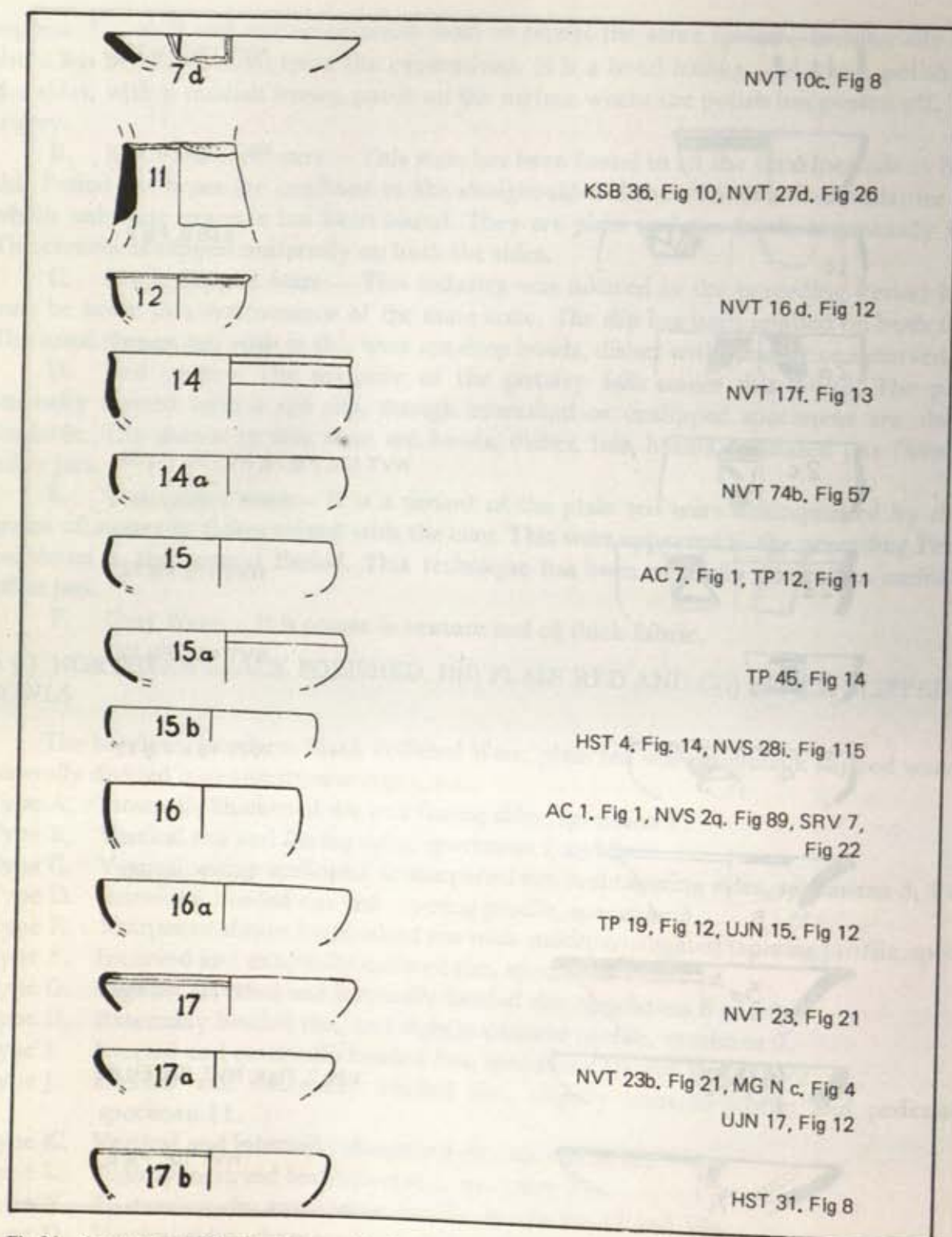


Fig.29. Comparison of Pottery types and painted designs, Period II.

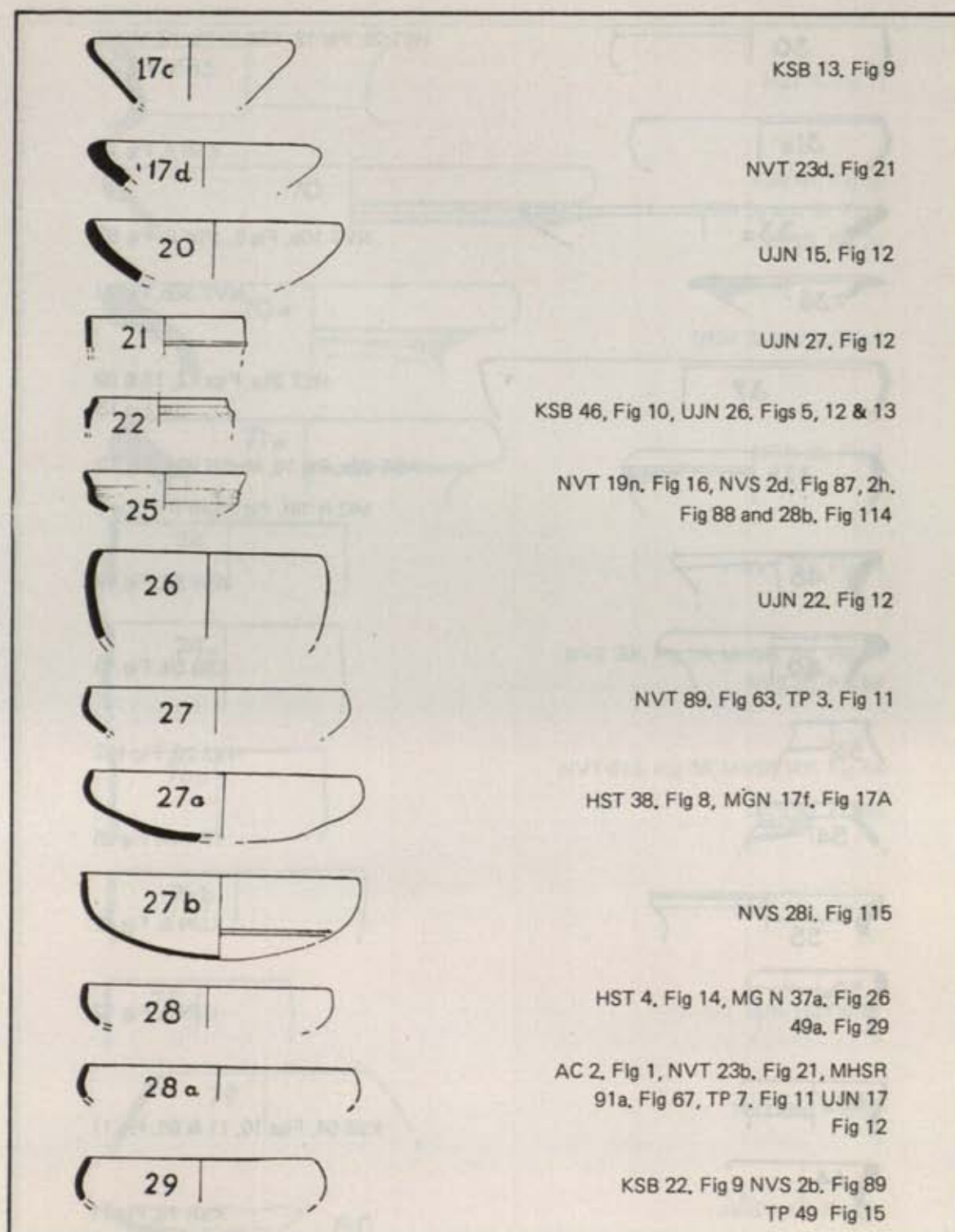


Fig.30. Comparison of Pottery types, Period II.



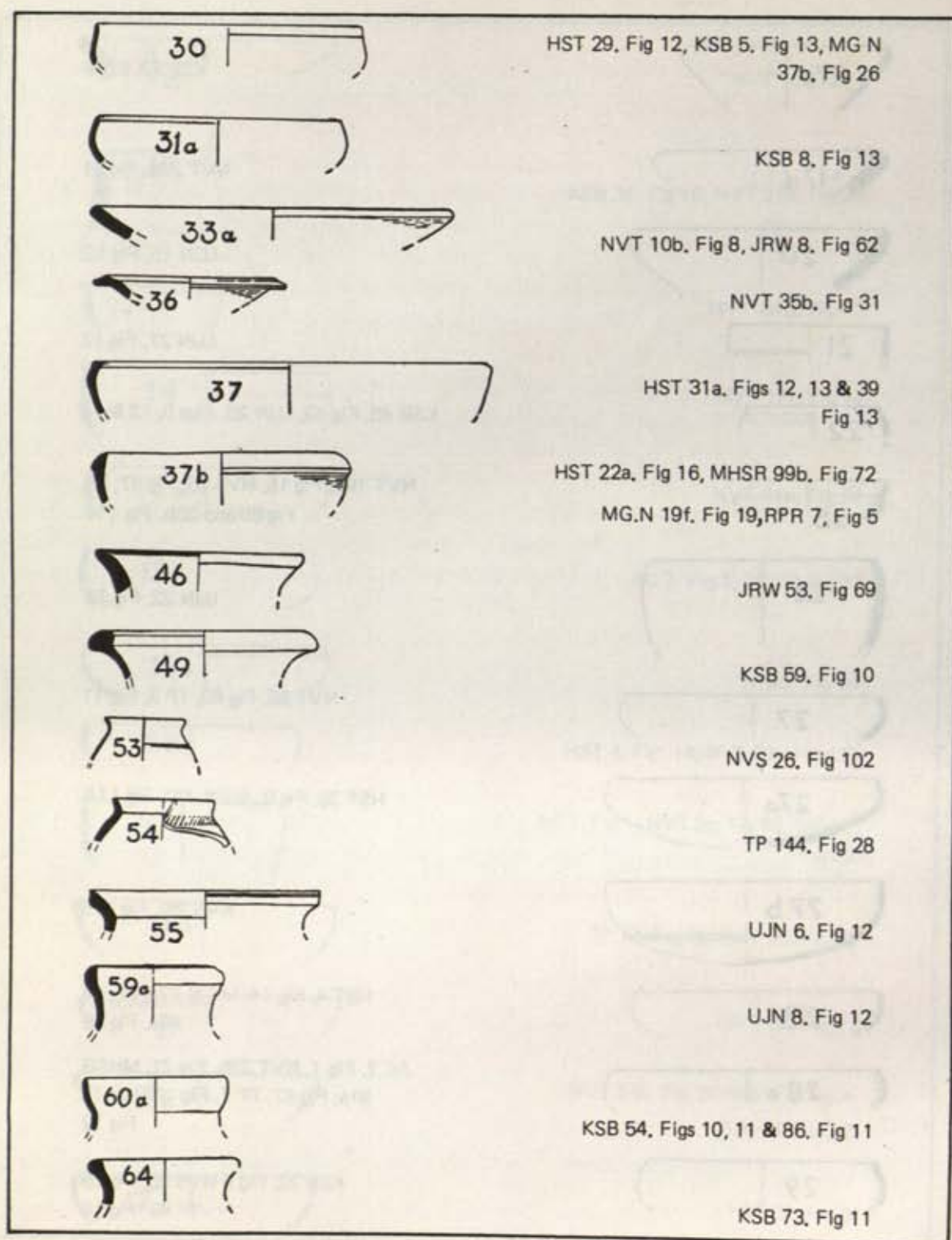


Fig.31. Comparison of Pottery types, Period II.

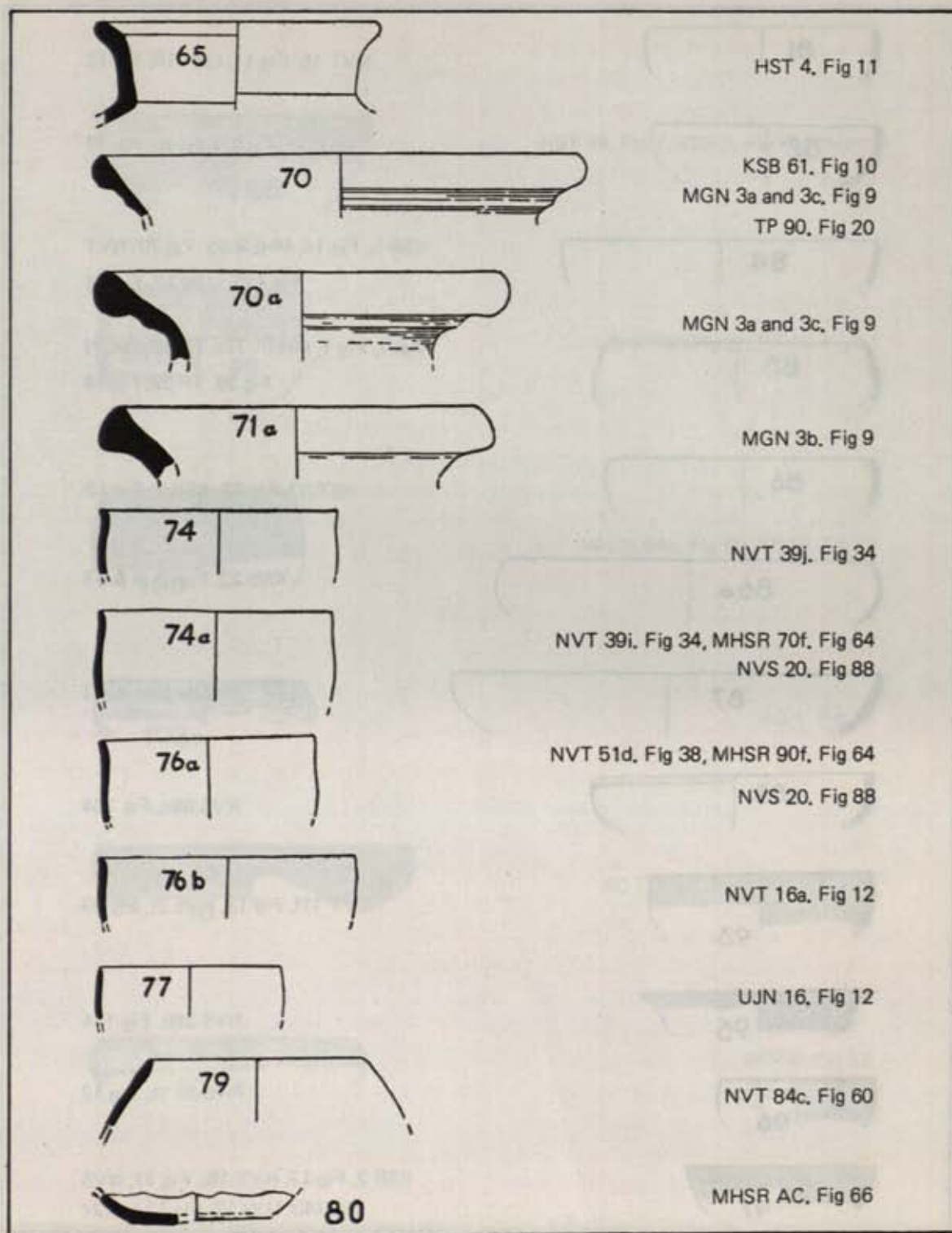


Fig.32. Comparison of Pottery types, Period II.



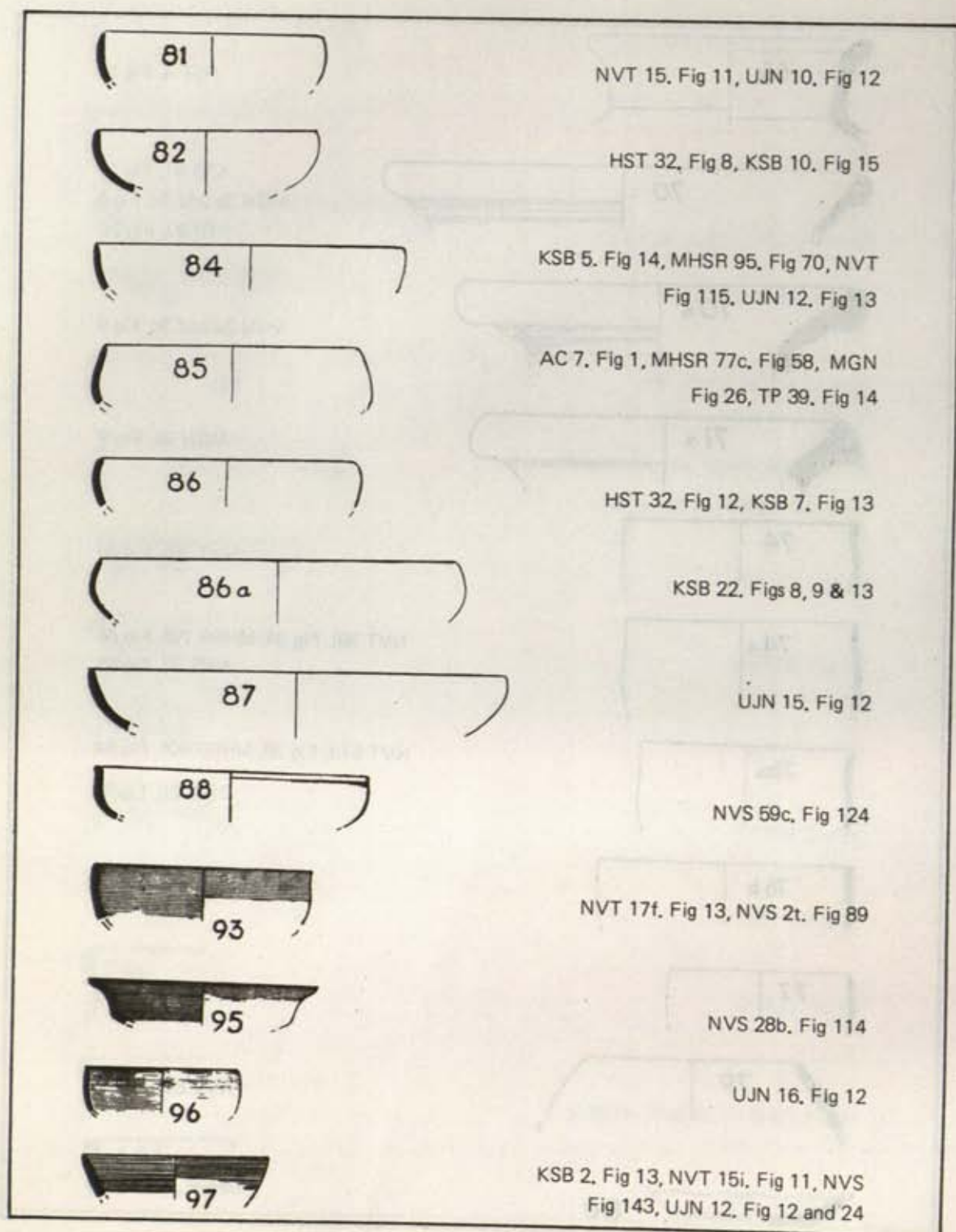


Fig. 33. Comparison of Pottery types, Period II.

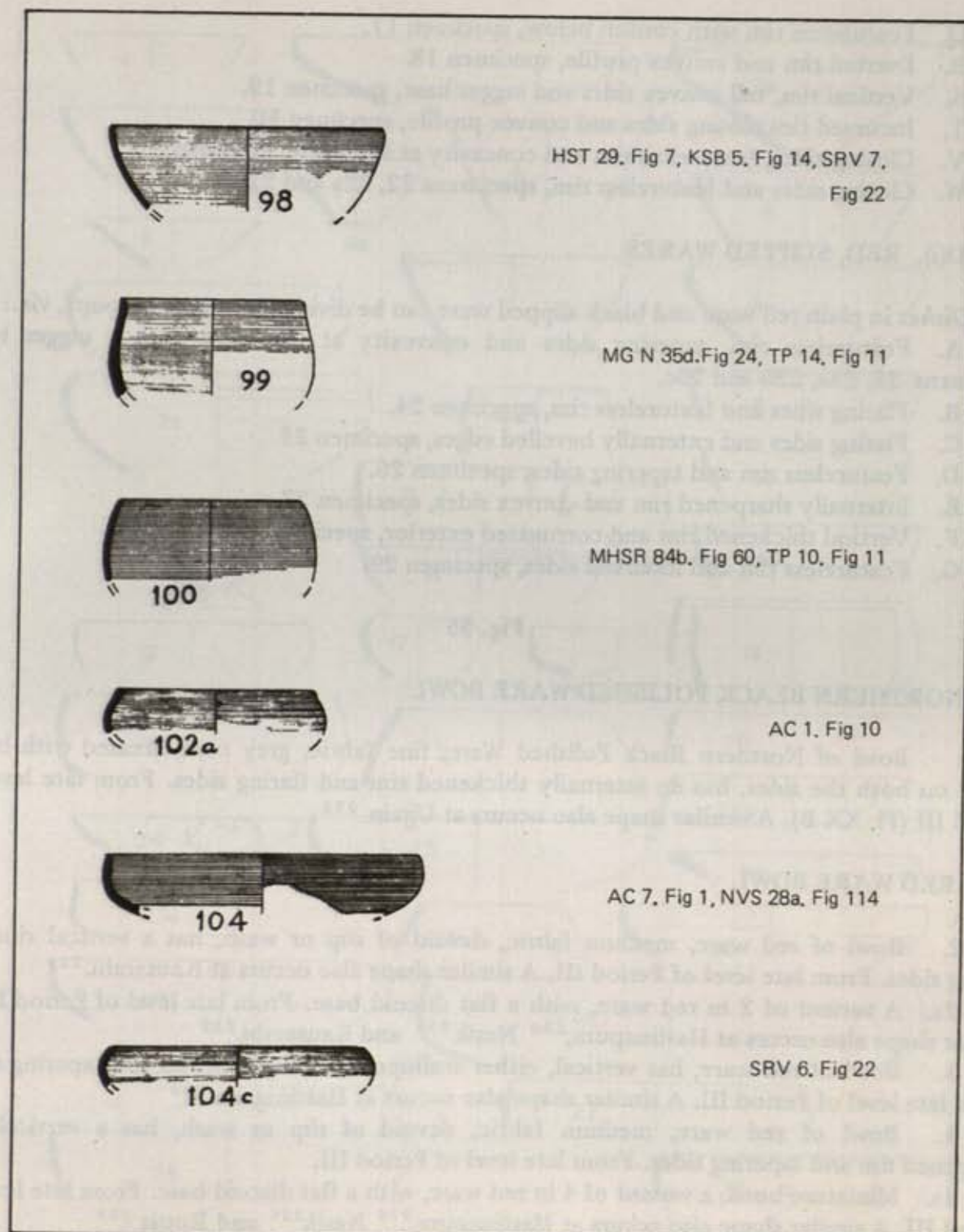


Fig.34. Comparison of Pottery types, Period II.



- Type Q. Featureless rim with cordon below, specimen 17.
- Type R. Everted rim and convex profile, specimen 18.
- Type S. Vertical rim, tall convex sides and sagger base, specimen 19.
- Type T. Incurved rim closing sides and convex profile, specimen 20.
- Type V. Closing sides, featureless rim and concavity at the waist, specimen 21.
- Type W. Closing sides and featureless rim, specimens 22, 22a and 22b.

#### C (i), D(i). RED, SLIPPED WARES

*Dishes* in plain red ware and black slipped ware can be divided into seven groups, viz.:

- Type A. Featureless rim, tapering sides and convexity at the waist with a sagger base, specimens 23, 23a, 23b and 23c.
- Type B. Flaring sides and featureless rim, specimen 24.
- Type C. Flaring sides and externally bevelled edges, specimen 25.
- Type D. Featureless rim and tapering sides, specimen 26.
- Type E. Internally sharpened rim and convex sides, specimen 27.
- Type F. Vertical thickened rim and corrugated exterior, specimen 28.
- Type G. Featureless rim and incurved sides, specimen 29.

Fig. 35

#### A(i) NORTHERN BLACK POLISHED WARE BOWL

1 Bowl of Northern Black Polished Ware, fine fabric, grey core, treated with black polish on both the sides, has an internally thickened rim and flaring sides. From late level of Period III (Pl. XX B). A similar shape also occurs at Ujjain.<sup>228</sup>

#### D(i). RED WARE BOWL

2. Bowl of red ware, medium fabric, devoid of slip or wash, has a vertical rim and flaring sides. From late level of Period III. A similar shape also occurs at Kausambi.<sup>229</sup>

2a. A *variant* of 2 in red ware, with a flat discoid base. From late level of Period III. A similar shape also occurs at Hastinapura,<sup>230</sup> Nasik<sup>231</sup> and Kausambi.<sup>232</sup>

3. Bowl of red ware, has vertical, either scalloped or sharpened rim and tapering sides. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>233</sup>

4. Bowl of red ware, medium fabric, devoid of slip or wash, has a vertical and sharpened rim and tapering sides. From late level of Period III.

4a. Miniature bowl, a *variant* of 4 in red ware, with a flat discoid base. From late level of Period III. A similar shape also occurs at Hastinapura,<sup>234</sup> Nasik<sup>235</sup> and Ropar.<sup>236</sup>

5. Bowl of red ware, medium fabric, devoid of wash or slip, has an internally beaded rim and tapering profile with a depression above the base. From late level of Period III.

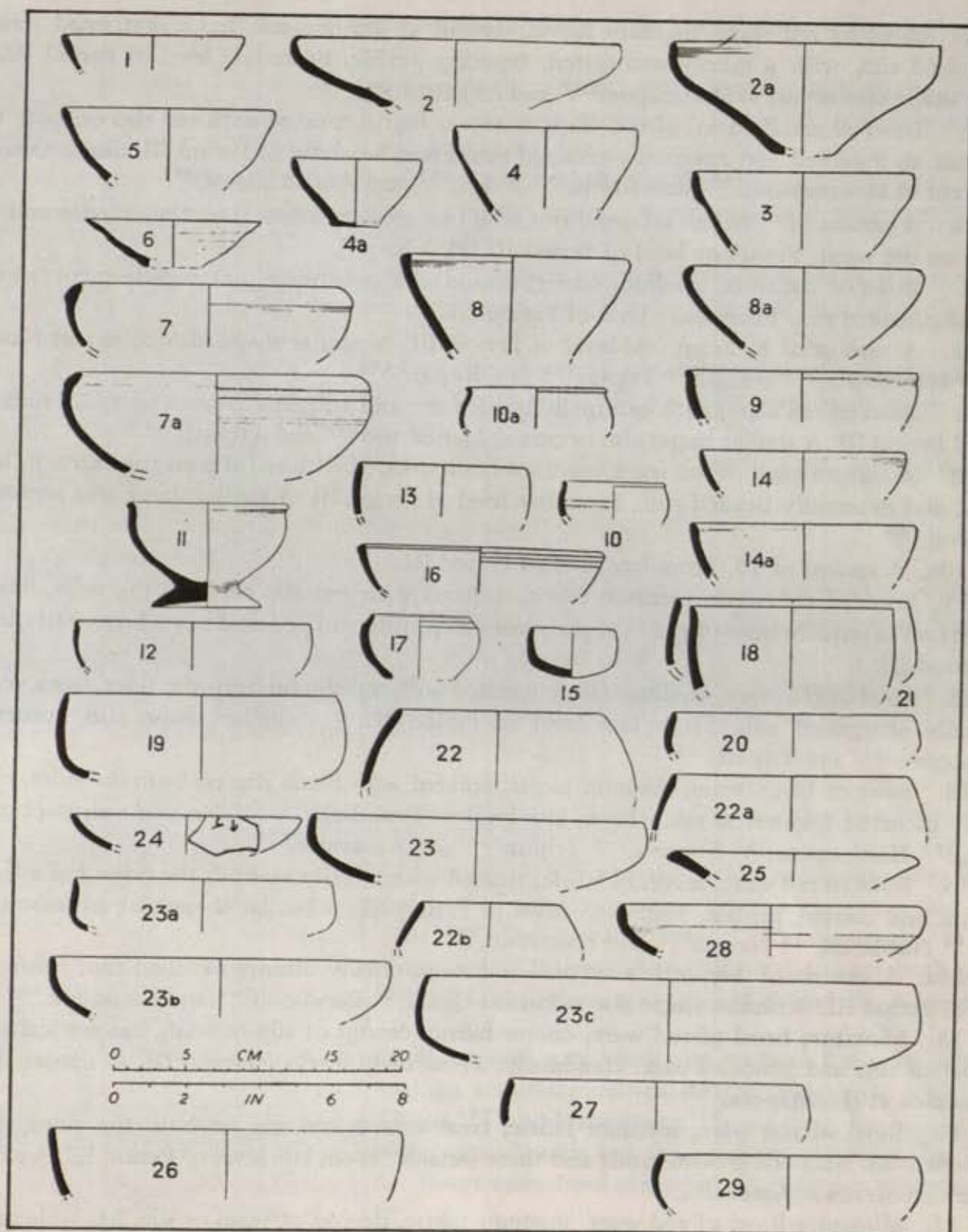


Fig.35. Pottery: Period III.



6. Bowl of red ware, medium fabric, devoid of slip or wash, has a sharpened almost knife-edged rim, with a mildly corrugated, tapering profile. From late level of Period III. A similar shape also occurs at Hastinapura<sup>237</sup> and Ahichchhatra.<sup>238</sup>

7. Bowl or small basin, of red ware, medium fabric, treated with red slip on both the sides, has an incurved and externally collared rim. From late level of Period III. Similar shapes also occur at Hastinapura,<sup>239</sup> Maheshwar,<sup>240</sup> Nasik,<sup>241</sup> and Ahichchhatra.<sup>242</sup>

7a. A *variant* of 7 has an incurved rim with two grooves below it on the exterior and one groove on the waist. From late level of Period III (Pl. XXA, 3).

8. Bowl of red ware, medium fabric, devoid of slip or wash, has slightly incurved and internally beaded rim. From early level of Period III.

8a. A *variant* of 8. From mid-level of Period III. A similar shape also occurs at Navdatoli,<sup>243</sup> Maheshwar,<sup>244</sup> Nasik,<sup>245</sup> Tripuri<sup>246</sup> and Ropar.<sup>247</sup>

9. Bowl of red ware, with externally beaded rim and a slightly convex profile. From late level of Period III. A similar shape also occurs at Maheshwar<sup>248</sup> and Tripuri.<sup>249</sup>

10. Miniature bowl of red ware, medium fabric treated with red slip on the exterior, has an everted and externally beaded rim. From late level of Period III. A similar shape also occurs at Navdatoli.<sup>250</sup>

10a. A *variant* of 10. From late level of Period III.

11. Bowl of red ware, medium fabric, treated with red slip on both the sides, has an everted and externally beaded rim, a slightly convex profile and pedestal base. From early level of Period III.

12. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a vertical internally sharpened rim. From late level of Period III. A similar shape also occurs at Hastinapura<sup>251</sup> and Tripuri.<sup>252</sup>

13. Bowl of black ware, medium fabric, treated with black slip on both the sides, has a slightly incurved featureless rim. From late level of Period III. A similar shape also occurs at Ujjain,<sup>253</sup> Hastinapura,<sup>254</sup> Sravasti,<sup>255</sup> Tripuri<sup>256</sup> and Kausambi.<sup>257</sup>

14. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a featureless rim and convex profile. From late level of Period III. A similar shape also occurs at Ujjain,<sup>258</sup> Navdatoli,<sup>259</sup> Nevasa<sup>260</sup> and Kausambi.<sup>261</sup>

14a. A *variant* of 14, with a vertical and an internally bluntly bevelled rim. From late level of Period III. A similar shape also occurs at Ujjain<sup>262</sup> Navdatoli<sup>263</sup> and Kausambi.<sup>264</sup>

15. Miniature bowl of red ware, coarse fabric, devoid of slip or wash, has vertical sides, sharpened rim and rounded base. Handmade. From early level of Period III. A similar shape also occurs at Hastinapura.<sup>265</sup>

16. Bowl of red ware, medium fabric, treated with red slip on both the sides, has a thickened rim with one groove inside and three outside. From late level of Period III. A similar shape also occurs at Kausambi.<sup>266</sup>

17. Miniature bowl of red ware, medium fabric, devoid of wash or slip, has an incurved featureless rim with a cordon below the rim and a solid discoid base. From early level of Period III. Reminiscent of cordoned bowls from Period I in Ujjain, in double slipped ware.

18. Bowl of black ware, medium fabric, treated with black slip on both the sides, has



everted rim and a convex profile. From mid-level of Period III. A similar shape also occurs at Navdatoli.<sup>267</sup>

19. Bowl or dish of black ware, medium fabric, treated with black slip on both the sides, has vertical rim, tall convex sides and sagger base. From late level of Period III. A similar shape also occurs at Maheshwar<sup>268</sup> Nasik,<sup>269</sup> Ahichchhatra,<sup>270</sup> and Sravasti.<sup>271</sup>

20. Bowl of black ware, medium fabric, treated with black slip on both the sides, has featureless rim, incurved enclosing sides and a convex profile. From early level of Period III. A similar shape also occurs at Maheshwar.<sup>272</sup>

21. Bowl of red ware, medium fabric, treated with red slip on both the sides, has closing sides, featureless rim and convexity at the waist. From late level of Period III (Pl. XXA, 11). A similar shape also occurs at Nasik<sup>273</sup> and Sravasti.<sup>274</sup>

22. Deep bowl of black ware, medium fabric, treated with black slip on both the sides, has closing sides and a featureless rim. From late level of Period III. A similar shape also occurs at Maheshwar<sup>275</sup> and Navdatoli.<sup>276</sup>

22a. A variant of 22, in red ware, medium fabric, treated with red slip on both the sides. From late level of Period III (Pl. XXA, 8).

22b. A variant of 22, in red ware. From late level of Period III.

#### D(ii). RED WARE DISHES

23. Dish, of red ware, medium fabric, treated with red slip on both the sides, has a featureless rim, convexity at the waist, tapering side and a sagger base. From early level of Period III. A similar shape also occurs at Nevasa<sup>277</sup> and Ahichchhatra.<sup>278</sup>

23a. A variant of 23, in red ware, with a prominent carination at the waist. From early level of Period III. A similar shape also occurs at Hastinapura,<sup>279</sup> Nasik<sup>280</sup> and Tripuri.<sup>281</sup>

23b. A variant of 23, devoid of slip or wash. From late level of Period III.

23c. Dish, variant of 23, in black ware, medium fabric, treated with black slip on both the sides, has closing sides, and a featureless rim. From late level of Period III. A similar shape also occurs at Hastinapura<sup>282</sup> and Tripuri.<sup>283</sup>

24. Shallow dish of red ware, medium fabric, devoid of wash or slip, has flaring sides and a featureless rim. The sherds bear an incised inscription in Asokan Brahmi letters reading *ni-ya*. From mid-level of Period III. A similar shape also occurs at Navdatoli<sup>284</sup> and Kausambi.<sup>285</sup>

25. Shallow dish of red ware, medium fabric, treated with light-red slip on both the sides, has flaring sides and externally bevelled edges. From mid-level of Period III. A similar shape also occurs at Tripuri.<sup>286</sup>

26. Dish of black ware, medium fabric, treated with black slip on both the sides, has a featureless rim and tall tapering sides making a slightly convex profile. From late level of Period III. A similar shape also occurs at Ujjain<sup>287</sup> and Maheshwar.<sup>288</sup>

27. Dish of red ware, medium fabric, treated with red slip on both the sides, has an internally sharpened rim and convex sides. From early level of Period III. A similar shape also occurs at Navdatoli.<sup>289</sup>

28. Dish of red ware, medium fabric, devoid of slip or wash, has a vertical thickened rim and mildly corrugated exterior. From late level of Period III. A similar shape also occurs at



Sravasti.<sup>290</sup>

### B (i). BLACK-AND-RED WARE BOWLS

The *bowls* of the black-and-red ware can be divided into eight groups, viz.

- Type A. Vertical featureless rim and convex profile, specimens 30 and 30a.
- Type B. Featureless rim and flaring convex profile, specimen 31.
- Type C. Incurved and tall sides and a featureless rim, specimen 32.
- Type D. Vertical featureless rim and convexity at the waist, specimen 33.
- Type E. Closing sides and featureless rim, specimen 34.
- Type F. Convex profile and featureless rim, specimen 34a.
- Type G. Everted rim and concavo-convex profile, specimen 35.
- Type H. Vertical featureless rim and almost straight sides, specimens 36 and 37.

### B(ii). DISHES

*Dishes* of the black-and-red ware can be divided into four groups, viz.,

- Type A. Vertical thickened rim and sharp carination at the waist, specimen 38.
- Type B. Internally bluntly bevelled rim, specimen 38a.
- Type C. Closing sides, featureless rim, sharp carination at the waist, specimen 39.
- Type D. Internally sharpened rim and closing sides, specimens 40, 40a and 40b.

### B(iii). MINIATURE JAR

A *miniature jar* of black-and-red ware, has a globular profile with two grooves on the waist, specimen 41.

### Figs. 36 and 37

30. Miniature bowl with a vertical featureless rim and convex profile. From early level of Period III. A similar shape also occurs at Ujjain.<sup>291</sup>

30a. A *variant* of 30. From late level of Period III. A similar shape also occurs at Navdatoli.<sup>292</sup>

31. Bowl with a featureless rim and flaring convex profile. From early level of period III. A similar shape also occurs at Ujjain<sup>293</sup> and Sravasti.<sup>294</sup>

32. Bowl with incurved tall sides and featureless rim. From late level of Period III.

33. Bowl or dish with a vertical featureless rim and convexity at the waist. From early level of Period III.

34. Deep bowl with closing sides and a featureless rim. From late level of Period III. A similar shape also occurs at Tripuri.<sup>295</sup>

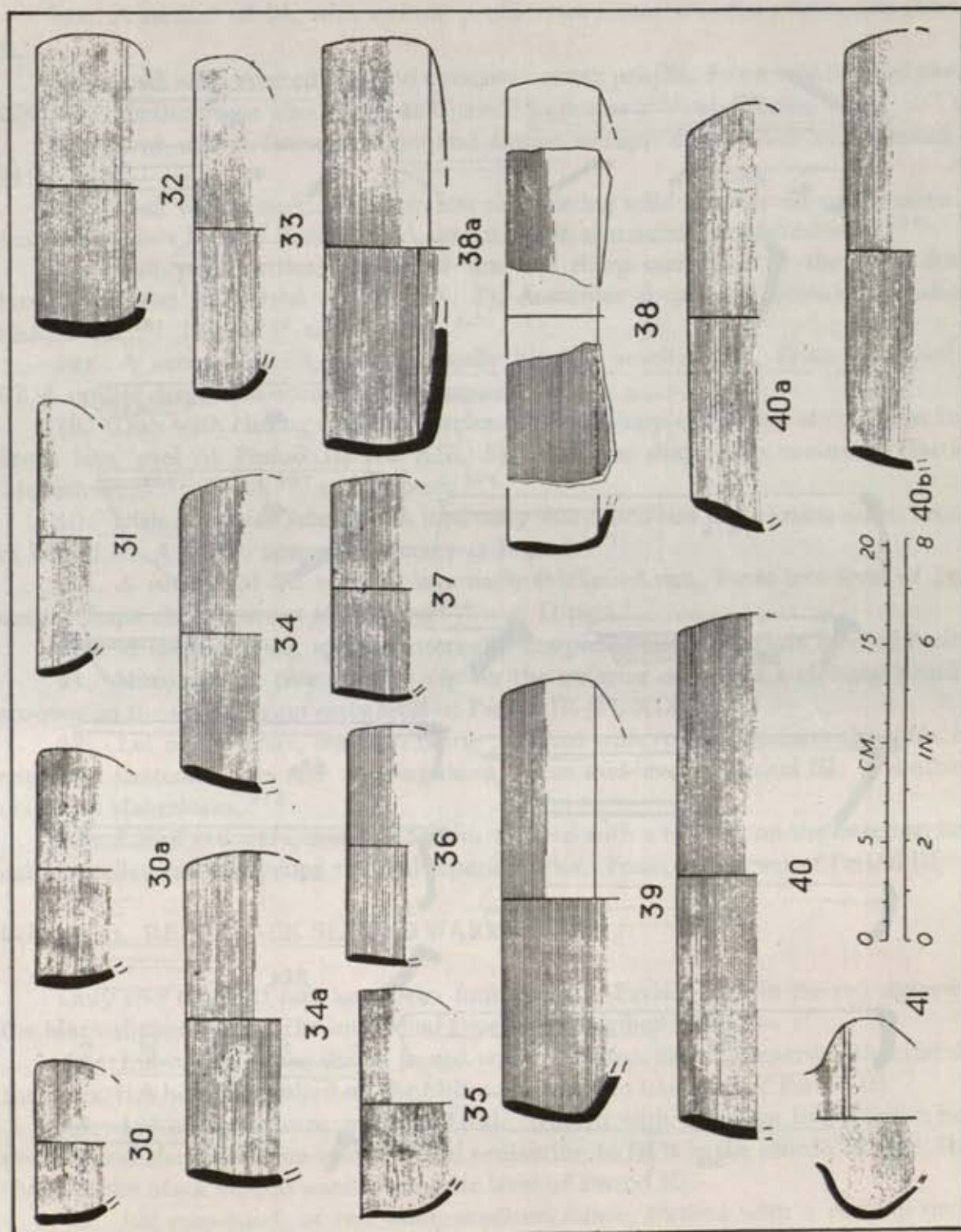


Fig. 36. Pottery: Period III.



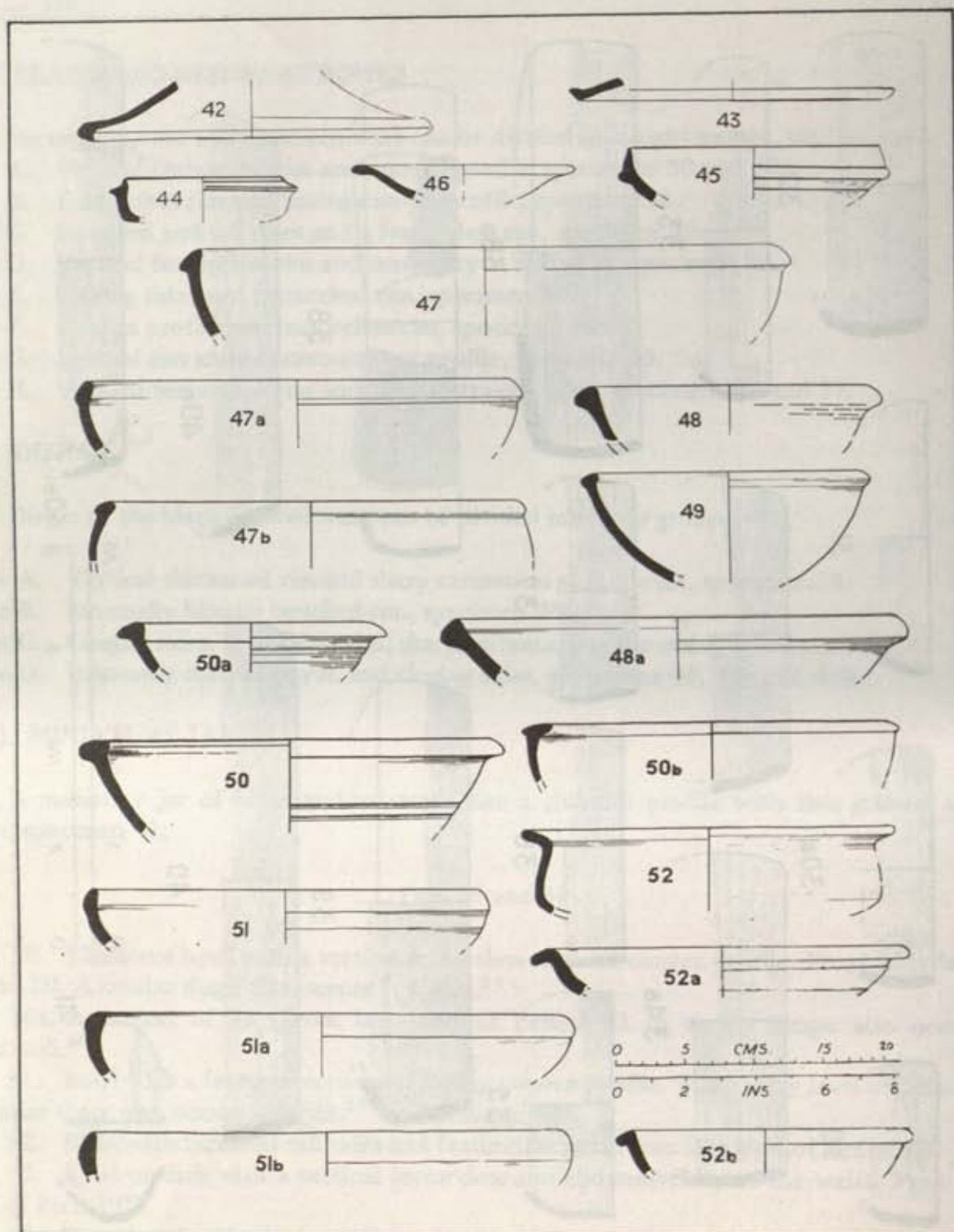


Fig.37. Pottery: Period III.

34a. A *variant* of 34, with convex profile and featureless rim. From late level of Period III.

35. Bowl with everted rim and concavo-convex profile. From mid-level of Period III (Pl. XIX, 9). A similar shape also occurs at Ujjain<sup>296</sup>, Sravasti<sup>297</sup> and Nasik.<sup>298</sup>

36. Bowl with a featureless rim and almost straight sides. From mid-level of Period III (Pl. XIX, 3).

37. Bowl with a vertical featureless rim, having mild grooves on the outside below the rim. From a late level of Period III. A similar shape also occurs at Maheshwar.<sup>299</sup>

38. Dish with vertical thickened rim and sharp carination at the waist for the base. From late level of Period III (Pl. XIX, 7). A similar shape also occurs at Hastinapura,<sup>300</sup> Maheshwar,<sup>301</sup> Tripuri<sup>302</sup> and Ropar.<sup>303</sup>

38a. A *variant* of 38, with internally bluntly bevelled rim. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>304</sup>

39. Dish with closing sides, featureless rim and sharp carination at the waist for the base. From late level of Period III (Pl. XIX, 5). A similar shape also occurs at Hastinapura<sup>305</sup> Maheshwar,<sup>306</sup> Nasik<sup>307</sup> and Tripuri.<sup>308</sup>

40. Dish in coarse fabric with internally sharpened rim and closing sides. From late level of Period III. A similar shape also occurs at Tripuri.<sup>309</sup>

40a. A *variant* of 40, with an internally thickened rim. From late level of Period III. A similar shape also occurs at Maheshwar<sup>310</sup> and Tripuri.<sup>311</sup>

40b. A *variant* of 40, with an internally sharpened rim. From late level of Period III.

41. Miniature jar treated with slip on the exterior only, has a globular profile with two grooves on the waist. From early level of Period III (Pl. XIX, 2).

42. Lid of red ware, medium fabric, treated with red slip on both the sides, has a thickened and flattened edge and tapering sides. From mid-level of Period III. A similar shape also occurs at Maheshwar.<sup>312</sup>

43. Lid of red ware, medium fabric, treated with a red slip on the exterior, has an externally bevelled and sharpened rim and tapering sides. From early level of Period III.

#### C(ii), D(ii). RED, BLACK SLIPPED WARES, LIDS

Only five types of *lids* have been found in this Period, four in the red slipped and one in the black slipped wares. The individual types are described below:—

44. Lid of tulip-vase shape, in red ware, medium fabric, treated with a red slip on both the sides. Has been burnished on the hollow side. From late level of Period III.

45. Lid of black ware, medium fabric, treated with a slip on the exterior, has a vertical everted and sharpened rim and a lateral projection to fit it in the mouth of a jar. It is a unique shape in the black slipped ware. From late level of Period III.

46. Lid-cum-bowl, of red ware, medium fabric, treated with a red slip on the hollow side, has sharpened vertical rim with a bold ridge on the exterior. From late level of Period III.



## D(iii). RED WARE BASINS

*Basins* are mostly in the red slipped ware, with the exception of some in vesiculated ware represented by types 52, 52a and 52b. They can be divided broadly into six types or groups as described below:—

Type A. With collared; occasionally an externally pointed rim, specimens 47, 47a and 47b.

Type B. Clubbed rims, specimens 48 and 48a.

Type C. Nail-headed rim, specimen 49.

Type D. Pointedly beaded rims, specimens 50, 50a and 50b.

Type E. Incurved collared rim with a groove or depression on the exterior, specimens 51, 51a and 51b.

Type F. Splayed, short flanged rim, specimens 52, 52a and 52b.

47. Basin of red ware, coarse fabric, treated with red slip on both the sides, has a collared and externally pointed rim. From late level of Period III. A similar shape also occurs at Hastinapura<sup>313</sup> and Nasik.<sup>314</sup>

47a. A *variant* of 47, has a groove on the exterior below the rim. Burnished on both the sides. From late level of Period III. A similar shape also occurs at Hastinapura<sup>315</sup>, Maheshwar<sup>316</sup> and Ropar.<sup>317</sup>

47b. A *variant* of 47, in red slipped ware, medium fabric. From mid-level of Period III.

48. Basin of red ware, coarse fabric, treated with red slip on the exterior, has a clubbed rim. From mid-level of Period III.

48a. A *variant* of 48. From early level of Period III. A similar shape also occurs at Ujjain<sup>318</sup> and Kausambi.<sup>319</sup>

49. Basin of red ware, treated with a red slip and has a nail-headed rim. From mid-level of Period III.

50. Basin of red ware, medium fabric, treated with red slip on both the sides, has an incurved and pointedly beaded rim with two grooves on the waist. From late level of Period III.

50a. A *variant* of 50. From early level of Period III.

50b. A *variant* of 50, in red ware, medium fabric, treated with red slip on both the sides. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>320</sup>

51. Basin of red ware, medium fabric, treated with a red slip on both the sides, has an incurved collared rim with a depression or groove on the exterior below the rim. Unstratified, from Period III. A similar shape also occurs at Maheshwar,<sup>321</sup> Ahichchhatra<sup>322</sup> and Kausambi.<sup>323</sup>

51a. A *variant* of 51. From late level of Period III. A similar shape also occurs at Nasik.<sup>324</sup>

51b. A *variant* of 51, in red unslipped ware, medium fabric. From late level of Period III.

52. Basin of vesiculated ware, coarse fabric, treated with red slip, has a flaring mouth, a splayed rim and carinated waist. The base is sooty. This may suggest that the vessel has been



used for cooking. From a late level of Period III. A similar shape also occurs at Nevasa.<sup>325</sup>

52a. A *variant* of 52, coarse fabric, treated with red slip on both the sides, has a splayed rim. From early level of Period III.

52b. A *variant* of 52, devoid of wash or slip with a splayed short flanged rim. From late level of Period III.

### Figs. 38, 39 and 40

#### D (iv). RED WARE JARS

Jars in Period III are made mostly in the red ware. The vesiculated ware has also been employed limitedly for making jars. These are divisible broadly into thirty-six groups, with *variants*. The jars were used variously for storing of solids and liquids and no doubt also for cooking.

The following types of jars were found:—

- Type A. Externally chamfered rim with short concave neck, specimens 53, 53a, 53b, 53c, 53d and 93.
- Type B. Scalloped rim, specimens 54, 54a and 54b.
- Type C. Externally pointed and internally grooved rim with splayed neck, specimens 55, 55a and 55b.
- Type D. Obliquely splayed and broadly thickened rim, specimens 56, 56a and 56b.
- Type E. Thickened vertical rim flattened at the top and occasionally sloping inside, specimens 57, 100 and 101.
- Type F. Externally thickened rim, splayed tall neck, specimens 58, 58a and 58b.
- Type G. Out-turned featureless rim with globular body, specimen 59.
- Type H. Out-turned featureless rim, specimen 60.
- Type I. Flared and externally beaded rim, specimen 61.
- Type J. Obliquely splayed rim, specimens 62, 62a and 62b.
- Type K. Externally collared rim, splayed neck, with occasional grooves resulting in corrugations on the exterior, specimens 63, 63a, 63b, 63c, 63d, 63e, 85, 86, 86a and 86b.
- Type L. Beaked or beaded rim, splayed and occasionally closely corrugated neck, specimens 64, 64a, 87 and 88.
- Type M. Beaked and occasionally out-turned rim, splayed externally ridged or corrugated neck, specimen 65, 65a, 65b, 65c and 91.
- Type N. Horizontally splayed or flanged rim and short concave neck, specimens 66, 66a, 66b, 92 and 96.
- Type O. Obliquely splayed and externally beaded rim, specimens 67 and 68.
- Type P. Vertical featureless rim and tapering shoulders, specimen 69.
- Type Q. Out-turned and externally thickened or clubbed rim, specimen 70.
- Type R. Horizontally splayed rim depressed at the edge and concave neck, specimen 71.



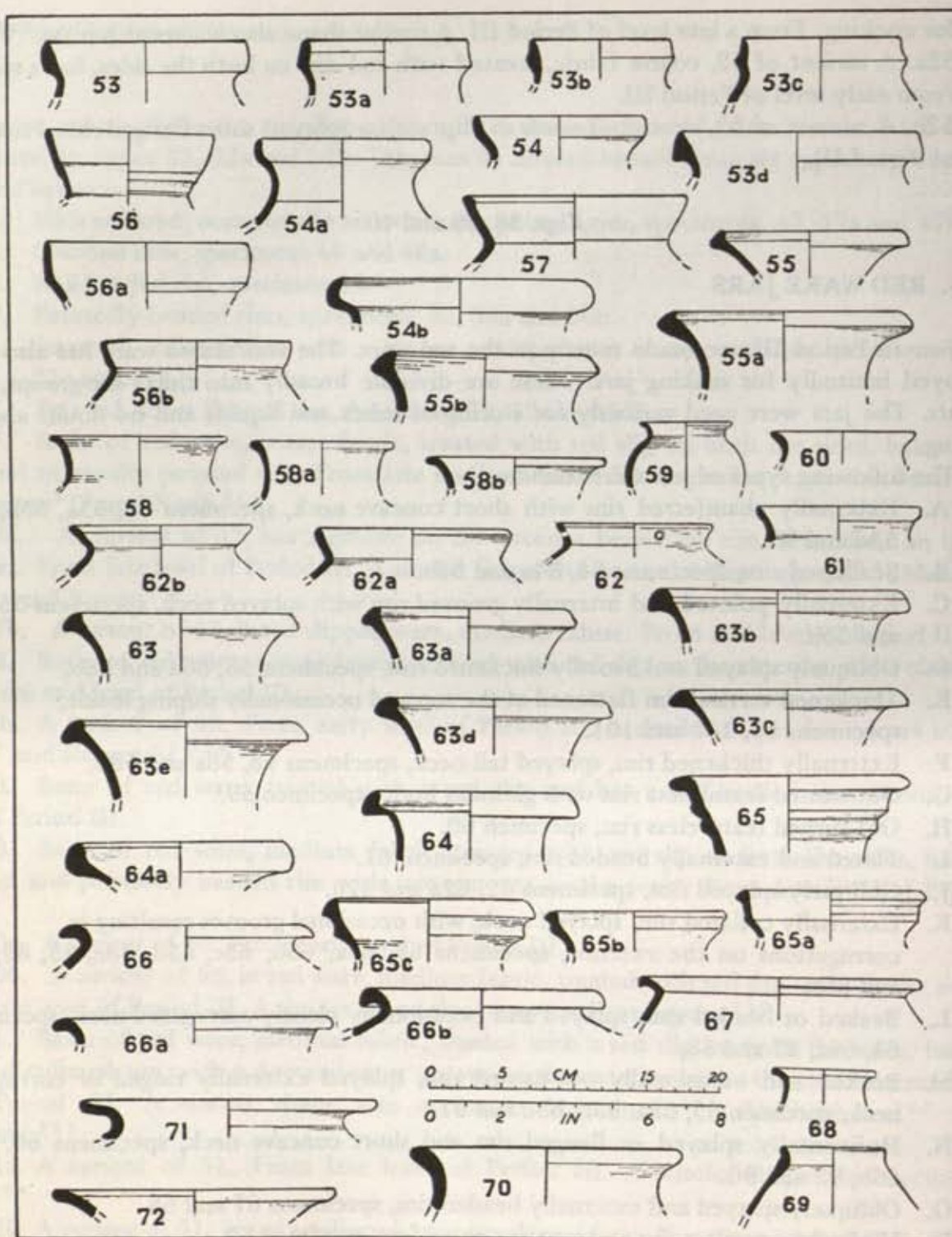


Fig.38. Pottery: Period III.

- Type S. Slightly externally thickened rim and flared, splayed neck, specimen 72.
- Type T. Elliptically collared rim, tall splayed neck with a median ridge, specimens 73, 73a, 81, 81a and 81b.
- Type U. Out-turned and thickened rim with a depression inside, specimen 74.
- Type V. Flared and flanged rim with a groove at the junction with splayed and externally grooved neck, specimens 75 and 76.
- Type W. Splayed rim and flaring mouth, specimens 77 and 78.
- Type X. Out-turned and obliquely cut rim, specimen 79.
- Type Y. Externally beaded rim and concave neck, specimen 80.
- Type Z. Externally clubbed rim, specimen 82.
- Type A1. Heavily dubbed rim with grooves on the splayed and flaring neck, specimen 83.
- Type A2. Elliptically collared rim with a broad depression at the neck inside, specimens 84 and 84a.
- Type A3. Flared and nail-headed rim and splayed neck, specimens 89, 89a, 89b, 89c and 90.
- Type A4. Flared, externally thickened and beaded rim, specimen 94.
- Type A5. Out-turned short flanged rim, specimens 95 and 97.
- Type A6. Out-turned, horizontally splayed and flanged rim, specimen 98.
- Type A7. Vertical thickened rim, with a mild depression inside and grooves on the exterior, specimen 99.
- Type A8. Out-turned and externally clubbed rim, elongated profile and bluntly pointed base, specimen 102.
- Type A9. Rim less jar, *hāndi* type of vesiculated ware, specimen 103.
- Type A10. Rimless jar, *hāndi* type occasionally with collared rim, specimen 104.

Fig. 38

53. Jar of red ware, medium fabric, treated with red slip on the exterior, has an externally beaded rim with a mild depression inside. From late level of Period III. A similar shape also occurs at Ujjain,<sup>326</sup> Hastinapura<sup>327</sup> and Tripuri.<sup>328</sup>

53a. A *variant* of 53, has a vertical rim with a ridge on it. From mid-level of Period III. A similar shape also occurs at Tripuri<sup>329</sup>, Ropar<sup>330</sup>, Ahichchhatra<sup>331</sup> and Kausambi.<sup>332</sup>

53b. A *variant* of 53, devoid of wash or slip, has a vertical rim with a ridge on it. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>333</sup>

53c. A close *variant* of 53 in red ware. From late level of Period III. A similar shape also occurs at Hastinapura<sup>334</sup> and Tripuri.<sup>335</sup>

53d. A *variant* of 53, in vesiculated ware, coarse fabric, devoid of slip or wash. From late level of Period III. A similar shape also occurs at Kausambi<sup>336</sup> and Tripuri.<sup>337</sup>

54. Jar of red ware, coarse fabric, treated with red slip on both the sides, has internally scalloped rim. From early level of Period III.

54a. A *variant* of 54, devoid of slip or wash. From late level of Period III. A similar



shape also occurs at Nasik<sup>338</sup> and Tripuri.<sup>339</sup>

54b. A *variant* of 54, in red ware, coarse fabric, treated with red slip on both the sides, has incurved and internally scalloped rim. From early level of Period III.

55. Jar of red ware medium fabric and treated with red slip on the exterior and partially inside, has externally pointed and internally grooved rim, and splayed neck. From late level of Period III. A similar shape also occurs at Tripuri.<sup>340</sup>

55a. A *variant* of 55, in red ware, medium fabric, treated with red slip on both the sides. From early level of Period III. A similar shape also occurs at Nasik.<sup>341</sup>

55b. A *variant* of 55, in red ware, coarse fabric, treated with weak red slip on both the sides. From early level of Period III.

56. Jar of red ware, medium fabric, treated with red slip on the exterior and up to the neck inside, has a slightly obliquely splayed and broadly thickened rim with two grooves below the rim on the exterior. From late level of Period III.

56a. A *variant* of 56, in red ware, has a shorter rim. From mid-level of Period III. A similar shape also occurs at Nasik.<sup>342</sup>

56b. A *variant* of 56, in red ware, medium fabric, treated with red slip on the exterior and up to the neck inside, has an obliquely splayed rim with slight scalloping inside. It marks a transition to type 56a. From mid-level of Period III. A similar shape also occurs at Kausambi.<sup>343</sup>

57. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has an internally bluntly bevelled rim with a depression below and splayed neck. From early level of Period III. A similar shape also occurs at Hastinapura<sup>344</sup> and Tripuri.<sup>345</sup>

58. Jar of red ware, medium fabric, treated with red slip on both the sides, has an externally thickened rim and a splayed tall neck. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>346</sup>

58a. A *variant* of 58 in red ware, has an externally beaded rim. From mid-level of Period III.

58b. A *variant* of 58 in red ware. From late level of Period III. A similar shape also occurs at Sravasti.<sup>347</sup>

59. Miniature jar (*lotā*) of red ware, medium fabric, treated with red slip on the exterior and up to the neck inside, has an out-turned featureless rim, a short vertical neck and globular body. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>348</sup>

60. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned featureless rim. From mid-level of Period III.

61. Jar of red ware, medium fabric, treated with red slip on both the sides, has flared and externally beaded rim with a mild groove below on the exterior. From late level of Period III.

62. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an obliquely splayed rim. The rim bears a perforation, drilled from both the sides. From early level of Period III. A similar shape also occurs at Sravasti.<sup>349</sup>

62a. A *variant* of 62, in red ware, medium fabric, treated with red slip on the exterior and up to the neck inside, has an obliquely splayed rim. From late level of Period III.



62b. A *variant* of 62, in red ware, coarse fabric, devoid of wash or slip, has an obliquely splayed rim with a depression inside and a groove below the rim on the exterior. From early level of Period III.

63. Jar of red ware, medium fabric, treated with red slip on both the sides, has an elliptically collared rim, concave neck. From late level of Period III. A similar shape also occurs at Hastinapura.<sup>350</sup>

63a. A *variant* of 63, in red ware. From early level of Period III. A similar shape also occurs at Kausambi<sup>351</sup> and Nasik.<sup>352</sup>

63b. A *variant* of 63 in red ware, medium fabric, treated with red slip on both the sides. From mid-level of Period III. A similar shape also occurs at Ujjain<sup>353</sup> and Nasik.<sup>354</sup>

63c. A *variant* of 63, in red ware, medium fabric, treated with red slip on both the sides, has pointed and beaded rim with a groove inside. From late level of Period III.

63d. A *variant* of 63, in red ware, medium fabric, treated with weak red slip on both the sides. From early level of Period III.

63e. A *variant* of 63 in red ware, from late level of Period III. A similar shape also occurs at Nasik.<sup>355</sup>

64. Jar of red ware, medium fabric, treated with red slip on both the sides, has pointedly beaded rim with a ledge inside. From early level of Period III.

64a. A *variant* of 64, in red ware. Unstratified, from Period III.

65. Jar of red ware, medium fabric, treated with red slip on the exterior and partially inside, has an out-turned rim and corrugated splayed neck. From late level of Period III. A similar shape also occurs at Nasik.<sup>356</sup>

65a. A *variant* of 65, in red ware. From mid-level of Period III.

65b. A *variant* of 65, in red ware. Unstratified, from Period III.

65c. A *variant* of no. 65 in red ware. From early level of Period III.

66. Jar of vesiculated ware, coarse fabric, treated with red slip on the exterior, has an out-curved and flanged rim. Unstratified, from Period III. A similar shape also occurs at Ahichchhatra.<sup>357</sup>

66a. A *variant* of 66, in vesiculated ware, coarse fabric, treated with red slip on the exterior, has an out-curved and flanged rim. From Period III.

66b. A *variant* of 66, in vesiculated ware. From late level of Period III. A similar shape also occurs at Tripuri<sup>358</sup> and Ujjain.<sup>359</sup>

67. Jar of vesiculated ware, medium fabric, treated with red slip on both the sides, has an obliquely splayed and beaded rim. From late level of Period III. A similar shape also occurs at Nevasa.<sup>360</sup>

68. Miniature jar of red ware, medium fabric, treated with red slip on both the sides, has obliquely splayed and externally beaded rim. From late level of Period III.

69. Miniature jar of red ware, coarse fabric, devoid of slip or wash, has a vertical featureless rim and tapering shoulders. From mid-level of Period III.

70. Jar of red ware, medium fabric, treated with red slip on the exterior which is peeling off, has an out-curved and externally thickened rim. From late level of Period III.



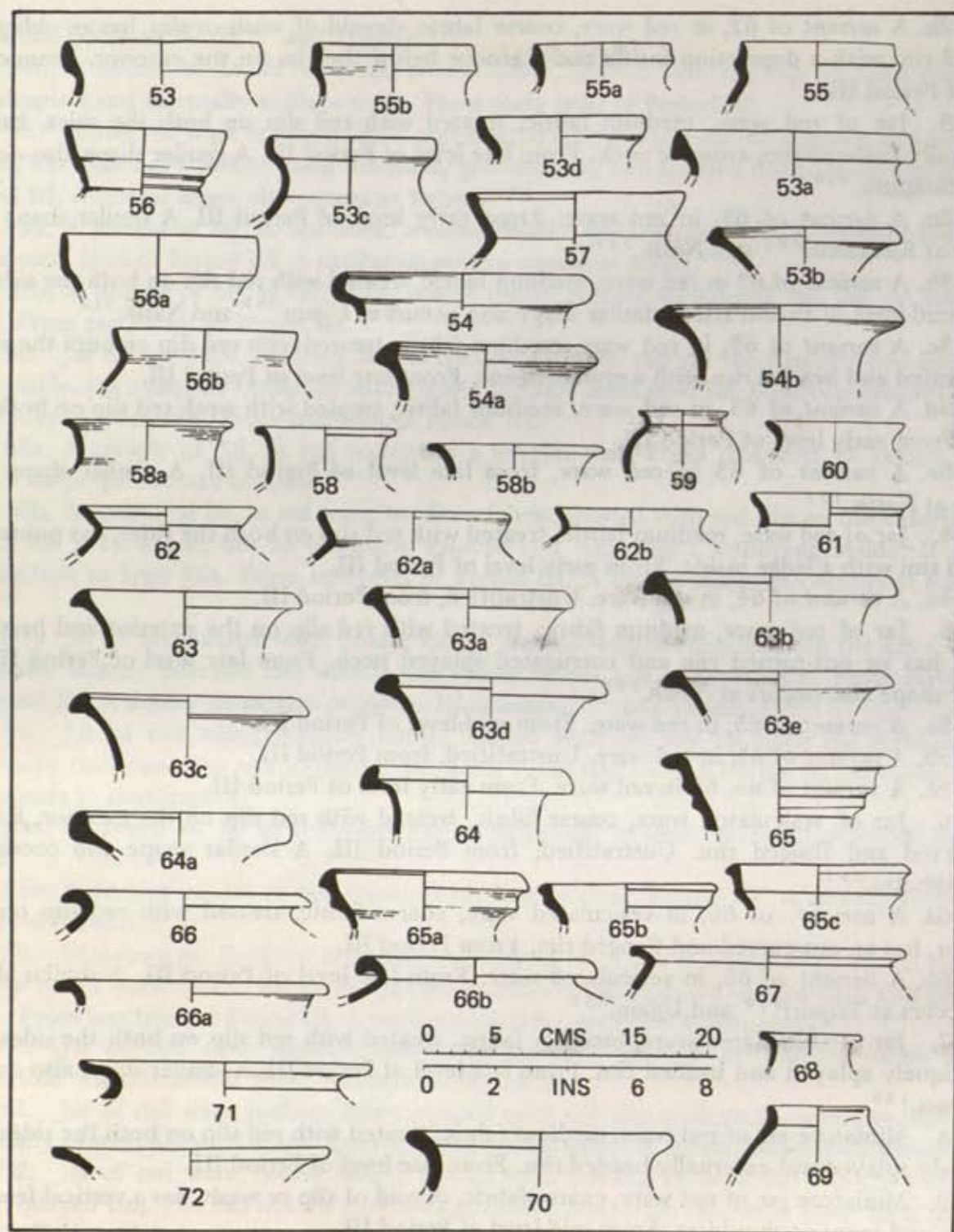


Fig 39. Pottery: Period III.

71. Jar of vesiculated ware, medium fabric, treated with red slip, has a horizontally splayed rim, depressed at the edge and concave neck. From early level of Period III.

72. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has flared and splayed neck and featureless slightly externally thickened rim. From early level of Period III. A similar shape also occurs at Nasik.<sup>361</sup>

### Fig. 39

73. Jar of red ware, medium fabric, treated with red slip on the exterior and up to neck inside, has a pointed beaded rim and vertical neck. From mid-level of Period III. A similar shape also occurs at Hastinapura.<sup>362</sup>

73a. A *variant* of 73, in red ware, medium fabric, treated with red slip on the exterior and up to neck inside, has an externally beaded rim and high neck. From early level of Period III. A similar shape also occurs at Hastinapura.<sup>363</sup>

74. Jar of red ware, medium fabric, treated with red slip on both the sides; has an outgoing and thickened rim with a depression inside. From late level of Period III. A similar shape also occurs at Maheshwar<sup>364</sup> and Kausambi.<sup>365</sup>

75. Jar of vesiculated ware, coarse fabric, treated with bright red slip on both the sides, has flared and flanged rim with a groove at the junction with the splayed and externally grooved neck. From early level of Period III.

76. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has a splayed rim with a depression inside. From late level of Period III. A similar shape also occurs at Ujjain.<sup>366</sup>

77. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has an obliquely splayed rim with a depression inside and a groove outside, below the rim and concave neck. From late level of Period III (Pl. XXA, 1). Similar shapes also occur at Tripuri.<sup>367</sup>

78. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has a splayed rim and vertical neck. From late level of Period III (Pl. XXA, 9). A similar shape also occurs at Ujjain.<sup>368</sup>

79. Jar of red ware, medium fabric, treated with red slip on both the sides, has an out-turned externally thickened rim and concave neck. From late level of Period III.

80. Jar of red ware, medium fabric, devoid of slip or wash, has beaded rim and concave neck. From late level of Period III. A similar shape also occurs at Kausambi.<sup>369</sup>

81. Storage jar of red ware, coarse fabric, treated with red slip on the exterior and up to the shoulder inside, has an elliptically collared rim and splayed neck with a median ridge. From mid-level of Period III. A similar shape also occurs at Hastinapura<sup>370</sup> and Jorwe.<sup>371</sup>

81a. A *variant* of 81, in red ware, coarse fabric, treated with red slip on the exterior and up to the shoulder inside; has a clubbed rim. From early level of Period III.

81b. A *variant* of 81, in vesiculated ware, coarse fabric, treated with weak red slip on both the sides, has a beaded rim with a mild groove inside and splayed neck. From early level of Period III (Pl. XXA, 4).



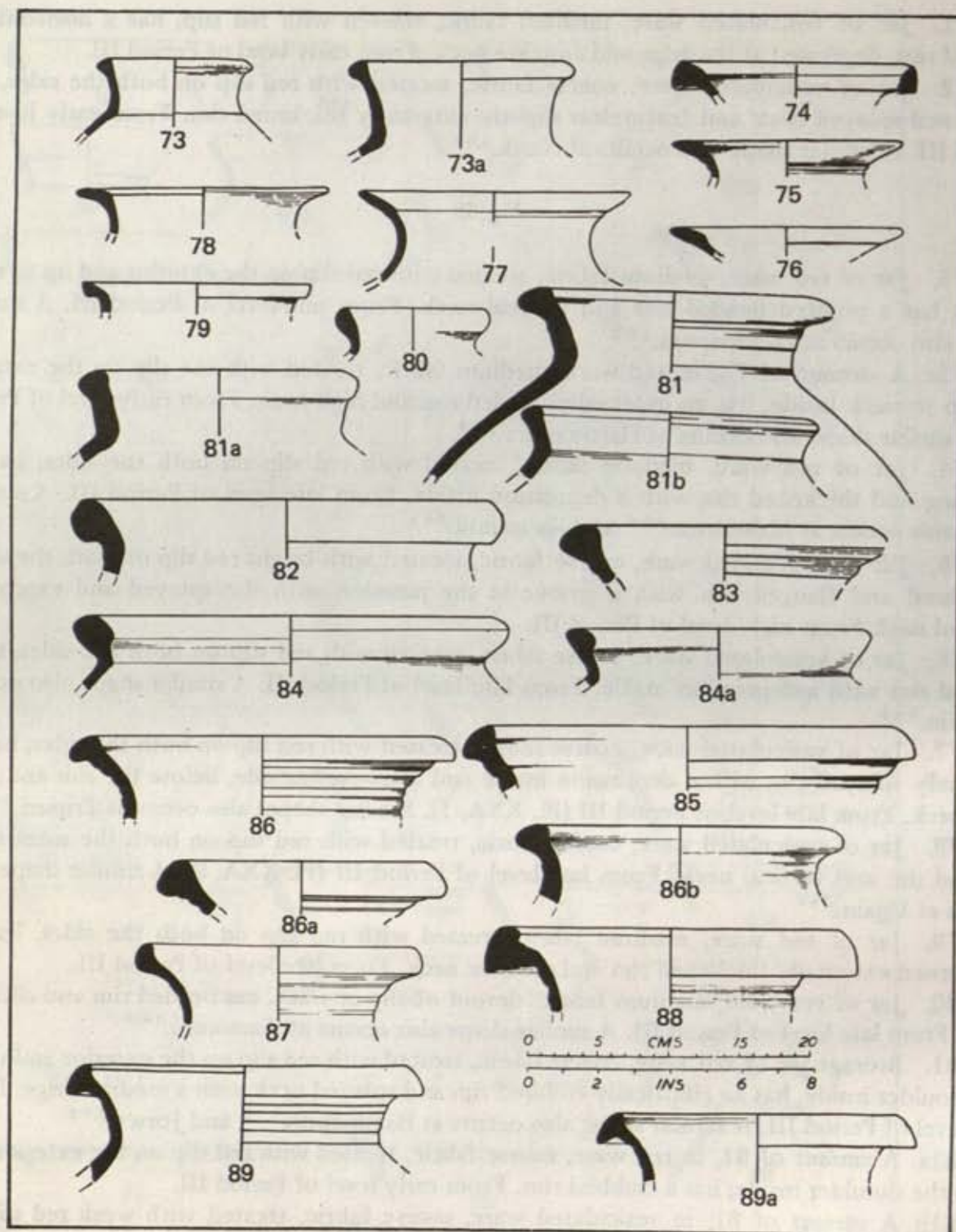


Fig 40. Pottery: Period III.

82. Storage jar of red ware, coarse fabric, treated with weak red slip on the exterior and inside up to the shoulder; has an externally clubbed rim. From late level of Period III. A similar shape also occurs at Kausambi<sup>372</sup> and Nasik.<sup>373</sup>

83. Jar of red ware, coarse fabric, treated with red slip on both the sides, has an everted and clubbed rim with two grooves on the splayed neck. From mid-level of Period III. A similar shape also occurs at Maheshwar.<sup>374</sup>

84. Storage jar of vesiculated ware, coarse fabric, treated with weak red slip on both the sides, has an out-turned and elliptically collared rim with a depression inside at the neck. From early level of Period III.

84a. A *variant* of 84 in vesiculated ware, coarse fabric, treated with a thin light-red slip on both the sides, has an internally beaded rim and splayed neck. From late level of Period III.

85. Storage jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has a collared rim, and obliquely splayed neck with two grooves on it. From mid-level of Period III.

86. Storage jar of red ware, coarse fabric, treated with red slip on both the sides, has an externally collared rim, splayed neck having six grooves. From late level of Period III. A similar shape also occurs at Nevasa<sup>375</sup> and Nasik.<sup>376</sup>

86a. Jar, a *variant* of 86, in red ware, coarse fabric, treated with red slip on both the sides, has a clubbed rim and a groove at the base of the rim on the exterior and splayed neck with two grooves. From late level of Period III.

86b. Jar, a *variant* of 86, in red ware, coarse fabric, treated with red slip on both the sides, has an everted and externally clubbed rim with a depression inside, and a ridge on the almost vertical neck. From late level of Period III.

87. Jar of red ware, medium fabric, treated with red slip on both the sides, has an externally beaded rim and concave neck with three grooves. From late level of Period III.

88. Storage jar of red ware, coarse fabric, treated with red slip on the exterior and inside up to neck, has an out-turned and beaked rim, high neck with corrugations. From late level of Period III. A similar shape also occurs at Nasik.<sup>377</sup>

89. Storage jar of red ware, coarse fabric, treated with red slip on both the sides, has an out going nail-headed rim with a tall splayed neck with several grooves. From late level of Period III. A similar shape also occurs at Nasik.<sup>378</sup>

89a. A *variant* of 89 in red ware, treated with red slip on both the sides. From late level of Period III.

#### Fig. 40

89b. A *variant* of 89 in red ware. From late level of Period III. A similar shape also occurs at Tripuri.<sup>379</sup>

89c. A *variant* of 89 in red ware, coarse fabric, treated with red slip on the exterior and upto the neck inside, has an externally beaded rim and splayed concave neck. From late level of Period III.



90. Storage jar, a *variant* of 57, in red ware, coarse fabric, treated with red slip on both the sides, has an outgoing pointedly beaded rim, high concave neck with three grooves on it. From late level of Period III. A similar shape also occurs at Maheshwar<sup>380</sup> and Nasik.<sup>381</sup>

91. Storage jar, a *variant* of 65, in red ware, medium fabric, treated with red slip on both the sides, has an externally beaked rim with a high ridge below. Unstratified, from Period III.

92. Storage jar, of vesiculated ware, coarse fabric, treated with bright red slip on both the sides, has a horizontally splayed rim and concave neck. From early level of Period III. A similar shape also occurs at Ujjain.<sup>382</sup>

93. Storage jar, a *variant* of 53, in red ware, coarse fabric, treated with a weak light red slip on the exterior, has a thickened and externally chamfered rim and concave neck. From late level of Period III. Has a white coating inside, possibly of lime. A similar shape also occurs at Kausambi.<sup>383</sup>

94. Storage jar, of red ware, coarse fabric, treated with weak light-red slip on both the sides, has an externally thinned and beaded rim and splayed concave neck. From late level of Period III.

95. Jar of red ware, medium fabric, treated with weak red slip on the exterior, has an out-turned and externally thickened rim. From late level of Period III. A similar shape occurs at Navdatoli,<sup>384</sup> Nevasa<sup>385</sup> and Nasik.<sup>386</sup>

96. Jar of vesiculated ware, coarse fabric, treated with light-red slip on both the sides, has a flaring mouth, flanged and externally bluntly bevelled rim. From late level of Period III. A similar shape also occurs at Navdatoli<sup>387</sup> and Ujjain.<sup>388</sup>

97. Jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has an out-turned short flanged rim. From early level of Period III.

98. Jar of vesiculated ware, of coarse fabric, treated with red slip on both the sides, has an out-turned and horizontally splayed and flanged rim. From late level of Period III. A similar shape also occurs at Jorwe.<sup>389</sup>

99. Storage jar of red ware, coarse fabric, treated with weak red slip on the exterior and up to the neck inside, has a vertical thickened rim with a mild depression inside and grooves below the rim on the exterior. From late level of Period III. A similar shape also occurs at Kausambi.<sup>390</sup>

100. Storage jar of vesiculated ware, coarse fabric, treated with red slip on the exterior and up to the neck inside, has an externally thickened vertical rim flattened at the top and sloping inside. From late level of Period III. A similar shape also occurs at Tripuri<sup>391</sup> and Nasik.<sup>392</sup>

101. Storage jar of vesiculated ware, coarse fabric, treated with red slip on both the sides, has a thickened rim with flattened top and a depression inside. Unstratified, from Period III.

102. Storage jar of red ware, coarse fabric, treated with red slip on the exterior and up to a point below the mouth on the interior, has an out-turned externally clubbed rim, elongated oval profile and bluntly pointed base. From mid-level of Period III.

103. Rimless jar, *hāṇḍī* type in vesiculated ware, devoid of slip or wash, recalling the

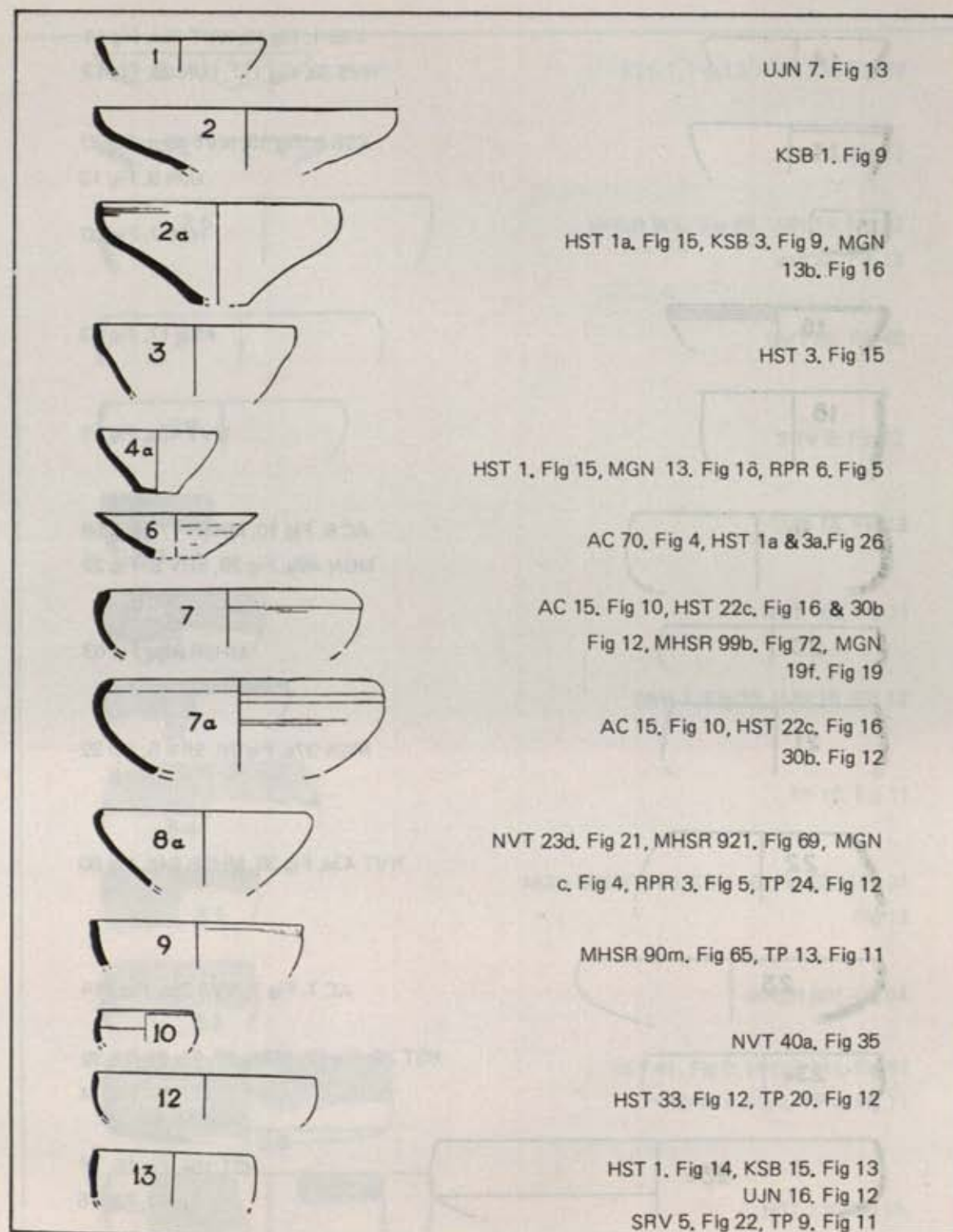


Fig.41. Comparison of Pottery types of Nagda with those found elsewhere, Period III.



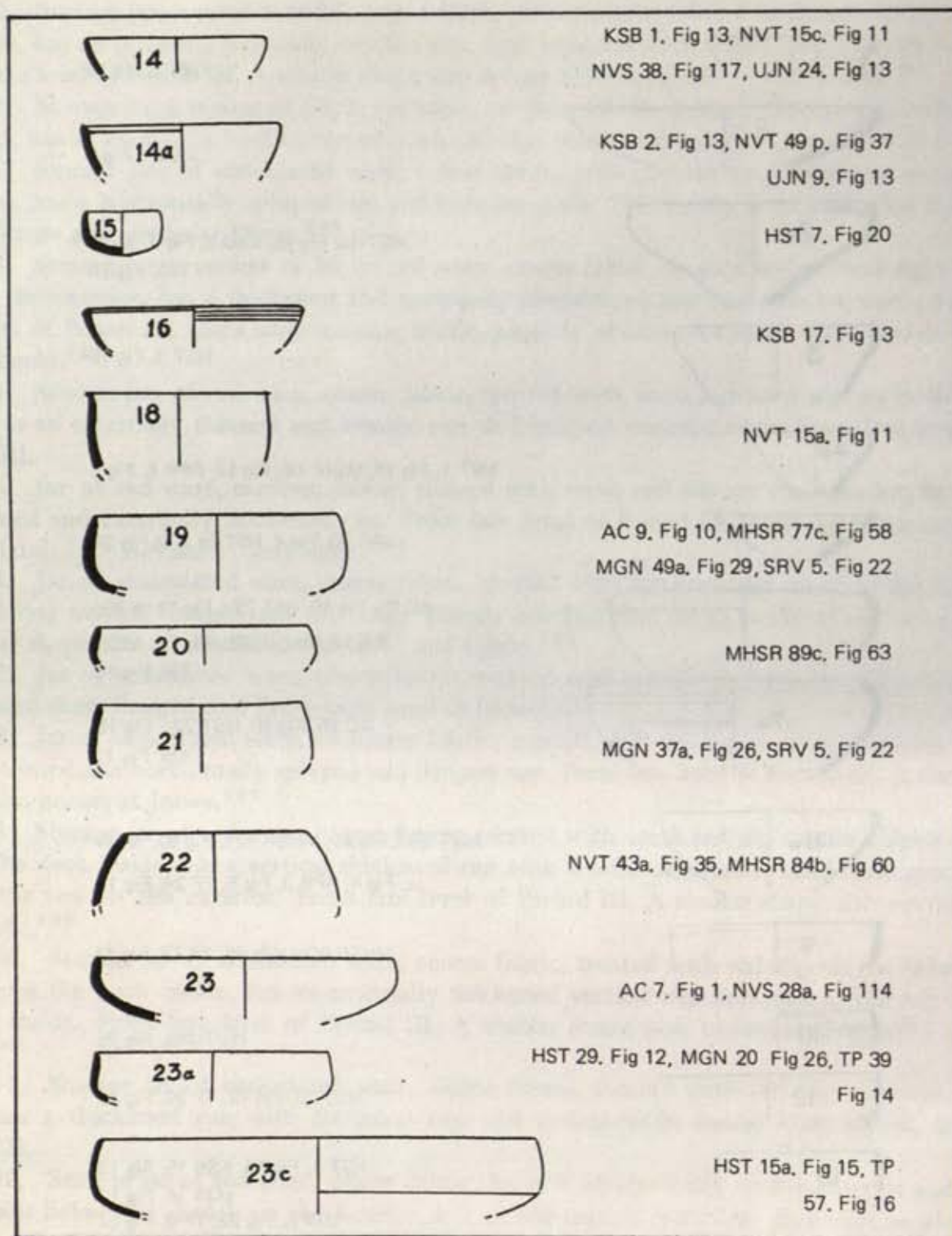


Fig.42. Comparison of Pottery types of Nagda with those found elsewhere, Period III.

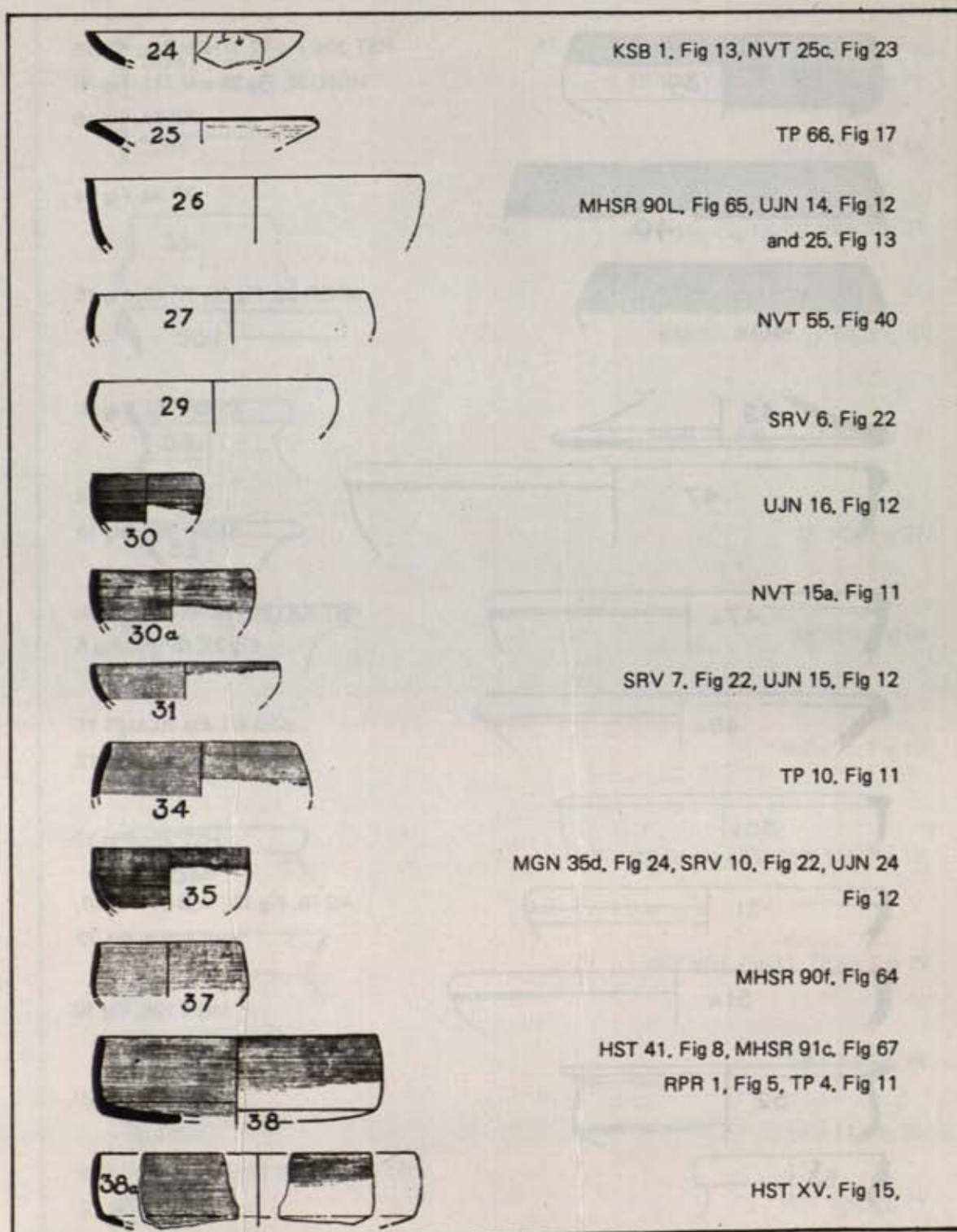


Fig.43. Comparison of Pottery types of Nagda with those found elsewhere, Period III.



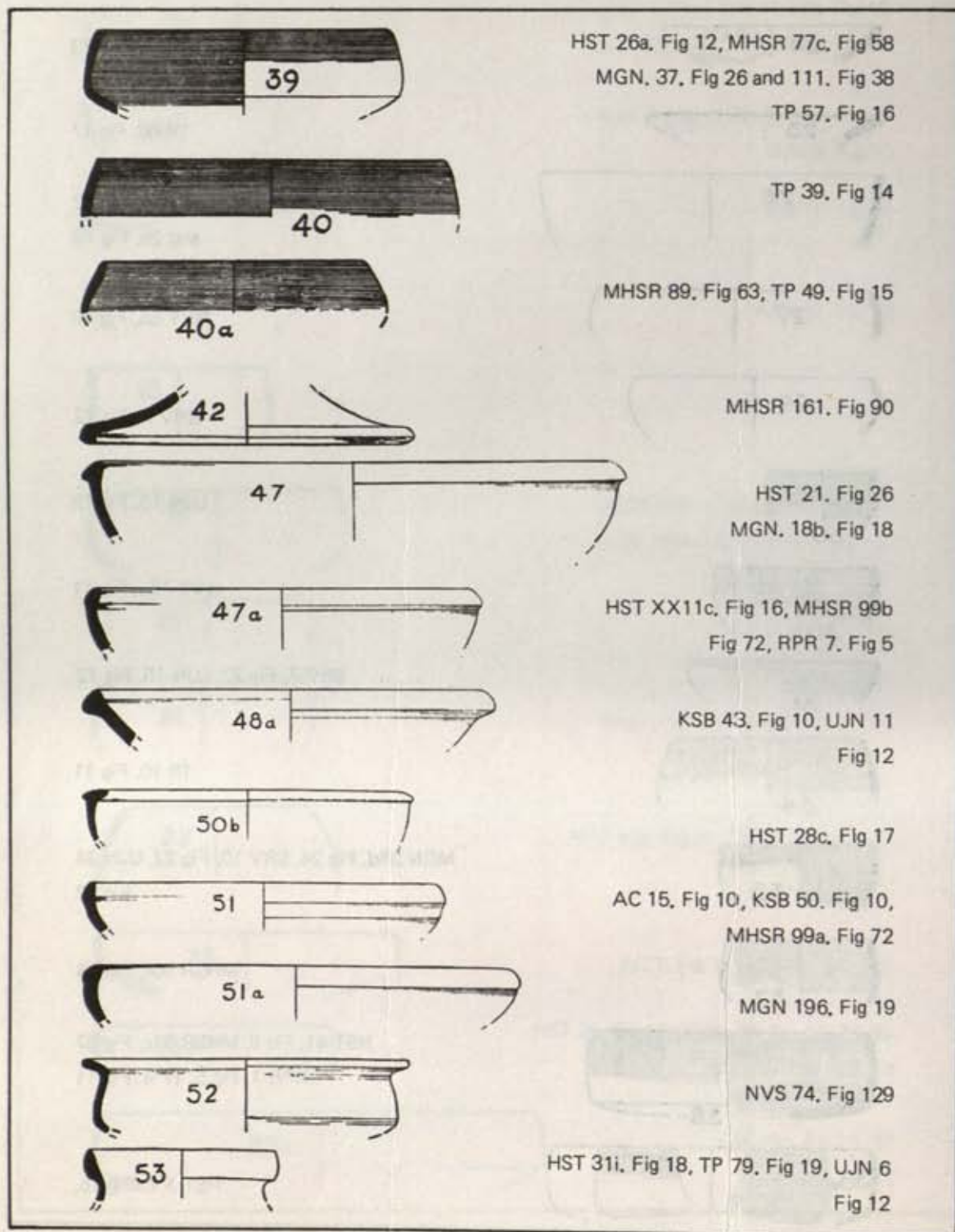


Fig.44. Comparison of Pottery types of Nagda with those found elsewhere, Period III.

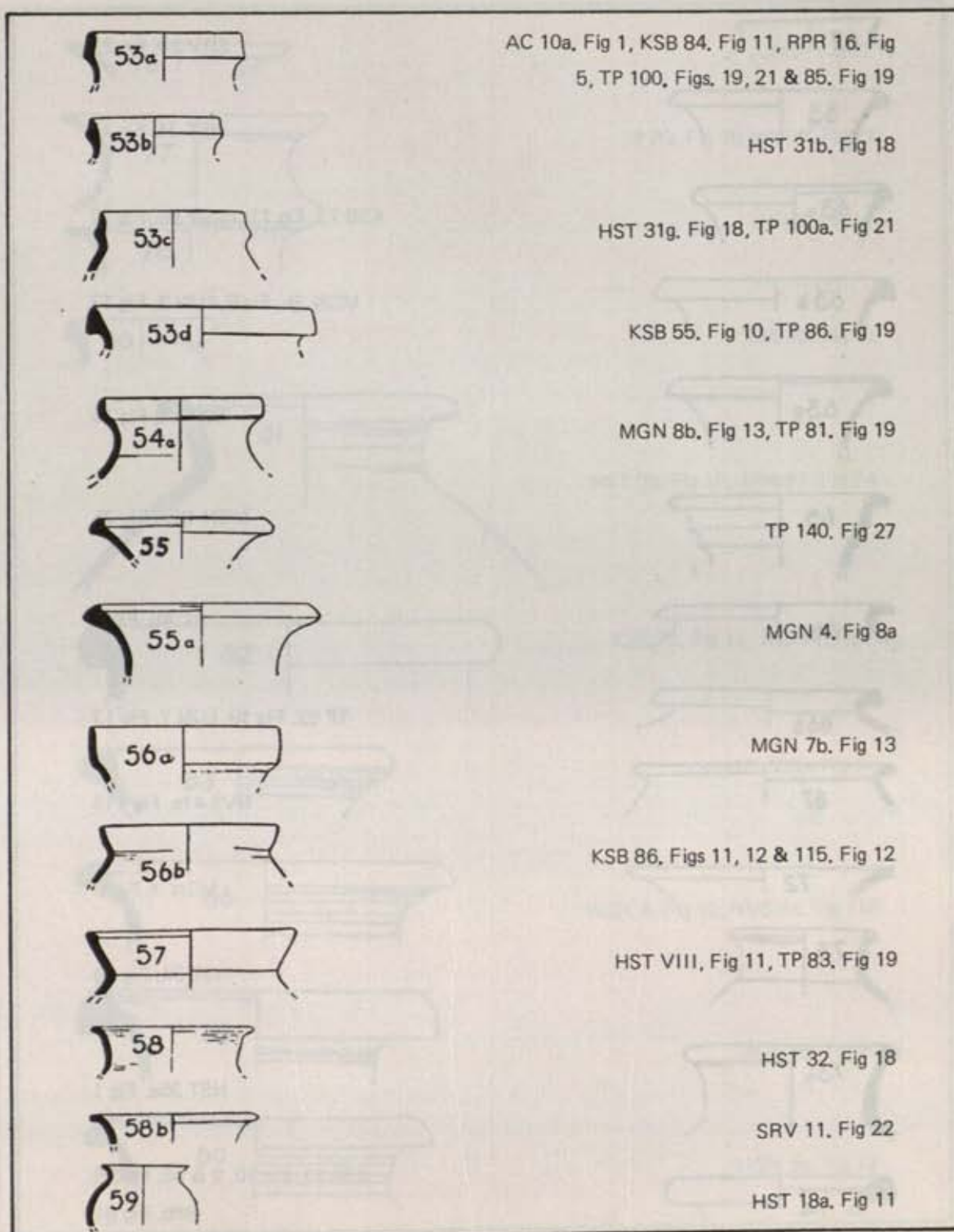


Fig.45. Comparison of Pottery types of Nagda with those found elsewhere, Period III.



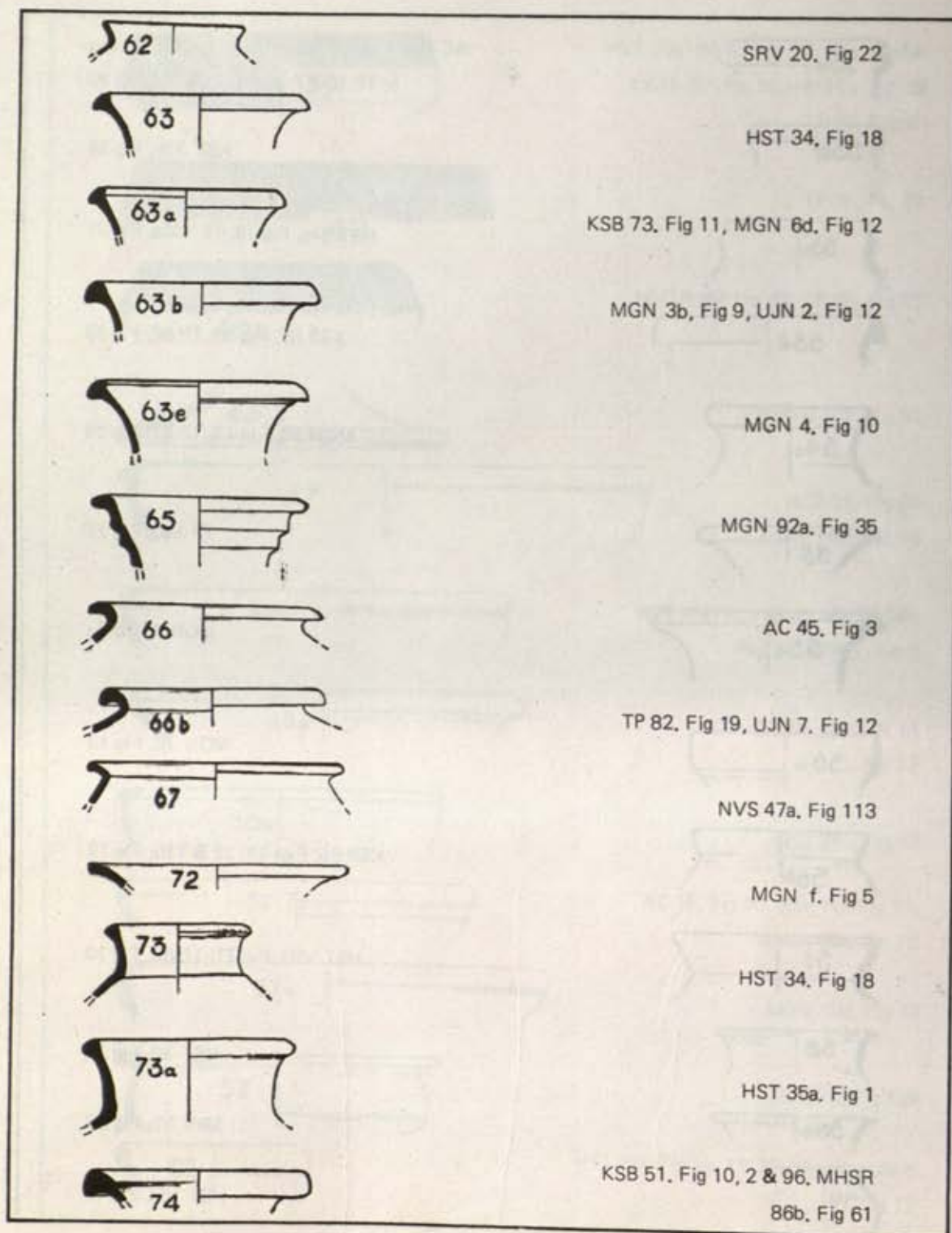


Fig.46. Comparison of Pottery types of Nagda with those found elsewhere, Period III.

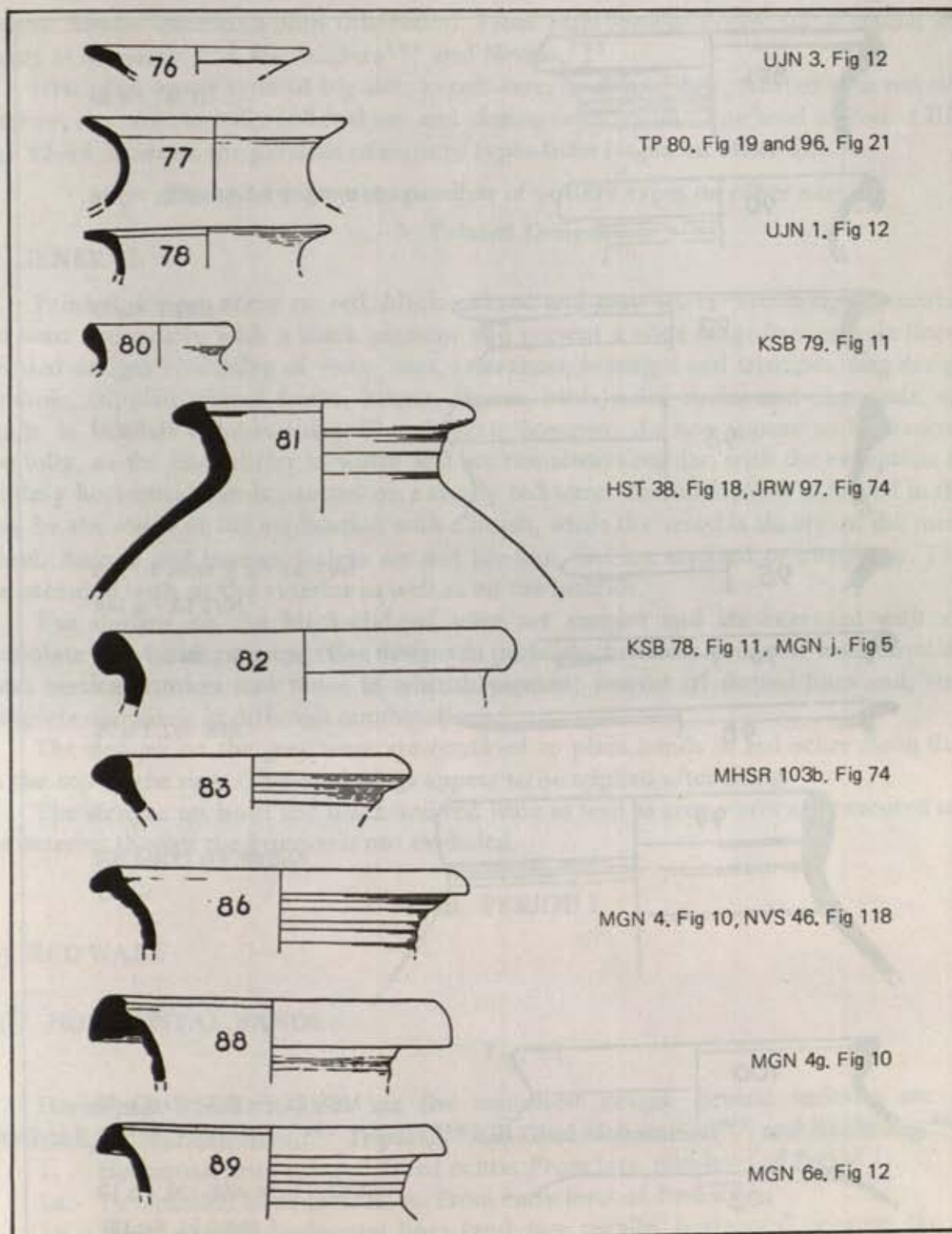


Fig.47. Comparison of Pottery types of Nagda with those found elsewhere, Period III.



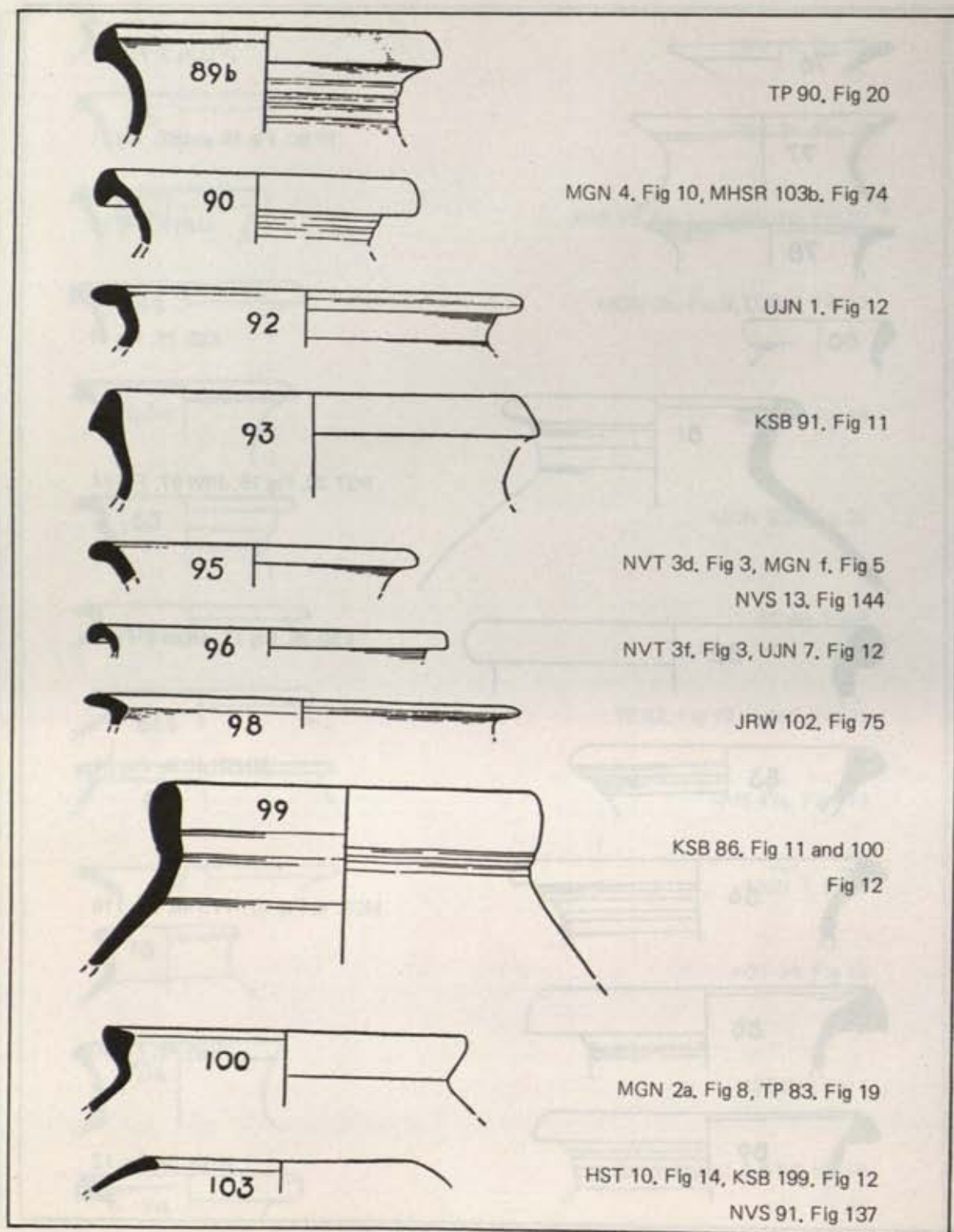


Fig.48. Comparison of Pottery types of Nagda with those found elsewhere, Period III.

rimless *handis* associated with this Period. From early level of Period III. A similar shape also occurs at Kausambi,<sup>393</sup> Hastinapura<sup>394</sup> and Nevasa.<sup>395</sup>

104. Jar, *handi* type of big size, in red ware, medium fabric, treated with red slip on the exterior, has an externally collared rim and closing sides. From a late level of Period III. Figs 41-48 illustrate the parallels of pottery types from Nagda on other sites.

Figs. 42-48 illustrate parallels of pottery types on other sites.

## 5 Painted Designs

### A. GENERAL

Painted designs occur on red, black-and-red and grey wares. The designs executed on the red ware are mostly with a black pigment and present a wide range from simple lines to complicated designs consisting of wavy lines, criss-cross, lozenges and triangles, flag designs, solar symbols, stippled animal forms, human figures, birds, solid circles and diamonds, and broad bands in various combinations. The designs, however, do not appear to be executed very carefully, as the lines differ in width and are not always regular, with the exception of the absolutely horizontal bands painted on a sturdy red ware. The uniformity achieved in this design may be the result of the application with a brush, while the vessel is slowly on the move on the wheel. Animal and human designs are not life-like, but are stylized or imaginary. The designs are executed both on the exterior as well as on the interior.

The designs on the black-and-red ware are simpler and are executed with a purplish chocolate or whitish pigment. The designs in purplish-chocolate comprise horizontal bands and short vertical strokes and those in whitish pigment consist of dotted lines and, very rarely, complete diamonds in different combinations.

The designs on the grey ware are confined to plain bands in red ochre along the sides or on the top of the rims. These paintings appear to be applied after firing.

The designs on both the black-and-red ware as well as grey wares are executed usually on the exterior though the interior is not excluded.

### B. PERIOD I

#### (1) RED WARE

##### B(i) HORIZONTAL BANDS

Fig. 49

Horizontal bands or lines are the commonest design. Several varieties are found at Navdatoli,<sup>396</sup> Mohenjodaro,<sup>397</sup> Tripuri,<sup>398</sup> Kili Ghul Mohammad<sup>399</sup> and Kechi Beg.<sup>400</sup>

1. Horizontal lines painted in red ochre. From late mid-level of Period I.

1a. Two parallel horizontal lines. From early level of Period I.

1b. Three parallel horizontal lines (and two parallel horizontal lines on the neck), of uniform thickness and evenness of direction, clearly the result of careful work. From late level of Period I (Pl. XXI A, 4).





Fig.49. Painted designs on Pottery, Period I.



1c. Two horizontal lines in red and three horizontal lines, in black enclosing the red lines. It is a unique example of the use of two colours in combination. From late level of Period I (Pl. XXI A, 5).

1d. Three horizontal lines carelessly drawn and enclosed between two broader horizontal bands. From an early level of Period I.

1e. Five more parallel horizontal lines. From early level of Period I.

1f. Five parallel horizontal lines enclosed between two parallel horizontal bands. From a late level of Period I (Pl. XXI A, 6).

## (ii) Horizontal Bands with vertical Strokes

2. Two horizontal bands enclosing a series of short vertical strokes and another horizontal line at the edge of the rim.

2a. Vertical strokes enclosed between horizontal lines. From early level of Period I. The design also occurs at Kechi Beg.<sup>401</sup>

2b. The space enclosed by two horizontal bands is hatched by vertical strokes. From midlevel of Period I. The design also occurs at Navdatoli<sup>402</sup> and Kechi Beg.<sup>403</sup>

## (iii) Check Design

3. Horizontal lines joined with vertical strokes producing a check design. From early level of Period I. The design also occurs at Navdatoli<sup>404</sup> and Kechi Beg.<sup>405</sup>

## (iv) Horizontal Bands in combination with other Patterns

4. Two horizontal bands enclosing a row of small circles. From early level of Period I.

5. Three sigmas in vertical order over two horizontal bands. From late level of Period I. Similar design occurs at Bahal.<sup>406</sup>

6. A zigzag line between two horizontal lines. From early level of Period I. Similar design occurs at Navdatoli<sup>407</sup>, Bahal and Nevasa.<sup>408</sup>

6a. Three horizontal lines above a wavy horizontal line. From early level of Period I.

6b. A wavy horizontal line between two horizontal bands. From mid-level of Period I. Similar design occurs in Quetta Ware.<sup>409</sup>

6c. Two horizontal wavy lines between two horizontal bands. From early level of Period I.

6d. A wavy horizontal line enclosed between two broad horizontal bands. From early level of Period I. Similar design occurs at Navdatoli.<sup>410</sup>

6e. Two rows of a combination of a horizontal line and a wavy line.<sup>411</sup> From a late



level of Period I.

- 6f. Four horizontal wavy lines. From early level of Period I.
7. Two horizontal wavy lines terminating in a spiralled festoon. From late level of Period I.
8. Four horizontal lines surmounted by a criss-cross trellis design enclosed between two horizontal lines. From early level of Period I. Similar design occurs at Navdatoli.<sup>412</sup>
9. A zigzag line enclosed between two horizontal lines, with a broad horizontal band and two horizontal lines. From early level of Period I. Similar design occurs at Navdatoli.<sup>413</sup>
10. A complicated design made out of horizontal bands, wavy lines and cross-hatching. The design divides itself into three panels, the lowest of which consists of three horizontal lines with a wavy line at the base. The uppermost panel consists of three horizontal wavy lines enclosed between two broad bands. The intermediary panel is filled with broad lines forming arches, the angular parts of which are filled with cross-hatches. From late level of Period I (Pl. XXI A, 1).
- 10a. A wavy horizontal line enclosed between two horizontal bands. From early level of Period I.
11. Four horizontal lines enclosed between two broader horizontal bands with a row of 'flag design' below. From early level of Period I. Similar design occurs at Navdatoli.<sup>414</sup>

#### (v) Vertical wavy Lines

12. A set of six parallel wavy lines drawn vertically between two broad horizontal bands. From late level of Period I. An occasional *variant* consists of only two vertical wavy bands. Similar design occurs at Navdatoli.<sup>415</sup>
13. A complex design, consisting of a wavy line enclosed between two horizontal lines, and a panel below of three vertical wavy lines between two horizontal lines. Similar design (only the horizontal wavy line) occurs at Navdatoli.<sup>416</sup>
14. Two horizontal bands flanked by a criss-cross design above making a series of diamonds and three vertical lines below, which rest on a horizontal line. From early level of Period I. A similar design (only criss-cross) occurs at Navdatoli<sup>417</sup> and a partially similar design occurs at Mohenjodaro<sup>418</sup> and Kili Ghul Mohammed.<sup>419</sup>
- 14a. A uniform design consisting of diamonds made by criss-cross lines enclosed between plain bands and lines. From mid-level of Period I. Similar design occurs at Navdatoli<sup>420</sup> and Kechi Beg.<sup>421</sup>
- 14b. A slight *variant* of 14a. Similar design occurs at Navdatoli<sup>422</sup> and partially similar design at Mohenjodaro.<sup>423</sup>
- 14c. Double rows of diamonds, achieved by joining up wavy lines, between plain bands. From mid-level of Period I. Similar design occurs at Navdatoli<sup>424</sup>, and a partially similar design at Mohenjodaro.<sup>425</sup>

#### (vi) Diamonds

15. A row of connected diamonds with a protruding or hooked top between plant



bands. From early level of Period I. Similar design occurs at Navdatoli<sup>426</sup> and also at Bahal.

15a. Cross-hatched diamonds with an appearance of uniformity between two broad bands with an additional design of indeterminate nature attempted with curved lines enclosing a dot. Similar design occurs at Navdatoli.<sup>427</sup>

15b. A *variant* of 15, consisting of cross-hatched diamonds between broad bands. From early level of Period I. Similar design occurs at Navdatoli<sup>428</sup>, Bahal, Kechi Beg<sup>429</sup> and Nevasa.<sup>430</sup>

15c. Double rows of obliquely placed and closely cross-hatched diamonds enclosed between bands at the flanks and supported by a median band. From a late level of Period I. Similar design occurs at Navdatoli.<sup>431</sup>

### Fig. 50

16. Vertical lines joining broad horizontal bands and cross-hatched diamonds between horizontal bands. From early level of Period I. Similar design (cross-hatched diamonds only) occurs at Navdatoli.<sup>432</sup>

16a. A row of cross-hatched diamonds with an irregular wavy line between double horizontal lines. From early level of Period I. Similar design (cross-hatched diamonds only) occurs at Navdatoli.<sup>433</sup>

16b. A cross-hatched diamond inside a blank circle on a broad blackish band on the interior base of an apparent dish. From late level of Period I.

16c. A series of cross-hatched diamonds joined at the sides, with circlets in the angles formed. From early level of Period I. Similar design (cross-hatched diamonds only) occurs at Navdatoli.<sup>434</sup>

16d. Cross-hatched diamonds with hooks on all the four ends arranged anti-clockwise between thin horizontal bands. From early level of Period I.

16e. A row of cross-hatched diamonds, with antennae hooks at the upper and lower ends; between horizontal lines and bands. From early mid-level of Period I.

17. A row of connected solid diamonds between broad bands. From early level of Period I. Similar design occurs at Navdatoli.<sup>435</sup>

17a. A row of joined solid diamonds with a single hook on the upper and lower ends enclosed between parallel multiple bands. From early level of Period I (Pl. XXI A, 11).

### (vii) Miscellaneous Designs

18. A series of flags joined obliquely, with solid circles in the angular spaces between broad bands. From early level of Period I.

19. An interesting design consisting apparently of a series of triangles between horizontal bands. The triangles seem to be formed by two lines for each arm with the enclosed space between arms being stippled.<sup>436</sup> From early level of Period I.

19a. A stippled zigzag design between horizontal bands.<sup>437</sup> From an early level of





Fig.50. Painted designs on Pottery, Period I.



## Period I.

19b. Double lines obliquely joining horizontal bands, with dots in the angular spaces. From mid-level of Period I. Similar design occurs at Kechi Beg <sup>438</sup> without stipples.

19c. Triple lines obliquely joining a panel of horizontal bands. From early level of Period I. Similar design occurs at Navdatoli. <sup>439</sup>

## (viii) Solar Symbols

20. A solar design made of two concentric circles with clockwise rays emanating from the outer circle, the entire complex being enclosed between horizontal bands. The upper band consists of five horizontal lines of which the three central ones are joined obliquely in herring bone pattern. From early level of Period I (Pl. XXI A, 3). A similar design (only the sun) occurs at Navdatoli <sup>440</sup> and Faiz Mohammed <sup>441</sup> (only the solar symbol).

20a. A solar design made of three concentric circles with rays emanating from the outermost with additional designs above consisting of a zigzag line between two broad bands. From late level of Period I. A similar (only the solar symbol) design occurs at Faiz Mohammed. <sup>442</sup>

20b. A complex design consisting of the solar symbol made of a row of circles with curved anticlockwise rays separated from each other by two oblique transverse lines joining two horizontal bands. Further up is a series of irregularly drawn diamonds between double rows of horizontal bands. From mid-level of Period I (Pl. XXI A, 2). A similar design (only the sun symbol) occurs at Navdatoli. <sup>443</sup>

20c. A solar design represented by an arc with emanating rays, springing from the topmost of a group of three curves with three horizontal bands below. Design executed in purplish-chocolate. From late level of Period I (Pl. XXI A, 7). Similar design (sun symbol) occurs at Navdatoli. <sup>444</sup>

20d. A solar symbol with long radiating rays surmounted by filled discs. From early level of Period I.

20e. Solid sun symbol with rays radiating in all directions. From early mid-level of Period I.

## (ix) Complex Patterns

21. Design consisting of multiple horizontal lines at the top with a broad band at the base and two triangular bands below. The upper edge of the upper triangular band is flanked by a wavy line and the triangular bands thus formed are connected at their apexes. From late level of Period I. Similar design (in general only) occurs at Navdatoli. <sup>445</sup>

21a. Two broad bands meeting at a triangular point with three wavy lines hanging vertically from the apex. Similar design (in general only) occurs at Navdatoli. <sup>446</sup>

21b. A variant of 21 with a single vertical line. From early level of Period I. Similar design (in general only) occurs at Navdatoli. <sup>447</sup>

22. A series of connected solid diamonds between bands and a broad loop flanked on either side by thin lines. From early level of Period I. Similar designs (diamonds only) occur at Navdatoli. <sup>448</sup>



23. Two large curves with tassel ended loops joined by a horizontal line, part of a more complex indeterminate design. Unstratified, from Period I.

24. A circular band and a loop. From early level of Period I.

25. Broad band with a series of solid triangles with downward apexes and common base. From late level of Period I. Design in reverse form occurs in Quetta Ware.<sup>449</sup>

25a. Inverted solid triangles on common base and 'W' pattern with plain horizontal bands. From mid-level of Period I.

25b. A complex pattern of double row of solid triangles from opposite directions enclosing a double 'W' pattern. From early level of Period I (Pl. XXI A, 10). A similar design occurs at Mohenjodaro.<sup>450</sup>

25c. Inverted solid triangles with a common base and a broad band touching their apexes. From early level of Period I.

26. Solid triangles in opposite directions meeting at their apexes leaving empty or blank spaces in the form of triangles or diamonds. From early mid-level of Period I. Similar design occurs at Mohenjodaro.<sup>451</sup>

26a. A *variant* of 26, fragmentary.<sup>452</sup> From mid-level of Period I.

27. A big curve with three wavy tassels ending in loops. From early level of Period I. Similar design occurs at Navdatoli.<sup>453</sup>

27a. An apparent *variant* of the above with solid discs at ends. From early level of Period I. Similar design occurs at Navdatoli.<sup>454</sup>

28. Vertical lines with solid discoid ends separated from a flat or dissected diamond design below by a median horizontal band. From early level of Period I. Similar design occurs at Navdatoli.<sup>455</sup>

29. A pattern of a blunt hill top flanked by two circlets and a group of horizontal bands. Unstratified, from Period I.

30. A pattern represented by two lines meeting angularly at an apex with two symmetrical loops on the top and a horizontal band above. The angular space enclosed is stippled. From mid-level of Period I.

31. A complex pattern in three panels. Two horizontal bands on the top, two horizontal bands connected crosswise by angular transversals in the middle and a stippled channel below. From early level of Period I. Similar design occurs at Navdatoli.<sup>456</sup>

### Fig. 51

32. A vertical band flanked on either side by a wavy line. From early mid-level of Period I. Similar design occurs at Navdatoli.<sup>457</sup>

33. A horizontal band with cross-hatched diamonds below and lines meeting it angularly above, one of which has triple wavy festoons at one end. From early mid-level of Period I.

34. Vertical stippled channel.<sup>458</sup> From early level of Period I.

35. Stippled double diagonal bands.<sup>459</sup> From early level of Period I.



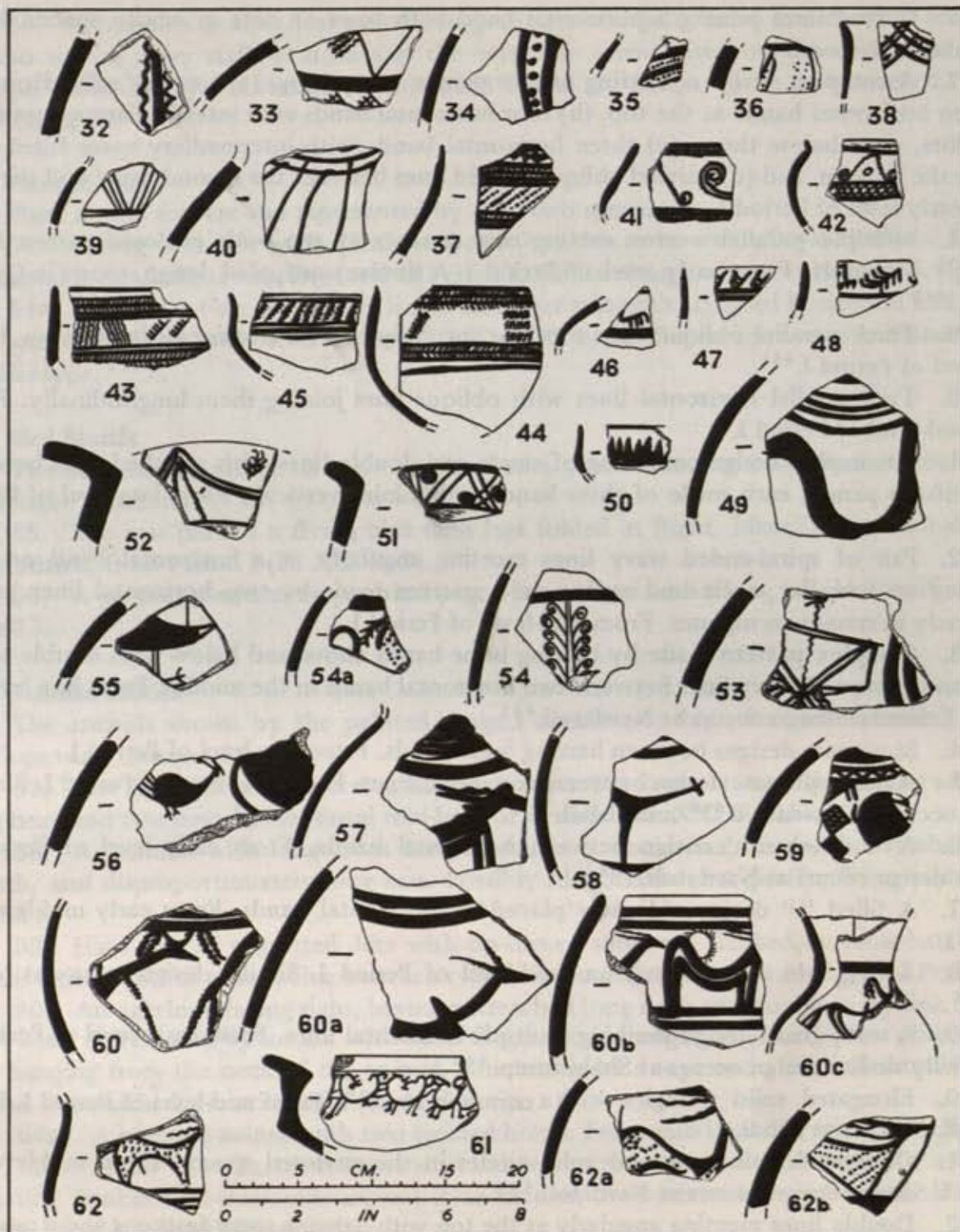


Fig.51. Painted designs on Pottery, Period I.



36. Curved lines joining a horizontal band with rows of dots in empty spaces. From early level of Period I.

37. A complex design consisting of four panels, comprising: (a) a row of solid diamonds between horizontal bands at the top, (b) four horizontal bands with intermediary spaces filled with dots, next below them, (c) three horizontal bands with intermediary space filled with dots at the bottom, and (d) parallel oblique dotted lines between the second panel and the last. From early level of Period I.

38. Multiple parallel curves cutting one another at rim with enclosed spaces filled sparingly with dots. From early level of Period I. A similar unstippled design occurs in Quetta Valley.<sup>460</sup>

39. Three parallel oblique lines meeting angularly on two horizontal lines below. From mid-level of Period I.<sup>461</sup>

40. Two parallel horizontal lines with oblique lines joining them longitudinally. From early mid-level of Period I.

41. A complex design consisting of single and double lines with spiralled ends between two uniform panels, each made of three bands with joining verticals. From late level of Period I.

42. Pair of spiral-ended wavy lines meeting angularly at a horizontal band on top, enclosing an irregular circle and resting on a pattern made by two horizontal lines joined transversely in criss-cross manner. From mid-level of Period I.

43. Complex pattern made by herring bone bands above and below with double tooth brush and groups of wavy lines between two horizontal bands in the middle. From late level of Period I. Similar design occurs at Navdatoli.<sup>462</sup>

44. Bi-pinnate designs between herring bone bands. From late level of Period I.

45. A mono-pinnate design between horizontal lines. From mid-level of Period I. Similar design occurs at Navdatoli<sup>463</sup> and Bahal.

46. A 'tooth-brush' design between horizontal bands. From early level of Period I. Similar design occurs at Navdatoli.<sup>464</sup>

47. A filled 'U' design obliquely placed on horizontal bands. From early mid-level of Period I.

48. A twig and leaf design from mid-level of Period I. Similar design occurs at Navdatoli.<sup>465</sup>

49. A wavy band design flanking multiple horizontal lines. From early level of Period I. A partially similar design occurs at Shahi-tump.<sup>466</sup>

50. Elongated solid triangles with a common base.<sup>467</sup> From mid-level of Period I. Similar design occurs at Bahal.

51. Oblique double lines and solid circles in the enclosed spaces. From mid-level of Period I. Similar design occurs at Navdatoli.<sup>468</sup>

52. Double lines meeting angularly at the top with hanging wavy festoons and a possible solar symbol above. The entire pattern suggests a hill top and a rising sun in the sky. From early mid-level of Period I. Similar design occurs at Navdatoli.<sup>469</sup>



53. A complex geometrical pattern suggesting a triangular torso and dangling arms held akimbo with a wavy stalk as neck and the vertebrae surmounted by the solar symbol and multiple radiating rays. A vertical double band flanks the design. From early level of Period I (Pl. XXI B, 3).

(x) Plant Motifs

Plant motifs are rare and represented by only two specimens.

54. A twig of a tree with spirals on both the sides as leaves or floral symbols. It has a horizontal band above. From late level of Period I. Similar design occurs at Navdatoli.<sup>470</sup>

54a. Drooping twig with short leaves on either side with adjoined horizontal and curved lines and dots. From early level of Period I (Pl. XXI B, 2). The design occurs at Mohenjodaro and Harappa.<sup>471</sup>

(xi) Bird Motifs

The bird motifs, rather rare, are confined to a peacock and an indeterminate member of the winged fraternity.

55. The rear part of a flying bird with legs folded in flight. Identification not definite. Unstratified, from Period I (Pl. XXI B, 9).

56. A peacock and the ample hind part of an animal with a long tail. Unstratified, from Period I.

(xii) Animal Motifs

The animals shown by the painted designs consist possibly of a bovine animal, giraffe, antelopes and the spotted deer.

57. The figure of a buffalo or a bovine animal. The body is in outline. It has a hump, a long head and two large horns. From mid-level of Period I (Pl. XXI B, 5).

58. An animal with long front feet, drawn in a single line, the neck stretched, open mouth, and disproportionately long ears. Possibly identifiable as a giraffe. From mid-level of Period I.

59. Hind part of a spotted deer with up-turned short tail flanked by cross-hatched diamonds and a panel of a wavy line between two horizontal lines. From early level of Period I.

60. An antelope facing right, having a stretched long neck and double wavy line festoons each horn represented by an arc with other fragmentary designs consisting of an oblique wavy line hanging from the neck of the animal, which may be a rope and other indeterminate fragments. Unstratified, from Period I (Pl. XXI B, 6).

60a. A humped animal with two twisted horns. From mid-level of Period I (Pl. XXI B, 4).

60b. A row of stylized antelopes with twisted horns, and a sun represented by a circle and radiating strokes anti-clockwise around it as rays on the horizon between double horizontal bands. From late level of Period I.

60c. A stylized antelope enclosed within three concentric triangles and a horizontal band above. From early mid-level of Period I.



61. A row of running antelopes represented in the highly stylized form of a large loop, almost joining in a circle, as the body, with four lines pointing downwards as legs. The tails and heads are correspondingly represented. From late level of Period I.

62. A spotted deer with naturalistic wavy or twisted horns, legs drawn stylistically and the genital organ depicted prominently. From early level of Period I (Pl. XXI B, 7).

62a. A spotted deer, with stretched neck and two naturalistic horns and the tail raised up vertically. From an early level of Period I.

62b. A spotted deer, in stylized form, with a narrow short neck, representational head and two wavy horns. The legs merge in the triangular form of the forepart. From early level of Period I.

Fig. 52

### (xiii) Human Forms

63. Two human figures represented by solid triangles poised from opposite directions on the apexes, with vertical lines below as legs, and a short stem and a filled up circle at the upper end as the neck and head, respectively. Two vertical lines with loops at upper ends indicate joined hands. The figures seem to represent a dance scene wherein the participants are engaged in gyrating movements with cross-lined festoons tied round their waists flowing in the rhythm of movement. From early level of Period I (Pl. XXI B, 1). Dancing human figures in the same form occur at Anjira <sup>472</sup> in the Togau ware.

64. Human figures in stylized form represented by elongated triangles and loops on either side as arms. The leaning attitudes of the figures also suggest group activity in festivity, as of dancing and swaying from side to side. Unstratified, from Period I (Pl. XXI B, 10).

64a. Four human figures with the bodies drawn in elongated triangles and a vertical line, thickened towards the top, as neck and head. Arms have been represented by spirals on both the sides suggesting intertwining of arms in the course of swaying movements of dance in a group. From late level of Period I (Pl. XXI B, 8). Similar design occurs at Tell Halaf. <sup>473</sup>

## C. PERIOD II

Fig. 52

The painted designs in Period II do not present new patterns; the designs of Period I have continued.

66. Two horizontal parallel lines. From late level of Period II.

66a. A combination of horizontal bands and lines. From mid-level of Period II.

66b. Three horizontal lines enclosed by two broad horizontal bands in black, flanked on either side by horizontal bands in red. From early level of Period II (Pl. XXI A, 8).

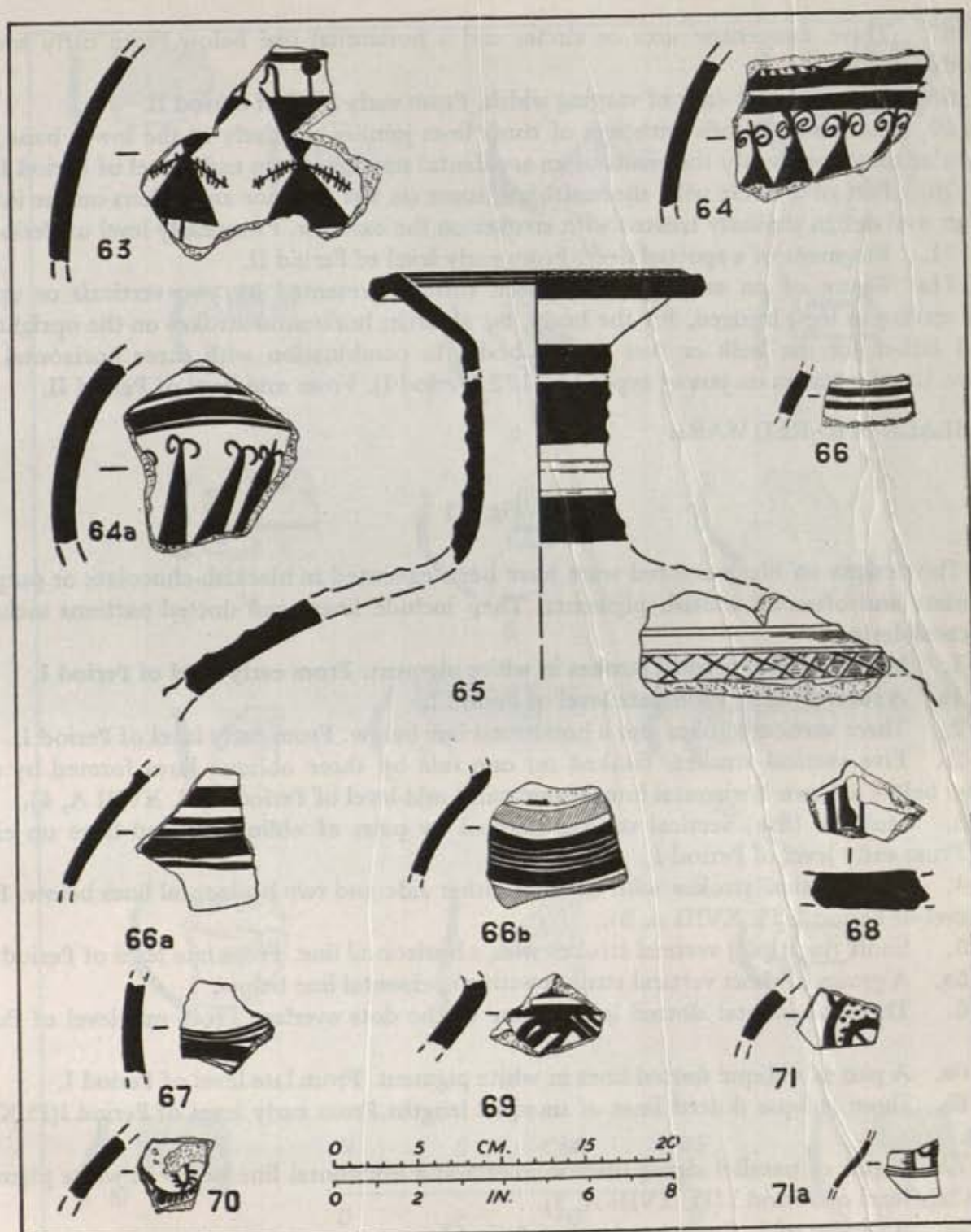


Fig.52. Painted designs on Pottery, Periods I and II.



67. Three concentric arcs or circles and a horizontal line below. From early level of Period II.

68. Three vertical lines of varying width. From early level of Period II.

69. Horizontal bands with sets of three lines joining angularly at the lower band, with a circular spot, apparently the result of an accidental smudge. From early level of Period II.

70. Part of a circle with short strokes, some on the exterior and others on the interior and an oval design similarly treated with strokes on the exterior. From early level of Period II.

71. Fragment of a spotted deer. From early level of Period II.

71a. Figure of an antelope in stylized form represented by two verticals or upright lines serving as legs, bridged, for the body, by an arch; horizontal strokes on the upright may stand either for the bulk or furs on the body. In combination with three horizontal lines below. Usually occurs on jars of types 166-172 (Period I). From mid-level of Period II.

## (2) BLACK-AND-RED WARE

Fig. 53

The designs on black-and-red ware have been executed in blackish-chocolate or purplish-chocolate and often in whitish pigments. They include linear and dotted patterns including criss-cross designs.

1. Multiple (five) vertical strokes in white pigment. From early level of Period I.

1a. A variant of 1. From late level of Period I.

2. Three vertical strokes and a horizontal line below. From early level of Period I.

2a. Five vertical strokes, flanked on one side by three oblique lines formed by dots; further below are two horizontal lines. From early mid-level of Period I (Pl. XVIII A, 4).

3. Multiple (five) vertical strokes flanked by pairs of oblique dotted lines on either side. From early level of Period I.

4. Four vertical strokes with dots on either side and two horizontal lines below. From mid-level of Period I (Pl. XVIII A, 5).

5. Short (multiple) vertical strokes with a horizontal line. From late level of Period I.

5a. A group of short vertical strokes with a horizontal line below.

6. Three horizontal dotted lines. Some of the dots overlap. From mid-level of Period I.

6a. A pair of oblique dotted lines in white pigment. From late level of Period I.

6b. Three oblique dotted lines of unequal lengths. From early level of Period I (Pl. XVIII A, 6).

7. A pair of parallel zigzag lines in dots and a horizontal line below in white pigment. From late level of Period I (Pl. XVIII A, 3).

7a. A variant of 7. From late level of Period I.

7b. A variant of 7. From late level of Period I.

8. Oblique dotted lines meeting angularly, thus making the two arms of a triangle,

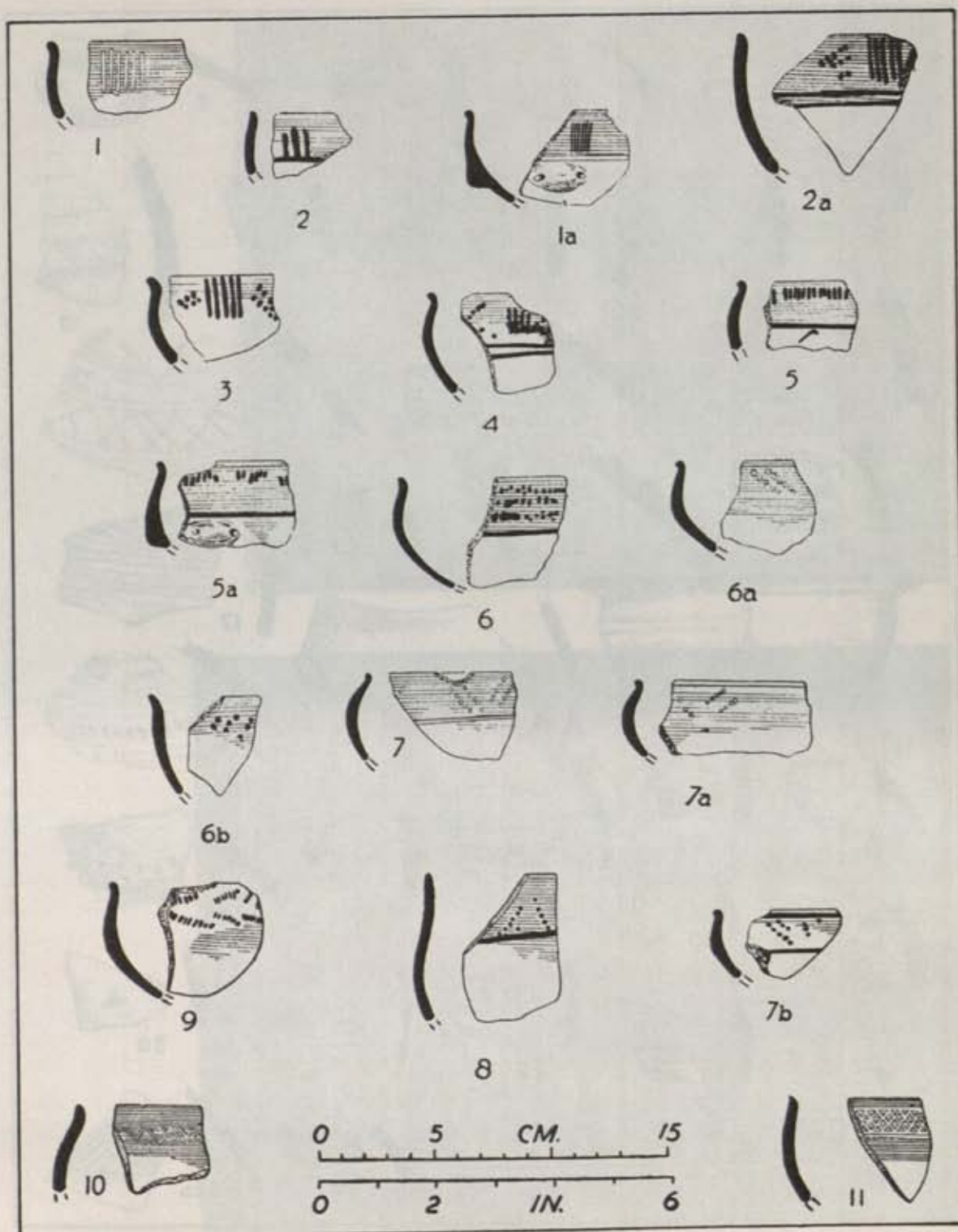


Fig. 53. Painted and incised designs on pottery, Periods I and II.



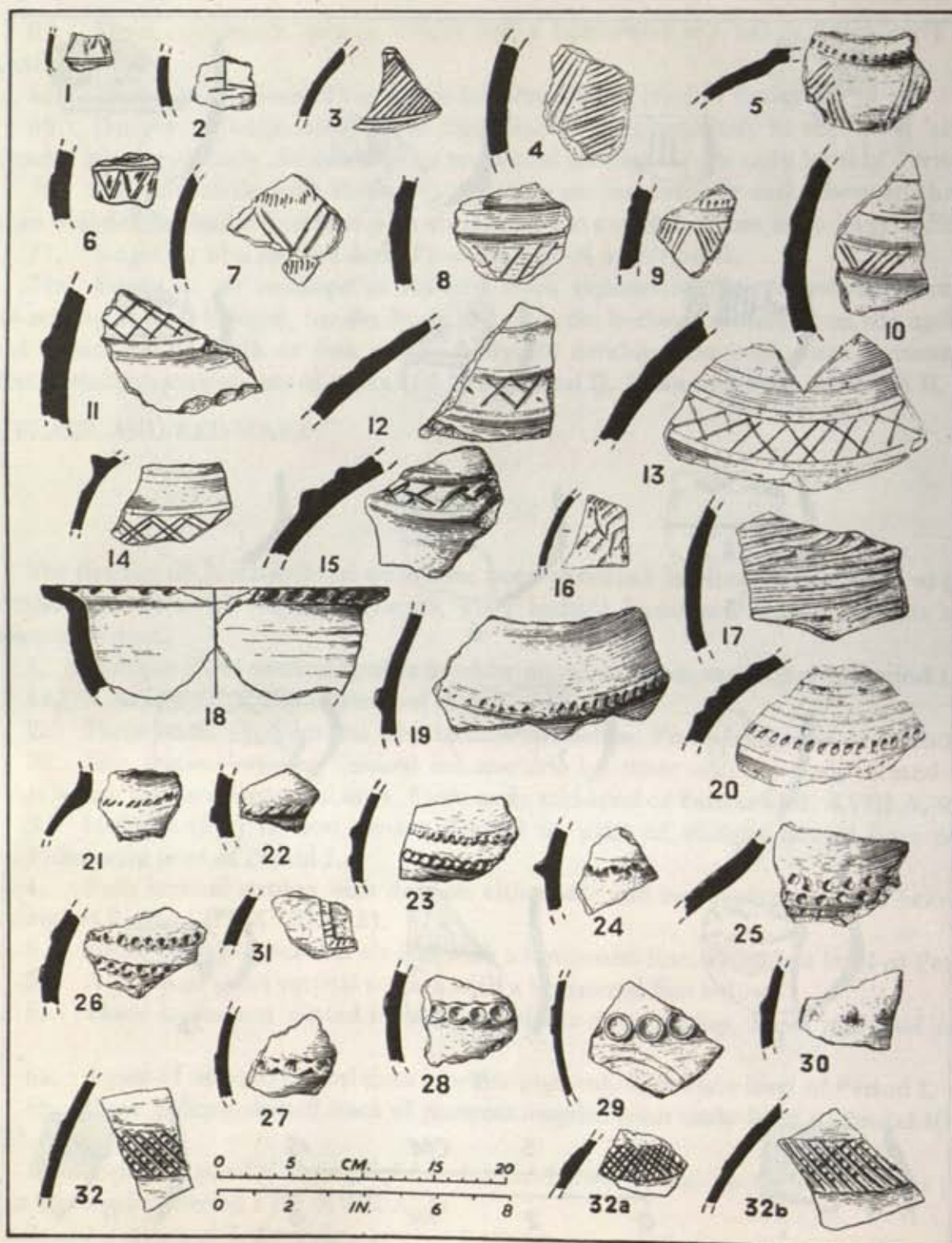
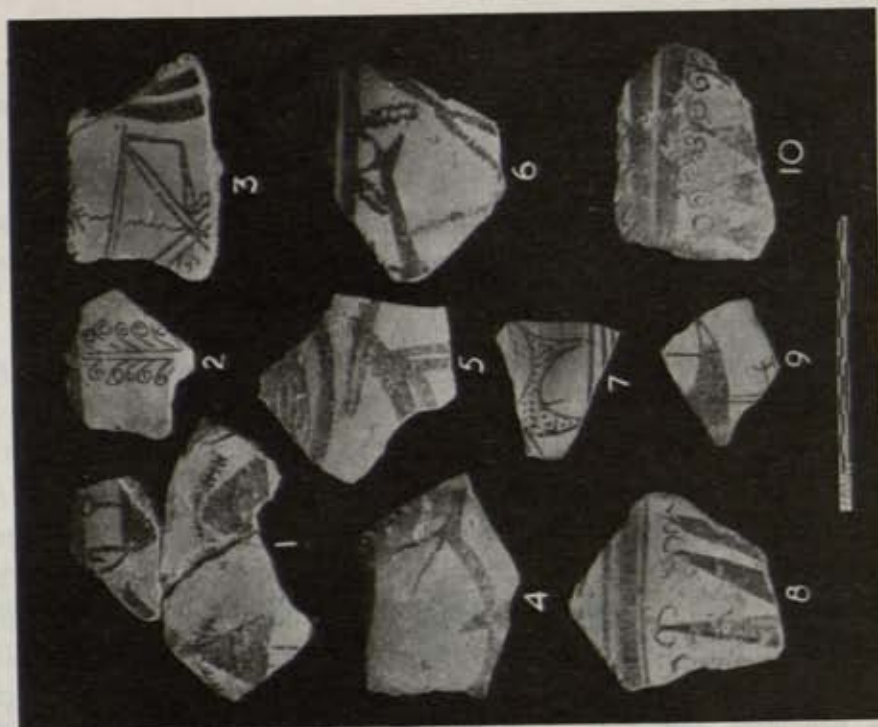


Fig.54. Raised, incised and impressed designs on Pottery, Periods II and III.



XXI A. Nagda: Painted designs on black-and-red ware pottery, Periods I and II.



XXI B. Nagda: Painted designs on black-and-red ware pottery, Period I.



with a horizontal line below. From early level of Period I.

9. Groups of short oblique strokes suggesting discontinuous chevrons. From late level of Period I (Pl. XVIII A, 7).

10. A zigzag line forming diamonds at the right end, in white pigment. From early level of Period I.

11. Criss-cross designs enclosed between horizontal lines, one above and two below, in white pigment. From early level of Period I.

## 6. DECORATIVE DESIGNS

### A. GENERAL

Apart from painted designs, the other devices employed to decorate pottery in different periods comprise: (i) linear incisions to form geometrical patterns, (ii) depressions of sorts to produce diverse designs and, rarely, (iii) mouldings to produce embossed decorations. These, except the last, are mostly confined to the plain coarse red ware. These decorations have not occurred in combination with paintings apart from the exceptional case of a jar (fig. 52, 65; see below). A combination of these patterns with ridges or corrugations on the body of the pots is, however, common. The single instance of embossed decoration occurs on a grey ware sherd.

### B. PERIOD I

#### (i) RAISED OR INCISED DECORATIONS

Fig. 54

1. Three horizontals with multiple lined triangles above. From early level of Period I (Pl. XXII A, 6).

2. A vertical line with irregularly placed disconnected horizontals about its lower end. From early level of Period I.

3. Oblique lines between horizontals. From early level of Period I (Pl. XXII B, 5).

4. Different patterns with large groups of oblique lines. From late level of Period I. (Pl. XXII B, 4).

5. Triangles made of multiple lines combined with a double-punctured notched horizontal line. From late level of Period I. (Pl. XXII B, 10).

6. Raised band with incised oblique strokes. From late level of Period I. Similar pattern occurs at Navdatoli.<sup>474</sup>

7. A double row of zigzag lines with a row of vertical notches above and below. From

early level of Period I.

8. Oblique lines on waist below corrugations. From early level of Period I.
9. Oblique lines meeting symmetrically on a horizontal above, with a ridge marked with small vertical notches. From late level of Period I.
10. Oblique lines on a raised band with corrugations. From mid-level of Period I.
11. A trellis pattern, with a ridge below. From mid-level of Period I (Pl. XXII B, 12). Similar pattern occurs at Navdatoli.<sup>475</sup>
12. A narrow band of trellis. From mid-level of Period I. Similar pattern occurs at Navdatoli.<sup>476</sup>
13. Incomplete trellis combined with ridges or corrugations. From early level of Period I (Pl. XXII A, 1). Similar pattern occurs at Navdatoli.<sup>477</sup>
14. A double-lined trellis. From early level of Period I (Pl. XXII B, 8). Similar pattern occurs at Navdatoli.<sup>478</sup>
15. Criss-cross lines simulating trellis. From mid-level of Period I. Similar pattern occurs at Navdatoli.<sup>479</sup>
16. Oblique depressions separated by a transversal. From late level of Period I.
17. Basket impressions. From late level of Period I (Pl. XXII A, 12 and XXIII A).

## (ii) Depressed Decorations

18. Pinched depressions on edge and top of rim respectively. From mid-level of Period I.
19. Vertical notches on a raised band. From late level of Period I. Similar pattern occurs at Navdatoli<sup>480</sup> and also at Jorwe.<sup>481</sup>
20. Vertical notches on the ridge of a corrugation in grey ware. From early level of Period I (Pl. XXII B, 11). Similar patterns occur at Jorwe<sup>482</sup> and Navdatoli.<sup>483</sup>
21. Shallow oblique notches in a line. From late level of Period I. Similar pattern occurs at Jorwe.<sup>484</sup>
22. Twisted oblique notches suggesting a rope design. From late level of Period I. Similar pattern occurs at Navdatoli.<sup>485</sup>
23. A double line of finger tip notches on ridges. From late level of Period I (Pl. XXIIA, 10). Similar patterns occur at Navdatoli<sup>486</sup> and Jorwe.<sup>487</sup>
24. Wavy line in relief. From late level of Period I (Pl. XXII A, 11).
25. Double rows of circlets punched on waist. From late level of Period I (Pl. XXII A, 3). Similar pattern occurs at Navdatoli.<sup>488</sup>
26. A double row of uniformly punched circles on the waist. From late level of Period I (Pl. XXII A, 8). Similar pattern occurs at Navdatoli.<sup>489</sup>
27. Impressed rope design. From early level of Period I.
28. A row of finger tip circlets. From mid-level of Period I (Pl. XXII A, 7). Similar patterns occur at Navdatoli<sup>490</sup> and Jorwe.<sup>491</sup>
29. A row of shallow roundels. From late level of Period I (Pl. XXII A, 5). Similar patterns occur at Jorwe<sup>492</sup> and Navdatoli.<sup>493</sup>



30. Moulded roundels in relief on grey ware. From mid-level of Period I (Pl. XXII A, 9).

31. An incomplete pattern of a raised rectangle marked with transverse incisions. From early level of Period I.

### Fig. 52

#### (iii) Exceptional combination of Painting with incised Decoration

65. A jar, restored from three fragments (124, fig. 10; 86, fig. 8, and 13, fig. 32). Has a funnel type of rim, corrugated neck and decorated shoulder, ovalish profile and possibly a pedestalled base. The rim and neck are painted in black on the exterior and the shoulder is decorated by incisions. A similar type of jar occurs at Navdatoli.<sup>494</sup> H.D. Sankalia has drawn an analogy between this and a jar from Iran.

### C. PERIOD II

#### Fig. 54

32. Criss-cross lines on a broad raised band forming a trellis pattern. From late level of Period II.

32a. A *variant* of 32. From late level of Period II (Pl. XXII B, 7).

32b. A *variant* of 32. From late level of Period II (Pl. XXII B, 2).

#### Fig. 55

33. Oblique lines on a broad band. From mid-level of Period II. (Pl. XXII B, 1).

34. Chevrons on a broad raised band. From late level of Period II (Pl. XXII B, 6).

34a. An incised variant of the above.

35. Oblique lines, some of which are twisted, on a raised band. From mid-level of Period II (Pl. XXII A, 4).

36. Punctured notches on a pronounced ridge. From mid-level of Period II.

37. Oblique lines incised alternately in different directions with punctured notches on a low ridge. From mid-level of Period II.

38. Oblique curved lines on a raised band. From early level of Period II (Pl. XXII A, 2).

39. Groups of oblique notches. From mid-level of Period II.

40. Oblique strokes with three horizontal lines above. From early level of Period II.

41. A row of incised criss-cross with traces of the paring technique employed in finishing the pot. From early level of Period II.

42. Diamond-shaped notches suggesting a honeycomb pattern. From early level of Period II.

43. Pressed fingertip design on a raised band. From early level of Period III.

44. A *variant* of 43 with deeper impressions. From mid-level of Period II.

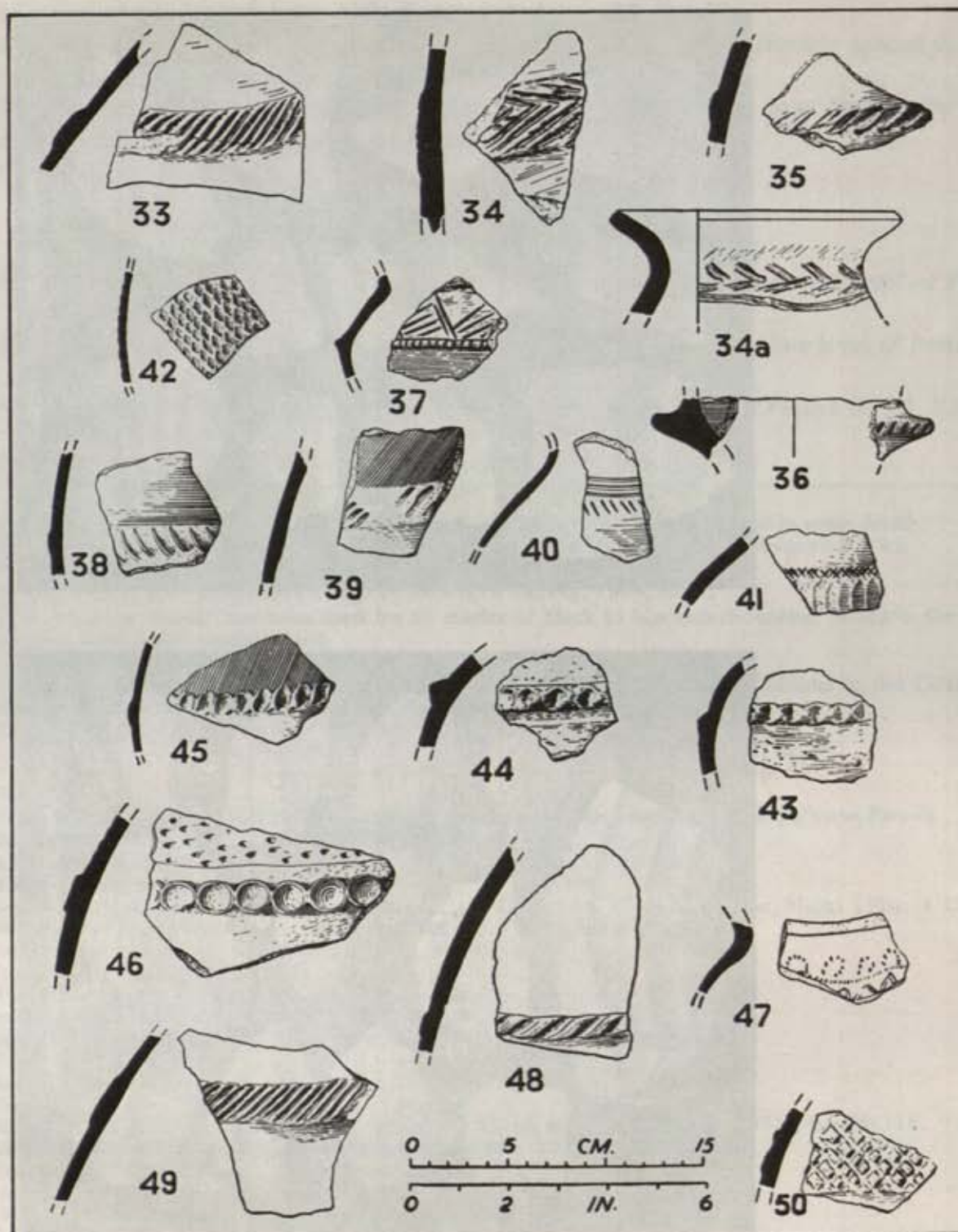
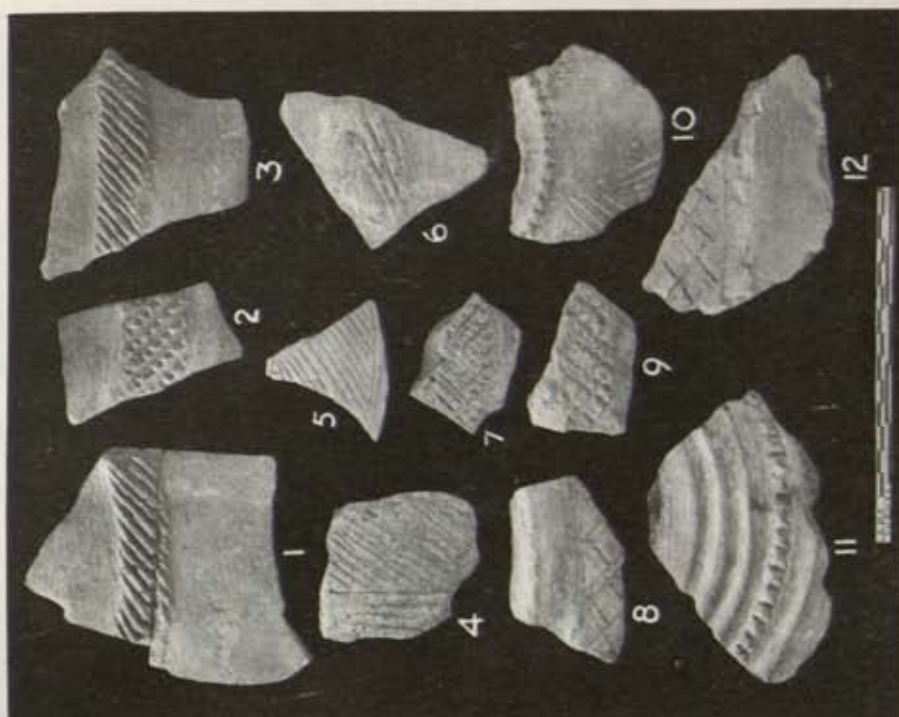
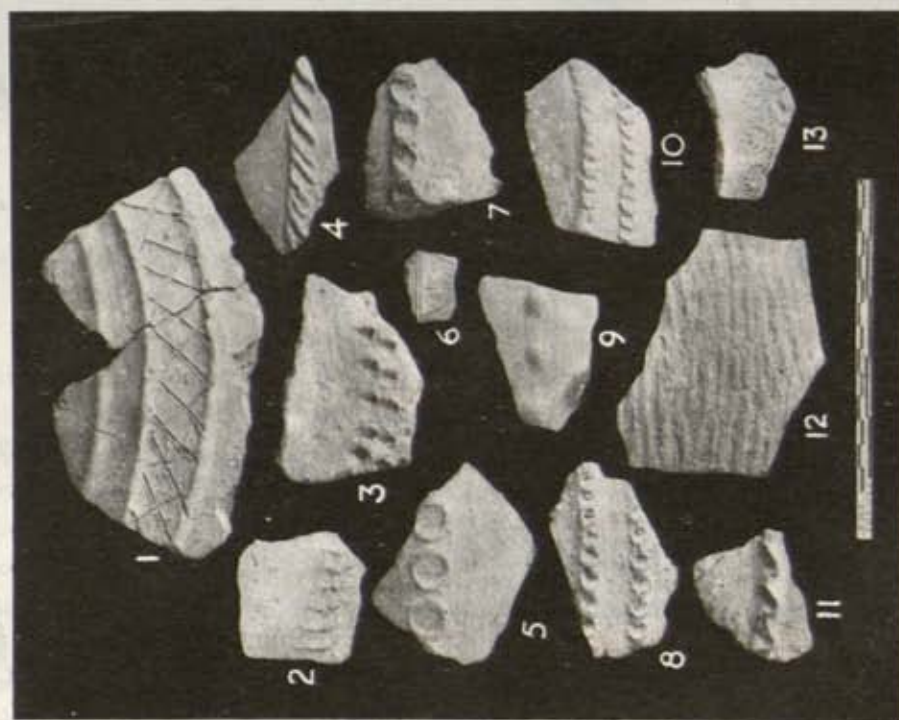


Fig.55. Raised, incised and impressed designs on Pottery, Periods II and III.





XXII B. Nagda : Decorated pottery, Periods I and II.



XXII A. Nagda: Decorated pottery, Period I.

45. A variant of 43 with roundels. From early level of Period II.

46. A row of impressed hollow roundels on a raised band with uniformly spaced shallow depressions above. From early level of Period II.

47. Incised lines forming discontinuous circles on a horizontal base flanked by horizontal wavy lines. From an early level of Period II (Pl. XXII A, 13).

#### D. PERIOD III

##### Fig. 55

48. Oblique and twisted lines on a raised band similar to 35. From late level of Period III.

49. Oblique lines on a broad band similar to 33—Period II. From late level of Period III (Pl. XXII B, 3).

50. Criss-cross lines forming a trellis pattern. From early level of Period III (Pl. XXII B, 9).

1. *Indian Archaeology 1955-56 - A Review*, wherein the pottery was first reported in some detail.
2. The potsherds were actually examined by Sir Mortimer Wheeler, and were so designated at his suggestion.
3. N.R. Banerjee, *The Excavations at Ujjain, Indologen Tagung*, 1959, Esser.
4. Here the term "black" has been used for all shades of black to blackish-chocolate. Similarly the "red" has been used for all shades of red.
5. Richard F.S. Starr, *Indus Valley Painted Pottery* Princeton, 1941.
6. R.E.M. Wheeler, Brahmagiri and Chandravalli 1947: Megalithic and other Cultures in the Chitaldrug District, Mysore State, *Ancient India*, no. 4, p. 231.
7. Information from M.N. Deshpande, *Indian Archaeology 1961-62 - A Review*, pp.
8. Sankalia, *From History to Prehistory at Nevasa*, 1954-56 (Poona, 1960), p. 221, fig. 89.
9. Wheeler, Harappa 1946: The defence and Cemetery R 37, *Ancient India*, no. 3, p. 92.
10. *Ibid.*, p. 94.
11. Sankalia and others, *The Excavations at Maheshwar and Navdatoli*, 1952-53, (Poona, Baroda, 1958) fig. 15; 19.
12. *Ancient India*, no. 4, p. 230, fig. 22, 65.
13. *Ancient India*, no. 3, p. 94, fig. 22, 65.
14. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 13; 17. B.K. Thapar, Maski 1954: A Chalcolithic Site of the Southern Deccan, *Ancient India*, no. 13, p. 44, fig. 11; 7.
15. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 19; 21.
16. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 11; 1sd.
17. *Ancient India*, no. 13, p. 39, fig. 9; 7.
18. Sankalia and others, *op. cit.*, (Poona, 1960), p. 221, fig. 89; 2r.
19. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 17; 20g. fig. 18; 20m.
20. *Ibid.*, fig. 18; 20p.
21. Sankalia and others, *op. cit.*, (Poona, Baroda 1958), fig. 45A; b.
22. *Ibid.*, fig. 19; 21c.
23. Sankalia and others, *Report on the Excavations at Nasik and Jorwe*, (Poona, 1955), fig. 76; 116.
24. Sankalia and others *op. cit.*, (Poona, Baroda, 1958), fig. 13; 17f.
25. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 13; 17d.
26. *Ibid.*, fig. 11; 15a.
27. *Ibid.*, fig. 11; 15b.
28. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 68; 50.
29. Sankalia and others, *op. cit.*, (Poona, 1960), fig. 89; 2r.
30. *Ancient India*, no. 13, p. 44, fig. 11; 11.



31. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 23; 25a.
32. *Ibid.*, fig. 23; 25c.
33. *Ancient India*, no. 3, p. 94, fig. 9, 23.
34. Sankalia and others, *op.cit.*, (Poona, 1955), fig. 62; 81.
35. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 8; 10d.
36. *Ancient India*, no. 13, p. 44, fig. 11; 11.
37. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 23; 25d.
38. *Ancient India*, no. 3, p. 94, fig. 9; 23a.
39. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 31; 35c.,
40. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 33; 37d.
41. *Ancient India*, no. 3, p. 99, fig. 11; 1b.
42. *Ancient India*, no. 3, p. 99, fig. 11; 1.
43. *cf.* fig. 30, 65 p. 326.
44. B.B.Lal, Excavation at Hastinapura and other Explorations in the Upper Ganga and Sutlej Basins, 1950-52, *Ancient India*, nos. 10 and 11 (1954-55), pl. XXX B.
45. *Ancient India*, no. 3 p. 118, fig. 24; 3.
46. *Minutes of the Symposium on Indian Archaeology, 1957* (Archaeological Survey of India).
47. *Ancient India*, no. 3, p. 99, fig. 11; 1.
48. Similar treatment of pots with granular exterior surface has been noticed at Amri, Ahmad Shah and Rajo Dero (in Amrian levels) in Sind and Anjira (in Period IV: Nal-Nundara Culture) in Baluchistan. Krishna Deva and Donald E. Mc Cown, Further Explorations in Sind, 1938, *Ancient India*, no. 5 (1949), pp. 26. 30, pl. IV, 51 and pl. VII, 78; B.de Cardi, New Wares and Fresh Problems from Baluchistan, *Antiquity*, vol. XXXIII, no. 129, March, 1959, fig. 2, pp. 18, 21.
49. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 22; 24A.
50. Sankalia and others, *op.cit.*, (Poona, 1955), fig. 69; 65.
51. *Ibid.*, fig. 70; 68.
52. Sankalia and others, *op.cit.*, (Poona, 1960), p. 237, fig. 101; 22.
53. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 5; 5c.
54. Sankalia and others, *op.cit.*, (Poona, 1955), fig. 3; 6.
55. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 45; a.
56. Sankalia and others, *op.cit.*, (Poona, 1955), fig. 1; A.
57. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 7; 8.
58. *Ancient India*, no. 13, p. 46, fig. 12; 296.
59. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 4; 4A.
60. Sankalia and others, *op.cit.*, (Poona, 1960), p. 238, fig. 102, 26.
61. *Ancient India*, no. 4 p. 226, fig. 19; 30.
62. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 2; 2.
63. Sankalia, Four thousand years old links between Iran and Central India: New excavations at Navdatoli, *Illustrated London News*, (September 5, 1959), p. 182; fig. 9.
64. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 5; 5a.
65. *Ancient India*, no. 13, p. 46, fig. 12; 27a.
66. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 41; 59.
67. *Ancient India*, no. 4, p. 226, fig. 19; 29.
68. *Ibid.*, p. 226, fig. 19; 28.
69. *Ancient India*, no. 13, p. 46, fig. 12; 27.
70. *Ancient India*, no. 3, p. 92, fig. 8; 2c.
71. *Ancient India*, no. 13, fig. 12; 22.
72. *Ancient India*, no. 3, p. 92, fig. 8; 6a.
73. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 4; 4c.
74. *Ibid.*, fig. 5; 5d.
75. *Ibid.*, fig. 7; 9a.
76. *Ibid.*, fig. 7; 9c and fig. 42; 63.
77. *Ibid.*, fig. 42; 63.
78. Sankalia and others, *op.cit.*, (Poona, 1960), p. 222, fig. 90; 3b.
79. *Ancient India*, no. 3, p. 96, fig. 10; 44.
80. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 24; 25a.
81. Sankalia and others, *op.cit.*, (Poona, 1960), p. 236, fig. 100; 16.
82. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 24; 25Ac.



83. *Ibid.*, fig. 24; 25Ab.
84. Sankalia, *op.cit.*, (Poona, 1960), p. 235, fig. 99; 15a.
85. Sankalia, *op.cit.*, (Poona, 1955), fig. 1; D.
86. Sankalia, Spouted Vessels from Navdatoli (Madhya Bharat) and Iran, *Antiquity*, vol. XXIX, June 1955, pp. 112-115.
87. *Ibid.*, fig. 75; 110.
88. *Indian Archaeology 1957-58 - A Review*, p. 2.
89. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 35; 41.
90. *Ibid.*, fig. 35; 40a. For design, *ibid.* cf. fig. 34; 39m.
91. *Ibid.*, fig. 35; 40b.
92. *Ibid.*, fig. 34; 39a.
93. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 26 and 27.
94. Information from S.P. Banerjee, Retd. Technical Assistant, who was present at the 1940-44 excavations at Ahichchhatra. Subsequently the specimens from Ahichchhatra were actually seen by the author at Ahichchhatra during his own excavations on the site in 1963-65.
95. *Ibid.*, fig. 12; 17g.
96. *Ibid.*, fig. 12; 16b.
97. G.R. Sharma, *The Excavations at Kausambi, 1957-59*, fig. 9; 8.
98. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 13; 17d.
99. *Ibid.*, fig. 13; 17b.
100. Sankalia and others, *op.cit.*, (Poona, 1960), fig. 88; 20.
101. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 12; 17g.
102. *Ibid.*, fig. 12; 16e.
103. *Ibid.*, fig. 12; 16d.
104. *Ibid.*, fig. 45A; C.
105. *Ibid.*, fig. 8; 10d.
106. Sharma, *op.cit.*, fig. 9; 7.
107. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 8; 10e.
108. *Ibid.*, fig. 26; 27d.
109. Sharma, *op.cit.*, fig. 10; 36.
110. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 12; 16d.
111. *Ibid.* fig. 13; 17f.
112. *Ibid.*, fig. 57; 74b.
113. M.G. Dikshit, *Tripuri-1952*, (Nagpur, 1955), fig. 11; 12.
114. *Ancient India*, no. 1, fig. 1; 7.
115. Dikshit, *op.cit.*, (Nagpur, 1955), p. 60, fig. 14; 45.
116. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 13; 28i.
117. *Ancient India*, nos. 10 and 11, p. 52, fig. 14; 4.
118. Sankalia and others, *op.cit.*, (Poona, 1960), p. 226, fig. 89; 2q.
119. *Indian Archaeology 1958-59 - A Review*, p. 49, fig. 22; 7.
120. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 14.
121. *Ancient India*, no. 1, p. 42, fig. 1; 1.
122. Dikshit, *op.cit.* (Nagpur, 1955), p. 46, fig. 12; 19.
123. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 15.
124. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 21; 23.
125. Sankalia and others, *ibid.*, fig. 21; 23b.
126. Sankalia and others, *op.cit.*, (Poona 1955), fig. 4; C.
127. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12.
128. *Ancient India*, nos. 10 and 11, p. 39, fig. 8; 31.
129. Sharma, *op.cit.*, (Allahabad, 1960), fig. 9; 13.
130. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 21; 23d.
131. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 15.
132. *Ibid.*, p. 25, fig. 12; 27.
133. Sharma, *op.cit.*, (Allahabad, 1960), fig. 10; 46.
134. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 26 and p. 26, fig. 13; 5.
135. Sankalia and others, *op.cit.*, (Poona, Baroda, 1958), fig. 16; 19n.
136. Sankalia and others, *op.cit.*, (Poona, 1960), p. 220, fig. 88, 2h and p. 219, fig. 87; 2d.
137. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 22.



138. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 63; 89.
139. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 3.
140. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 17A; 17f.
141. *Ancient India*, nos. 10 and 11, p. 39, fig. 8; 38.
142. Sankalia and others, *op. cit.*, (Poona, 1960), p. 261, fig. 115; 28i.
143. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 26; 37A and fig. 29; 49A.
144. *Ancient India*, nos. 10 and 11, p. 52, fig. 14; 4.
145. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 21; 23b.
146. *Ibid.*, fig. 67; 91a.
147. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 7.
148. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 17.
149. *Ancient India*, no. 1, p. 42, fig. 1; 2.
150. Sankalia and others, *op. cit.*, (Poona, 1960), p. 221, fig. 89; 2b.
151. Dikshit, *op. cit.*, (Nagpur 1955), p. 51, fig. 15; 49.
152. Sharma, *op. cit.*, (Allahabad, 1960), fig. 9; 22.
153. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 26; 37b.
154. Dikshit, *op. cit.*, (Nagpur, 1955), p. 40, fig. 8; 3A.
155. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 5.
156. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 29.
157. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 8.
158. Sankalia and other, *op. cit.*, (Poona, Baroda, 1958), fig. 8; 10b.
159. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 62; 8.
160. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 31; 35b.
161. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 31a, and p. 49, fig. 13; 39.
162. *Ibid.*, p. 56, fig. 16; 22a.
163. *Ancient India*, no. 9, p. 27, fig. 5; 7.
164. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 19; 19f.
165. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 72; 99b.
166. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 69; 53.
167. Sharma, *op. cit.*, fig. 10; 59.
168. Sankalia and others, *op. cit.*, (Poona, 1960), fig. 102; 6.
169. Dikshit, *op. cit.*, fig. 28; 144.
170. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 6.
171. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 8.
172. Sharma, *op. cit.*, (Allahabad, 1960), figs. 10 and 11; 54 and 86 respectively.
173. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 73.
174. *Ancient India*, nos. 10 and 11, p. 45, fig. 11; 4.
175. Sharma, *op. cit.*, (Allahabad, 1960), fig. 10; 61.
176. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 9; 3a and 3c.
177. Dikshit, *op. cit.*, (Nagpur 1955), p. 60, fig. 20; 90.
178. Sankalia, *op. cit.*, (Poona, 1955), fig. 9; 3a and 3c.
179. *Ibid.*, fig. 9; 3b.
180. Sankalia and others, (Poona, Baroda, 1958), fig. 34; 39j.
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182. *Ibid.*, fig., 60; 90f.
183. *Ibid.*, fig. 60; 90f.
184. *Ibid.*, fig. 64; 90f.
185. Sankalia and others, *op. cit.*, (Poona, 1960), p. 220, fig. 88; 20.
186. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 12; 16a.
187. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 16.
188. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 60; 84c.
189. *Ibid.*, fig. 60; Aa.
190. *Ibid.*, fig. 11; 15.
191. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 10.
192. *Ancient India*, nos. 10 and 11, p. 39, fig. 8; 32.
193. Sharma, *op. cit.*, (Allahabad, 1960), fig. 15; 10.
194. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 70; 95.
195. Sankalia and others, *op. cit.*, (Poona, 1960), p. 261, fig. 115; 28i.



196. Sharma, *op. cit.*, (Allahabad, 1960), fig. 14; 5.
197. *Indian Archaeology 1956-57 - A Review*, p. 26, fig. 13; 12.
198. Sankalia and others, *op. cit.*, (Poona, 1958), fig. 58; 77c.
199. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 26; 37.
200. Dikshit, *op. cit.*, (Nagpur, 1955), p. 50, fig. 14; 39.
201. *Ancient India*, no. 1, p. 42, fig. 1; 7.
202. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 32.
203. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 7.
204. *Ibid.*, fig. 9; and fig. 13; 8.
205. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 15.
206. Sankalia and others, *op. cit.*, (Poona, 1960), p. 282, fig. 124; 59c.
207. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 13; 17f.
208. Sankalia and others, *op. cit.*, (Poona, 1960), fig. 89; 2t.
209. *Ibid.*, p. 258, fig. 114; 20b.
210. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 16.
211. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 11; 15i.
212. Sankalia and others, *op. cit.*, (Poona, 1960), p. 309, fig. 143; 9.
213. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 2.
214. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 12 and fig. 13; 24.
215. Sharma, *op. cit.*, (Allahabad, 1960), fig. 14; 5.
216. *Ancient India*, nos. 10 and 11, p. 37, fig. 107; 29.
217. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 14.
218. *Indian Archaeology 1958-59, - A Review*, p. 49, fig. 22; 7.
219. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 24; 35d.
220. Dikshit, *op. cit.*, fig. 11; 14.
221. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 60; 84b.
222. Dikshit, *op. cit.*, fig. 11; 10.
223. *Ancient India*, no. 1, p. 56, fig. 10; 1.
224. Sankalia and others, *op. cit.*, (Poona, 1960), p. 258, fig. 114; 28a.
225. *Ancient India*, no. 1, p. 42, fig. 1; 7.
226. *Indian Archaeology 1958-59 - A Review*, p. 22, fig. 22; 6.
227. *Ancient India*, no. 1, pp. 55-58, *ibid.* nos. 10 and 11, pp. 50-53.
228. *Indian Archaeology 1956-57 - A Review*, p. 26, fig. 13; 7.
229. Sharma, *op. cit.*, (Allahabad, 1960), fig. 9; 1 and 3.
230. *Ancient India*, nos. 10 and 11, *op. cit.*, p. 54, fig. 15; 1a.
231. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 16; 13b.
232. Sharma, *op. cit.*, (Allahabad, 1960), fig. 9; 1 and 3.
233. *Ancient India*, nos. 10 and 11, p. 54, fig. 15; 3.
234. *Ibid.*, p. 54, fig. 15; 1.
235. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 16; 13.
236. *Ancient India*, no. 9, *op. cit.*, p. 127, fig. 5; 6.
237. *Ancient India*, nos. 10 and 11, p. 77, fig. 26; 1a and 3a.
238. *Ancient India*, no. 1, p. 51, fig. 6; 70.
239. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 30b and fig. 16; 22c.
240. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 72; 99b.
241. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 19; 19f.
242. *Ancient India*, no. 1, p. 56, fig. 10; 15.
243. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 21; 23d.
244. *Ibid.*, fig. 69; 92i.
245. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 4; c.
246. Dikshit, *op. cit.*, (Nagpur, 1955), p. 46, fig. 12; 24.
247. *Ancient India*, no. 9, p. 127, fig. 5; 3.
248. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 65; 90m.
249. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 13.



250. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 35; 40a.
251. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 33.
252. Dikshit, *op. cit.*, (Nagpur, 1955), p. 46, fig. 12; 20.
253. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 16.
254. *Ancient India*, nos. 10 and 11, p. 52, fig. 14; 1.
255. *Indian Archaeology 1958-59 - A Review*, p. 49, fig. 22; 5.
256. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 9.
257. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 15.
258. *Indian Archaeology 1956-57 - A Review*, p. 26, fig. 13; 24.
259. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 11; 15c.
260. Sankalia and others, *op. cit.*, (Poona, 1960), p. 265, fig. 117; 38.
261. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 1.
262. *Indian Archaeology 1956-57 - A Review*, p. 26, fig. 13; 9.
263. Sankalia, *op. cit.*, (Poona, Baroda, 1958), fig. 37; 49p.
264. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 2.
265. *Ancient India*, nos. 10 and 11, p. 64, fig. 20; 7.
266. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 17.
267. Sankalia, and others, *op. cit.*, (Poona, Baroda, 1958), fig. 11; 15a.
268. *Ibid.*, fig. 58; 77c.
269. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 29; 49a.
270. *Ancient India*, no. 1, p. 56, fig. 10; 9.
271. *Indian Archaeology 1958-59 - A Review*, p. 49, fig. 22; 5.
272. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 63; 89c.
273. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 26; 37a.
274. *Indian Archaeology 1958-59 - A Review*, p. 49, fig. 22; 5.
275. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 60; 84b.
276. *Ibid.*, fig. 35; 43a.
277. Sankalia and others, *op. cit.*, (Poona, 1960), p. 258, fig. 114; 28a.
278. *Ancient India*, no. 1, p. 42, fig. 1; 7.
279. *Ancient India*, nos. 10 and 11, p. 48, fig. 12; 29.
280. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 26H; 20.
281. Dikshit, *op. cit.*, (Nagpur, 1955), p. 50, fig. 14; 39.
282. *Ancient India*, nos. 10 and 11, p. 54, fig. 15; 15a.
283. Dikshit, *op. cit.*, (Nagpur, 1955), p. 52, fig. 16; 57.
284. Sankalia, *op. cit.*, (Poona, Baroda, 1958), fig. 23; 25c.
285. Sharma, *op. cit.*, (Allahabad, 1960), fig. 13; 1.
286. Dikshit, *op. cit.*, (Nagpur, 1955), p. 55, fig. 17; 66.
287. *Indian Archaeology 1956-57 - A Review*, p. 26, fig. 13; 25; p. 25, fig. 12; 14.
288. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 65; 90.
289. *Ibid.*, fig. 40; 55.
290. *Indian Archaeology 1958-59, A Review*, p. 49, fig. 22; 6.
291. *Indian Archaeology 1956-57, A Review*, p. 25, fig. 12; 16.
292. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 11; 15a.
293. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 15.
294. *Ibid.*, 1958-59, p. 49, fig. 22; 7.
295. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 10.
296. *Indian Archaeology 1956-57 - A Review*, p. 25; fig. 12; 24.
297. *Ibid.*, 1958-59, p. 49, fig. 22; 10.
298. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 24; 35d.
299. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 64; 90.
300. *Ancient India*, nos. 10 and 11, p. 39, fig. 8; 41.
301. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 67; 91c.
302. Dikshit, *op. cit.*, (Nagpur, 1955), p. 45, fig. 11; 4.



303. *Ancient India*, no. 9, p. 127, fig. 5; 1.
304. *Ancient India*, nos. 10 and 11, p. 54, fig. 15; 15.
305. *Ibid.*, p. 48, fig. 12; 26a.
306. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 58; 77c.
307. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 26; 37.
308. Dikshit, *op. cit.*, (Nagpur, 1955), p. 52, fig. 16; 57.
309. *Ibid.*, p. 52, fig. 14; 39.
310. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 63; 89.
311. Dikshit, *op. cit.*, (Nagpur, 1955), p. 51, fig. 13; 49.
312. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 90; 161.
313. *Ancient India*, nos. 10 and 11, p. 77, fig. 26; 21.
314. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 18; 18b.
315. *Ancient India*, nos. 10 and 11, p. 56, fig. 16; 32c.
316. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 72; 99a.
317. *Ancient India*, no. 9, p. 127, fig. 5; 7.
318. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 11.
319. Sharma, *op. cit.*, (Allahabad, 1960), fig. 10; 43.
320. *Ancient India*, nos. 10 and 11, *op. cit.*, p. 58, fig. 17; 28c.
321. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 72; 99a.
322. *Ancient India*, no. 1, p. 56, fig. 10; 15.
323. Sharma, *op. cit.*, (Allahabad, 1960), fig. 10; 50.
324. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 19; 196.
325. Sankalia and others, *op. cit.*, (Poona, 1960), fig. 129; 74.
326. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 6.
327. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 31i.
328. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 85.
329. *Ibid.*, p. 58, fig. 19; 85 and p. 61, fig. 21; 100.
330. *Ancient India*, no. 9, p. 127, fig. 5; 16.
331. *Ancient India*, no. 1, p. 42, fig. 1; 10a.
332. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 84.
333. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 31b.
334. *Ibid.*, p. 60, fig. 18; 31g.
335. Dikshit, *op. cit.*, (Nagpur, 1955), fig. 21; 100a.
336. Sharma, *op. cit.*, (Allahabad, 1960), fig. 10; 55.
337. Dikshit, *op. cit.*, (Nagpur, 1955), p. 61, fig. 19; 86.
338. Sankalia, *op. cit.*, (Poona, 1955), fig. 13; 8b.
339. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 81.
340. *Ibid.*, p. 70, fig. 27; 140.
341. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 8a; 4.
342. *Ibid.*, fig. 13; 7b.
343. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 86.
344. *Ancient India*, nos. 10 and 11, p. 45, fig. 11; 8.
345. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 83.
346. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 32.
347. *Indian Archaeology 1958-59 - A Review*, p. 49, fig. 22; 11.
348. *Ancient India*, nos. 10 and 11, p. 45, fig. 11; 18a.
349. *Indian Archaeology, 1958-59 - A Review*, p. 49, fig. 22; 20.
350. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 34.
351. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 73.
352. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 12; 6d.
353. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 2.
354. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 9; 3b.
355. *Ibid.*, fig. 10; 4.
356. *Ibid.*, fig. 35; 92a.
357. *Ancient India*, no. 1, p. 47, fig. 3; 45.
358. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 82.
359. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 7.
360. Sankalia and others, *op. cit.*, (Poona, 1960), p. 266, fig. 118; 47a.



361. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 5; F.
362. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 34.
363. *Ibid.*, p. 60, fig. 18; 35a.
364. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 61; 86 b.
365. Sharma, *op. cit.*, (Allahabad, 1960), fig. 10; 51 and fig. 12; 96.
366. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 3.
367. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 80 and p. 61, fig. 21; 96.
368. *Indian Archaeology 1956-57 - A Review*, p. 58, fig. 12; 1.
369. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 79.
370. *Ancient India*, nos. 10 and 11, p. 60, fig. 18; 38.
371. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 74; 97.
372. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 78.
373. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 5; J.
374. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 74; 103 b.
375. Sankalia and others, *op. cit.*, (Poona, 1960), p. 266, fig. 118; 46.
376. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 10; 4.
377. *Ibid.*, fig. 10; 4g.
378. *Ibid.*, fig. 12; 6e.
379. Dikshit, *op. cit.*, (Nagpur, 1955), p. 60, fig. 20; 90.
380. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 74; 103 b.
381. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 10; 4.
382. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 1.
383. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 91.
384. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 3; 3d.
385. Sankalia and others, *op. cit.*, (Poona, 1960), p. 312, fig. 144; 13.
386. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 5; F.
387. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 3; 3f.
388. *Indian Archaeology 1956-57 - A Review*, p. 25, fig. 12; 7.
389. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 75; 102.
390. Sharma, *op. cit.*, (Allahabad, 1960), fig. 11; 8 and fig. 12; 100.
391. Dikshit, *op. cit.*, (Nagpur, 1955), p. 58, fig. 19; 83.
392. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 8; 2a.
393. Sharma, *op. cit.*, (Allahabad, 1960), fig. 12; 119.
394. *Ancient India*, nos. 10 and 11, p. 52, fig. 14; 10.
395. Sankalia and others, *op. cit.*, (Poona, 1960), p. 299, fig. 137; 91.
396. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 46; 1b.
397. Richard F.S. Starr, *Indus Valley Painted Pottery*, p. 26, fig. 1.
398. Dikshit, *op. cit.*, (Nagpur, 1955), frontispiece.
399. Walter A. Fairservis, Jr., *The Excavations in Quetta Valley, West Pakistan*, p. 272, type 11.
400. *Ibid.*, p. 275; type 38 and p. 279; types 86, 88 and 94. Quetta Ware, p. 283; types 139 and 141, p. 314; 513.
401. *Ibid.*, p. 276, type 48.
402. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 50; VII n.
403. Fairservis, *op. cit.*, p. 277; type 70.
404. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 46; 11a.
405. Fairservis, *op. cit.*, p. 276, type 48.
406. Information in respect of Bahal is from Shri M.N. Deshpande; Starr, *op. cit.*, figs. 56 and 57.
407. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), figs. 50; viii d, 36; figs. 4 and 36.
408. Sankalia and others, *op. cit.*, (Poona, 1960), p. 251, figs. 109; xxix.
409. Fairservis, *op. cit.*, p. 284, type 149.
410. Sankalia and others, *op. cit.*, fig. 49; viia and b.; Starr, *op. cit.*, p. 27, fig. 4 and p. 37, fig. 36.
411. *Ibid.*, p. 27, fig. 4 and p. 37 fig. 36.
412. Sankalia and others, *op. cit.*, figs. 47, ; 11k; Starr, *op. cit.*, fig. 10.
413. Sankalia, *op. cit.*, fig. 49; vi a.
414. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 47; 11.
415. *Ibid.*, fig. 50; VII g.
416. *Ibid.*, fig. 49; VII a and VII b.
417. *Ibid.*, fig. 47; 11p.



418. Starr, *op. cit.*, p. 28, fig. 10.
419. Fairservis, *op. cit.*, p. 272, type 2.
420. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 47; 11q, Starr, *op. cit.*, p. 28, fig. 10.
421. Fairservis, *op. cit.*, p. 275, types 40-42; and p. 278, type 79.
422. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 47; 11t.
423. Starr, *op. cit.*, p. 28, fig. 10.
424. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 47; 11.
425. Starr, *op. cit.*, p. 43; fig. 48.
426. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 47; 11m.
427. *Ibid.*, fig. 48; 111b.
428. *Ibid.*, fig. 48; 111b.
429. Fairservis *op. cit.*, p. 275, type 39, (cross-hatched connected diamonds only), p. 299, types 325 and 326.
430. Sankalia and others, *op. cit.*, (Poona, 1960), p. 247, fig. 107; IVd.
431. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 48; 111d.
432. *Ibid.*, fig. 48; 111a.
433. *Ibid.*, fig. 48; 111a.
434. *Ibid.*, fig. 48; 111a.
435. *Ibid.*, fig. 51; X a.
436. Starr, *op. cit.*, p. 41; fig. 46.
437. Fairservis, *op. cit.*, p. 290; Starr, *op. cit.*, fig. 46; types 215 and 216.
438. *Ibid.*, p. 278, type 71.
439. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 49; VII m.
440. *Ibid.*, fig. 51; XI d.
441. Fairservis, *op. cit.*, p. 301, type 349.
442. *Ibid.*, p. 312, type 481.
443. Sankalia and others, (Poona, Baroda, 1958), *op. cit.*, fig. 27; 28 g.
444. *Ibid.*, fig. 51; XI f.
445. *Ibid.*, fig. 6; 6d.
446. *Ibid.*, fig. 6; 6d.
447. *Ibid.*, fig. 6; 6d.
448. *Ibid.*, fig. 51; Xa.
449. Fairservis, *op. cit.*, p. 302; type 367.
450. Starr, *op. cit.*, p. 59, fig. 100.
451. *Ibid.*, p. 58, fig. 98.
452. Fairservis, *op. cit.*, p. 303, type 371.
453. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 52; XIII k.
454. *Ibid.*
455. *Ibid.*
456. *Ibid.*, fig. 47; 112.
457. *Ibid.*, fig. 50; 86.
458. cf. Bahal.
459. cf. Bahal.
460. Fairservis, *op. cit.*, p. 282, type, 128.
461. cf. Bahal.
462. Sankalia and others, *op. cit.*, fig. 52; type XIII; chevrons without median line; cf. Fairservis, *op. cit.*, p. 285; type 155.
463. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 13; 17d.
464. *Ibid.*, fig. 52; XIII (i).
465. *Ibid.*, fig. 13; XVII d.
466. Starr, *op. cit.*, p. 35, fig. 28.
467. Fairservis, *op. cit.*, p. 297, type 310.
468. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 51, type XII d.
469. *Ibid.*, fig. 6, type 6d.
470. *Ibid.*, fig. 25; 26a.
471. Starr, *op. cit.*, pp. 66, 67, figs. 135 and 136.
472. B.de Cardi, New Wares and fresh problems from Baluchistan, *Antiquity*, vol. XXXIII, 1959, p. 20, fig. 3 2a; Sankalia, Navdatoli Dancers, *Antiquity*, vol. XXIX March 1955, pp. 28-31 and N.R.Banerjee, A Dancing figure on the Chalcolithic Pottery from Nagda, *Bull. Deccan College Research Institute*, S.K.De Felicitation Vol., 1960, pp. 1-2.



figures on the Chalcolithic Pottery from Nagda, *Bull. Deccan College Research Institute*, S.K. De Felicitation Volume, 1960, pp. 1-2.

473. Starr, *op. cit.*, p. 32, fig. 23.
474. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 56 B; VII n.
475. *Ibid.*, fig. 56B; VII p.
476. *Ibid.*, fig. 56 B; VII l.
477. *Ibid.*, fig. 56 B; VII m.
478. *Ibid.*, fig. 56A; VII d.
479. *Ibid.*, fig. 56; IVa.
480. *Ibid.*, fig. 56; IVf.
481. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 71; 78.
482. *Ibid.*, fig. 71; 78.
483. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 56; IVf.
484. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 70; 68.
485. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 56c; Xa.
486. *Ibid.*, fig. 5c; Xd.
487. Sankalia and others, *op. cit.*, (Poona, 1955), fig. 70; 67.
488. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 56c; Xd.
489. *Ibid.*
490. *Ibid.*, fig. 56 C; Xc.
491. *Ibid.*, fig. 70; 71.
492. *Ibid.*, fig. 70; 71.
493. Sankalia and others, *op. cit.*, (Poona, Baroda, 1958), fig. 56 c; X c.
494. *The Illustrated London News*, September 5, 1959, p. 182, fig. 9.

## X. OTHER FINDS

### 1. MICROLITHS

The microliths of Nagda are made almost invariably on chalcedony, not merely the milky white variety, but in all its ramifications of mottled colour. Its number, however, is small, compared to the figures from Maheshwar and Navdatoli. Notwithstanding the fact that these tools or equipments formed one of the prime characteristics of the chalcolithic cultures, their smallness of size and the almost insignificant appearance in an expanding economy detract from the importance of their role in a dynamic society. Coupled with this is the indisputable fact of the utter paucity of objects of copper that usually go with them. Even so, their form is usually indeterminate, scarcely lending itself to any useful conclusion and regardless of the purpose they served, they emphasize that the people knew the use of copper. The purpose and the manner of employment of the microlithic tools in this context should be anybody's guess. Some of these are serrated deliberately either on the right side or on the left side, and, very rarely, on both, for use as a cutting tool like a saw. Examples of serration by use are also available. These serrations may have come as a result of cutting of crops. It is clear, however, that the tiny tools by themselves could not have been effectively employed. They were possibly hafted on a wooden or other base of perishable material. The trapezes or lunates easily lent themselves to such combination.

The tools were the product of what can be described as the (short) blade industry, produced from small nodules. The ensemble encompassed, broadly, fluted cores, parallel-sided blades, pointed blades, pen-knife blades, miscellaneous blades, lunates, trapezes and, rarely, scrapers. Some cores as well as blades bear the well-known crested ridge, pointing to the use of this technique in the manufacture of the involved blade industry. The various typical shapes had many ramifications based on retouching and serrating. The stages of manufacture<sup>1</sup> can be set down as follows:—

- i) selection of nodules, which were available locally in the veins of the trap substratum;
- ii) removal of flakes from the cortex;
- iii) preparation of the striking platform;
- iv) removing longitudinal blades, and finally
- v) retouching or serrating as required.

The occurrence of the crested ridge on the blades and cores is significant, because this is a common feature of all the chalcolithic cultures of western, central and southern India. It has been stated that the crested ridge technique was adopted for two reasons, namely,



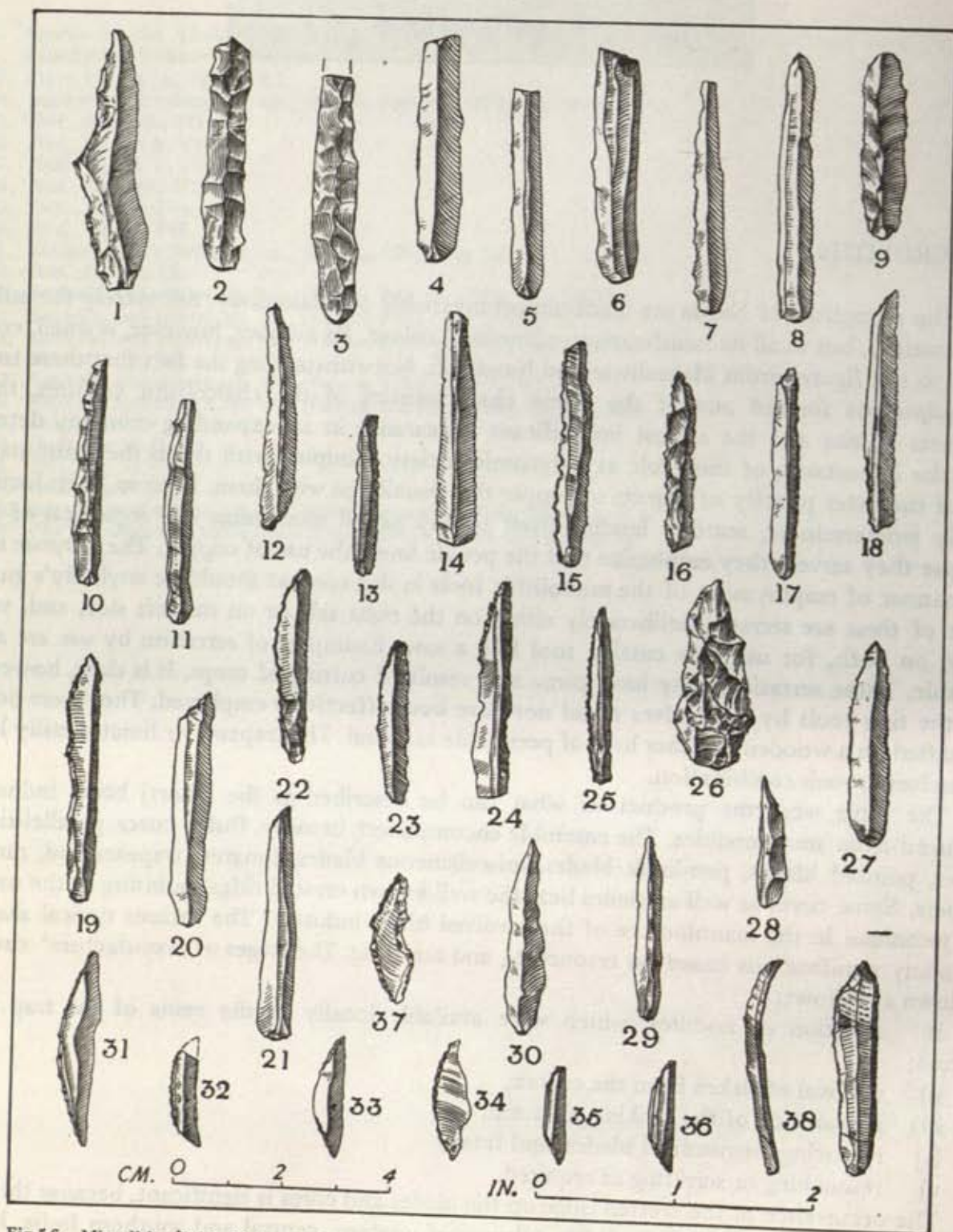


Fig. 56. Microliths: 2-25, 28-33, 35-38, Period I; 26, Period II; 1, 27, 34, Period III.

- a) for creating lines of weakness on the core, and guiding the longitudinal flakes along the line of weakness thus achieved, and thus control the length of the blades, and
- b) also to impart to it a firm grip on an anvil, by fixing it along the line of the crested ridge, into a holder or contraption of clamp, especially at the exhausted stage of the core.

It is surmised that oval shaped stones, mostly pebbles, with strike-battered edges had some function in the manufacture of microliths and have been tentatively described as fabricators. Possibly they were used as anvils, the edges being used to support the nodules. Occasionally they are flattish and have their edges roughened, obviously by striking. The microliths, are a prime characteristic of Period I. In Period II they lived on in diminished quantities, still, limitedly, as a material wherewithal as indicated by the occurrence of numerous so-called fabricators, but in Period III, they were presumably non-functional, and their occurrence, inferably, was largely the result of digging up of earlier levels in the course of digging for earth or laying pits.

The statistical analysis of the different types of microlithic tools are given in the appended chart, and typical specimens, mostly from Period I, are illustrated in figs. 56 and 57, and described below.

In all 751 microliths apart from cores and waste flakes were found, of which 572 were from Period I, 113 from Period II and 66 from Period III. The microlithic tools found in Period III are not an integral cultural element, but possibly a relic, and their find may be the result of digging up ancient ground level as stated above. It is to be noted that some flakes and tools were found embedded into the otherwise unoccupational black cotton virgin soil, into which they must have gained access through openings in the cracky soil, especially under the pressure of the overlying accumulation.

Fig. 56

1. Assymetrical flake. Length 1.85 in. (4.7 cm.). From a mid-level of Period III (NGD-1, 541).
2. Crested ridge blade. Length 1.65 in. (4.2 cm.). From a mid-level of Period I (NGD-1, 2273).
3. Crested ridge blade. Length 1.77 in. (4.5 cm.). From a mid-level of Period I (NGD-1, 1938).
4. Parallel-sided blade, unretouched, with sharp ridge. Length 1.61 in. (4.1 cm.). From a late level of Period I (NGD-1, 1631).
5. Parallel-sided blade, retouched with flat ridge. 1.49 in. (3.8 cm.). From an early level of Period I (NGD-1, 2224).
6. Parallel-sided blade, unretouched, with multiple ridges. Length 1.65 in. (4.2 cm.). From an early level of Period I (NGD-1, 2324).
7. Parallel-sided blade with serration on left side. Length 1.65 in. (4.2 cm.). From an early



level of Period III (NGD-1, 1771A).

8. Parallel-sided blade with a flat ridge. The right side is serrated. Length 1.92 in. (4.9 cm.). From a mid-level of Period I (NGD-1, 2243).
9. Parallel-sided blade with right side serrated and with a sharp edge. Length 1.33 in. (3.4 cm.). From an early level of Period I (NGD-1, 2278).
10. Blade, unretouched. Length 1.61 in. (4.1 cm.). From a mid-level of Period I (NGD-1, 1965).
11. Blade, unretouched. Length 1.61 in. (4.1 cm.). From a mid-level of Period I (NGD-1, 2203).
12. Blade, left side serrated by use. Length 1.61 in. (4.1 cm.). From a mid-level of Period (NGD-1, 2134).
13. Blade, right side serrated. Length 1.14 in. (2.95 cm.). From a late level of Period I (NGD-1, 1399).
14. Blade, right side serrated. Length 1.69 in. (4.3 cm.). From a late level of Period I (NGD-1, 2160).
15. Blade, serrated on both the sides. Length 1.61 in. (4.1 cm.). From an early level of Period I (NGD-1, 1500).
16. Blade, serrated on both sides. Length 1.29 in. (3.3 cm.). From a mid-level of Period I (NGD-1, 2295).
17. Blade, retouched on the right side. Length 1.53 in. (3.9 cm.). From an early level of Period I (NGD-1, 2287B).
18. Blade, retouched at both the ends of the left side and serrated on the right. Length 1.73 in. (4.4 cm.). From an early level of Period I (NGD-1, 2252).
19. Pen-knife blade, with blunted left tip. Length 1.81 in. (4.6 cm.). From a mid-level of Period I (NGD-1, 2295A).
20. Pen-knife blade, with an obliquely blunted left tip. Length 1.69 in. (4.3 cm.). From a late level of Period I (NGD-1, 2167).
21. Pen-knife blade, with an obliquely blunted left tip. Length 1.69 in. (4.3 cm.). From a mid-level of Period I (NGD-1, 1964).
22. Pen-knife blade, with the entire left side retouched. Length 1.37 in. (3.55 cm.). From the earliest level of Period I (NGD-1, 2226).
23. Pen-knife blade, with the left side backed and the right side serrated, apparently by use. Length 1.18 in. (3 cm.). From a mid-level of Period I (NGD-1, 1410).
24. Pen-knife blade with backing on the left tip. Length 1.57 in. (4 cm.). From an early level of Period I (NGD-1, 2171).
25. Pen-knife blade, with backing on the entire left side. Length 1.25 in. (3.2 cm.). Unstratified (NGD-1, 2433).
26. Unretouched pointed blade. Length 1.22 in. (3.15 cm.). From a late level of Period II (NGD-1, 1323).
27. Pointed blade, unretouched. Length 1.45 in. (3.7 cm.). From late level of Period III (NGD-1, 1323).

28. Pointed blade, unretouched. Length 0.94 in. (2.4 cm.). From an early level of Period I (NGD-1, 1519).
29. Pointed blade, backed at tip on both sides. Length 1.29 in. (3.35 cm.). From an early level of Period I (NGD-1, 2228).
30. Pointed blade, unretouched, with a sharp point. Length 1.37 in. (3.5 cm.). From a mid-level of Period I (NGD-1, 2039).
31. Lunate, arc blunted. Length 1.37 in. (3.6 cm.). From an early level of Period I (NGD-1, 2428).
32. Lunate, (broken). Available length 0.70 in. (1.8 cm.). From a late level of Period I (NGD-1, 2178).
33. Lunate. Length 0.86 in. (2.25 cm.). From a late level of Period I (NGD-1, 826).
34. Lunate. Length 0.86 in. (2.2 cm.). From a mid-level of Period III. (NGD-1, 1448).
35. Trapeze. Length 0.66 in. (1.7 cm.). From a mid-level of Period I (NGD-1, 2051).
36. Trapeze. Length 0.78 in. (2 cm.). From an early level of Period I (NGD-1, 1150).
37. Hollow scraper. Length 0.94 in. (2.4 cm.). From an early level of Period I (NGD-1, 1469).
38. Blade, obliquely blunted, produced by the plunging technique and resulting in a hinge fracture. Length 1.53 in. (3.9 cm.). From an early level of Period I (NGD-1, 2026).

### Fig. 57

1. Fluted core. Length 1.25 in. (3.2 cm.). From a mid-level of Period I (NGD-1, 1669).
2. Fluted core, carnelian. Length 1.02 in. (2.6 cm.). From a late level of Period I (NGD-1, 1939).
3. Core, 1.85 in. (4.7 cm.), bearing parallel fluted flake scars and a prepared platform inclined roughly at right angles to the scar surface. The last vestiges of a crested ridge, which was worked out for rejuvenation, together with the scars of cross-flaking are clearly indicated. The removal of a short blade by what is apparently a hinge fracture, has left a telltale scar. From surface collection. (NGD-1, 2417).
4. Fluted core. Length 1.29 in. (3.3 cm.). A specimen of cross flaking. From a mid-level of Period III (NGD-1, 293).
5. Fluted core, chalcidony. Length 0.94 in. (2.4 cm.). From a mid-level of Period I (NGD-1, 2293).
6. Thumb scraper. Size 1.18 x 1.02 in (3 x 2.6 cm.). From a late level of Period III (NGD-1, 293).
7. Flake. Length 1.45 in. (3.7 cm.). From a late level of Period I (NGD-1, 1251).
8. Flake with a prominent bulb of percussion and a negative flake scar. Length 1.69 in. (4.3 cm.). From surface collection (NGD-1, 2418).



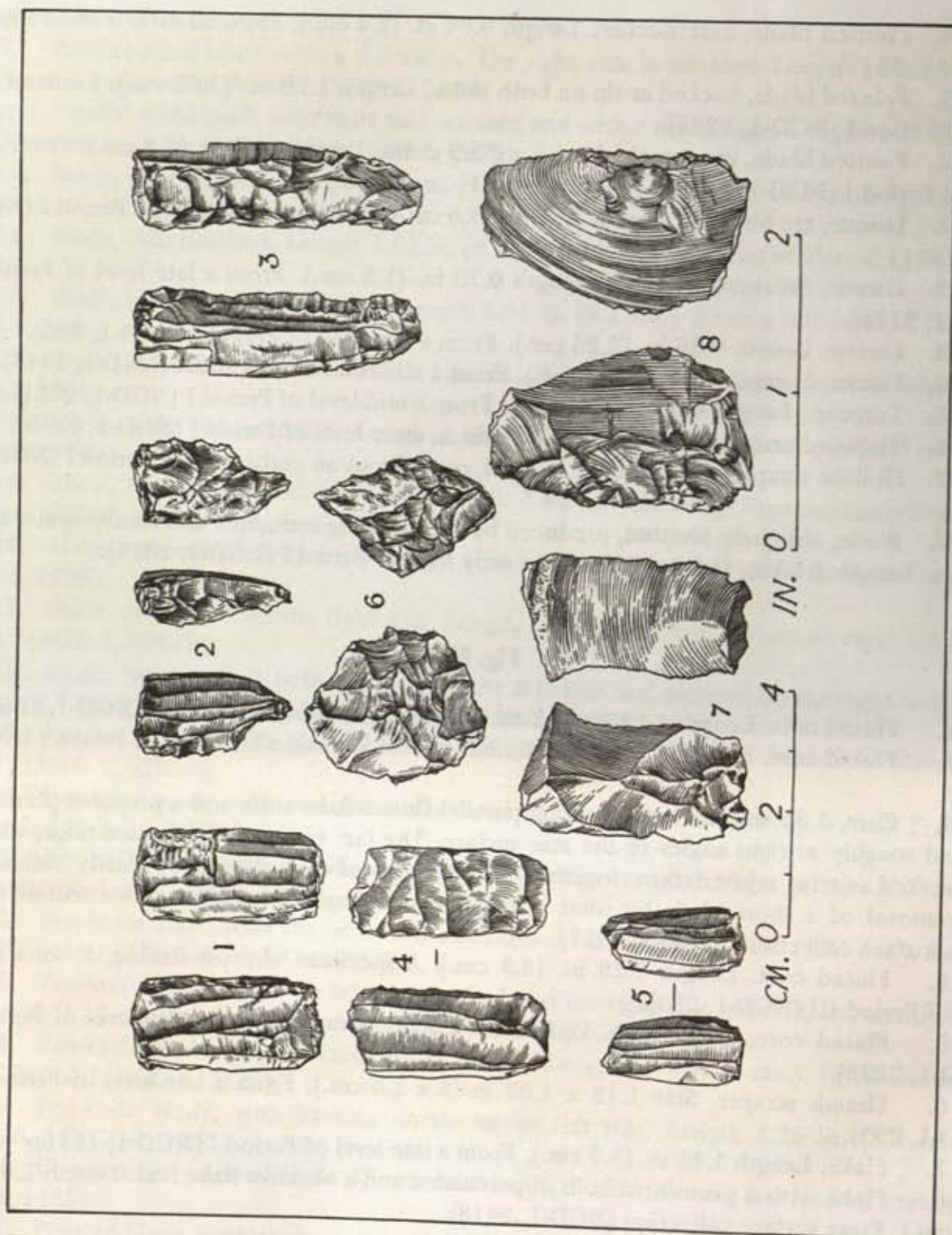


Fig. 57. Cores of microliths: 1, 2, 5, 7, Period I; 4, 6, Period III; 3, 8, Surface.



XXIII A. Nagda: Basket impressions on a sherd, Period I.



XXIII B. Nagda : A microlith of chalcedony



**NAGDA :— DISTRIBUTION OF MICROLITHS  
TYPEWISE AND PERIODWISE.**

Period	Cores	Scrap- er	Parallel side blades	Pen knife blades	Pointed blades	Broken blades	Total
I	Fluted Fluted & Cross flaked	Thumb scraper	Primary asymmetrical flakes	Blunted left tip Backed left side Backed right side Backed left side & serrated right side. Serrated left side. Serrated right side.	Unretouched Backed at the tip both sides Backed left side and one blade backed on left tip.	Bulbar portion Mid portion Top portion	572
II	9	2	—	1	1	44	113
III	6	1	1	1	1	19	66

Grand Total 751

## Pl. XXIII B

9. Flake, detached laterally from a large core in exhausted stage. One edge bears a strip of the original flattish striking platform, while the other could be employed for cutting. The portion bearing the bulb of percussion is absent due to breakage. Length 2.75 in. (7 cm.). From an early level of Period I (NGD-1, 2250).

## 2. BEADS

The excavation at Nagda has yielded 111 beads. Out of these, 41 are from Period I, 28 from Period II, and 42 from Period III. In Period I the majority of the beads are of terracotta. Besides these, beads of carnelian, agate, jade, steatite, and jasper are also available. The beads of Period II are made of terracotta, carnelian, agate, jade, chalcedony, coral, bone, shell, and ivory. The beads of Period III are of terracotta, carnelian, amethyst, garnet, agate, chalcedony, crystal, jasper, quartz, glass, coral, bone, ivory, gold and iron.<sup>2</sup> (For typological and periodwise distribution see table). Curiously, no faience or etched bead has been found.

No unfinished bead has been found in Periods I and II. But in Period III four unfinished beads (two of agate, one of chalcedony, and one of shell) have been found. All these are well polished but unperforated. The unfinished bead of shell, is melon-shaped. The discovery of these beads would indicate a local endeavour at manufacture of beads.

Fig. 58

1. Red jasper; long, truncated, biconal, square faceted bead. Unstratified (NGD-1, 240).
2. Terracotta; short, vase-shaped, circular bead with flat base. From an early level of Period II (NGD-1, 1637).
3. Terracotta; short, truncated, pear-shaped, circular bead. From an early level of Period I (NGD-1, 750).
4. Terracotta; short, truncated, pear-shaped, circular bead. From a very late level of Period III (NGD-1, 7).
5. Garnet; standard, plano-convex, roughly circular bead. From a late level of Period III (NGD-1, 162).
6. Ivory; long, barrel, circular bead. From a late level of Period II (NGD-1, 640).
7. Chalcedony; tooth shaped pendant bead. From a late level of Period II (NGD-1, 639).
8. Chalcedony; short, truncated, biconal, discoid bead. From a mid-level of Period III (NGD-1, 1007).
9. Amethyst; long, truncated, conical, hexagonal bead. From an early level of Period III (NGD-1, 1614).



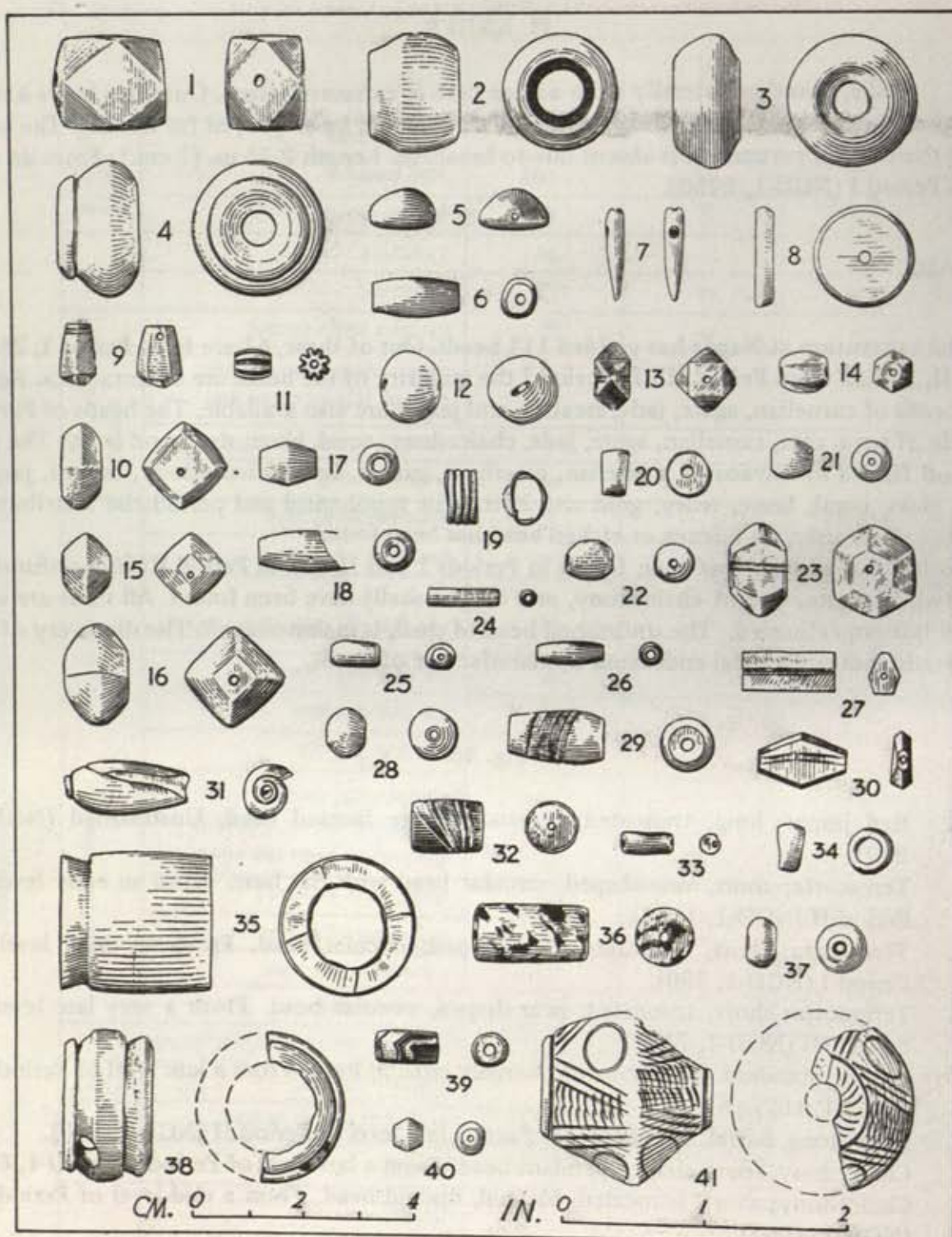
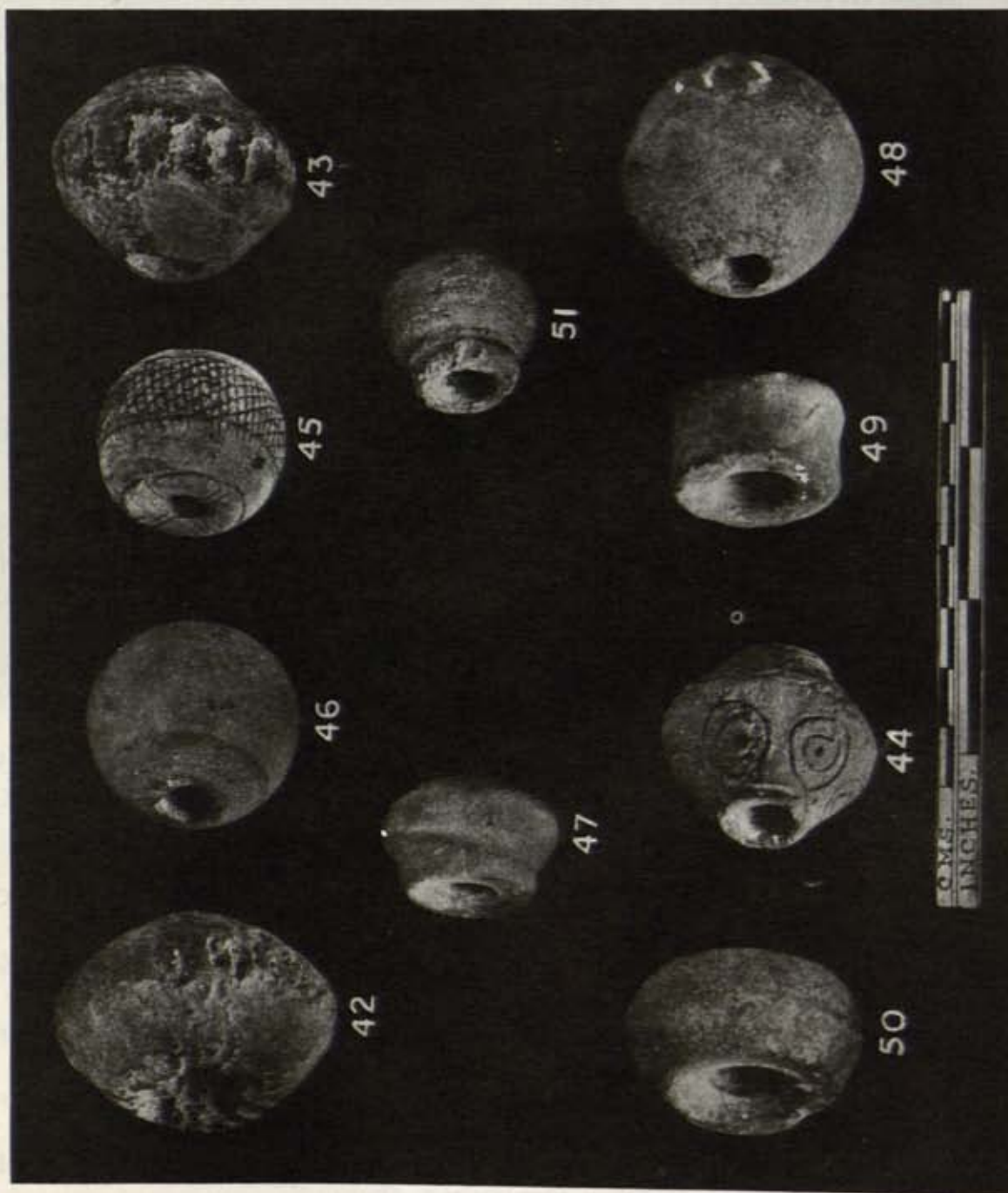


Fig. 58. Beads: 1, unstratified; 3, 12, 17, 20, 26, 28, 29, 37, 39-48, 50, Period I; 2, 6, 7, 11, 18, 25, 32, 34, 38, 51, Period II; 4, 5, 8-10, 13, 14, 16, 19, 21-24, 27, 30, 31, 33, 35, 36, 49, Period III.

10. Carnelian; short, truncated, biconal, square, faceted bead. From a late level of Period III (NGD-1, 687).
11. Jade; short, truncated, biconal, circular bead. From an early level of Period II (NGD-1, 1093).
12. Terracotta; short, globular, circular bead. From a mid-level of Period I (NGD-1, 2058).
13. Yellow crystal; short, truncated, biconal, square faceted bead. From a late level of Period III (NGD-1, 331).
14. Agate; long, barrel, hexagonal bead. From an early level of Period III (NGD-1, 1897).
15. Carnelian; short, truncated, biconal, square faceted bead. From an early level of Period III (NGD-1, 230).
16. Quartz; standard, truncated biconal, square faceted bead. From a late level of Period II (NGD-1, 136).
17. Carnelian; long, truncated, biconal, circular bead. From a mid-level of Period I (NGD-1, 1970).
18. Coral; long, barrel, circular bead. From a late level of Period II (NGD-1, 1617).
19. Gold; short, circular, segmented bead. From a late level of Period III (NGD-1, 395).
20. Jade; short, barrel, circular, disc bead. From a mid-level of Period I (NGD-1, 1909).
21. Coral; long, barrel, circular bead. From an early level of Period III (NGD-1, 596).
22. Terracotta; standard, biconal, circular bead. From an early level of Period III. (NGD-1, 596B).
23. Crystal; short, truncated biconal, hexagonal bead. From mid-level of Period III (NGD-3, 11).
24. Glass; long, cylindrical, circular bead. From a late level of Period III (NGD-1, 15).
25. Chalcedony; long, barrel, circular bead. From a mid-level of Period II (NGD-1, 1297).
26. Jasper; long, barrel, circular bead. From a late level of Period I (NGD-1, 2046).
27. Glass; long, cylindrical, hexagonal bead. From a late level of Period III (NGD-1, 403).
28. Jade; short, truncated, biconal, circular bead. From a late level of Period I (NGD-1, 2140).
29. Banded agate; long, barrel-shaped (with one end broader than the other), circular bead. From an early level of Period I (NGD-1, 2274).
30. Carnelian; long, truncated biconal, flat, hexagonal bead. From an early level of Period III (NGD-1, 1103).
31. Shell; long, circular bead. It is a specimen of a very skilful utilization of a shell as a bead. From a mid-level of Period III (NGD-1, 1865).
32. Banded agate: long, barrel, circular bead. From a mid-level of Period II (NGD-1, 1285).
33. Coral: long, cylindrical, circular bead. From a late level of Period III (NGD-1, 273).





XXIV Nagda: Beads, Periods I-III

34. Green glass: short barrel, circular bead. From a mid-level of Period III (NGD-1, 1374).
35. Bone: long, bottle-shaped, cylindrical, circular bead. From a mid-level of Period III (NGD-1, 1068).
36. Agate: long, cylindrical, circular bead. From a late level of Period III (NGD-1, 819).
37. Jade: short, barrel, circular disc bead. From a late level of Period I (NGD-1, 1725).
38. Bone: fragment of a short, barrel, circular, collared bead with an additional perforation on the side. From a late level of Period II (NGD-1, 1286).
39. Banded agate: long, cylindrical, circular bead. From a mid-level of Period I (NGD-1, 2200).
40. Jade: standard, truncated biconal, circular bead. From a late level of Period I (NGD-1, 1093).
41. Terracotta: long, truncated biconal, circular bead with incised circles, oblique, horizontal and vertical lines on the tapering sides. From a late level of Period I (NGD-1, 1414).

#### Pl. XXIV

42. Terracotta: milled, standard, truncated, biconal, circular bead. From a mid-level of Period I (NGD-1, 2007).
43. Terracotta: milled, short, truncated biconal, circular bead. From a mid-level of Period I (NGD-1, 1012).
44. Terracotta: standard, truncated, biconal, circular bead with incised concentric circles on the tapering surface. From an early level of Period I (NGD-1, 2325).
45. Steatite: short, barrel, circular bead with criss-cross incised pattern enclosed within two parallel lines. From an early level of Period I (NGD-1, 2320).
46. Sandstone banded: standard, globular, circular bead. From a mid-level of Period I (NGD-1, 2106).
47. Terracotta: short, truncated pear-shaped, circular bead. From a late level of Period I (NGD-1, 1000).
48. Terracotta: standard, truncated, biconal, circular bead with a discontinuous decorative band of ochre on the edge. The ochre has mostly disappeared. From the earliest level of Period I (NGD-1, 2307).
49. Terracotta: short, concave, circular, disc shaped bead. From a late level of Period III. (NGD-1, 743).
50. Terracotta: short, truncated, pear-shaped, circular bead. From a late level of Period I (NGD-1, 2042).
51. Terracotta: long, vase-shaped, circular bead. From an early level of Period II (NGD-1, 1670).



**NAGDA :- DISTRIBUTION OF BEADS MATERIALWISE  
SHAPEWISE AND PERIODWISE (1)**

Terracotta/shapes											Sand Stone/ Shapes		Carnelian/Shapes					Garnet/shapes	Agate/shapes				steatite/ shapes	
Period	Pear shaped	Bicone	Globular	Cylinder Disc	Barrel Disc	Barrel	Spherical	Concave Disc	Vase shaped	Cylinder Circular	Globular	Barrel Disc	Barrel	Bicone	Plano-convex	Bicone square faceted	Globular	Hexagonal	Bicone	Bicone	Cylindrical	Barrel	Cylinder Disc	Globular
I	6	15	3	1	1	-	-	-	-	-	3	1	1	-	-	-	-	-	-	-	-	1	2	1
II	5	2	-	-	-	-	-	-	3	2	-	-	-	3	-	-	-	-	-	-	-	1	-	-
III	3	4	-	-	-	3	1	1	-	-	-	-	-	7	1	1	1	1	1	1	1	1	-	-
Unstratified																								

Unstratified

**NAGDA :- DISTRIBUTION OF BEADS MATERIALWISE  
SHAPEWISE AND PERIODWISE (2)**

Dyke/ shape	Jade/shape			Chalcedony/ shapes	Yellow Crystal/shapes	Jasper/shapes	quartz/shapes	Crystal / shapes	Glass/ shapes	Coral/ shapes	Bone/ shapes	Shell	Ivory shapes	Gold/shapes	Iron/shapes						
Globular	Bicone	Barrel	Rectangular	Convex	Bicone Dia- mond Cut	Barrel	Bicone Square	Bicone Hexagonal	Cylindrical Hexagonal	Cylindrical Circular	Cylindrical	Barrel	Barrel	Collared Barrel	Bottle Shaped		Barrel	Amalaka	Segmented Cylindrical	Barrel Circular	Total
1	1	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40
-	3	-	1	-	-	-	-	-	-	-	-	1	1	1	-	1	1	3	-	-	28
-	-	-	-	1	1	-	2	1	1	1	1	-	-	2	2	2	-	-	1	1	42
											Total No. of Beads 110										

Total = 110



### 3. BANGLES

Bangles, which have been one of the oldest modes of decorating the human form, were represented at Nagda in shell, lacquer, glass, ivory, copper and iron, but were comparatively in a much smaller number than beads. There is evidence, however, of the local manufacture of shell and ivory bangles, in the form of pieces of discards or waste fragments, including, in the case of shell, the columella, from Period I and Period III, respectively. In all 36 bangles were found of which 4 were from Period I, 13 from Period II and 19 from Period III. The material-wise and periodwise distribution of the bangles is given in the table below.

Fig. 59

1. Shell: fragment of a bangle, flat hexagonal in section. From a late level of Period I (NGD-1, 1014).
2. Shell: fragment, rhomboid in section. From a mid-level of Period I (NGD-1, 1656).
3. Lacquer: fragment, with a metal chain fixed into the exterior flat top, rectangular in section. From a late level of Period I (NGD-1, 1800).
4. Shell: fragment, roughly rectangular in section. From an early level of Period II (NGD-1, 1119).
5. Shell: fragment, double-convex in section with a groove on one side. From a late level of Period II (NGD-1, 1277).
6. Shell: fragment, roughly trapezoid in section with a notched pattern on the outer rim. From an early level of Period II (NGD-1, 975).
7. Shell: fragment, roughly rectangular in section. From an early level of Period II (NGD-1, 456).
8. Glass: fragment, triangular in section (light-greenish shade). From an early level of Period II (NGD-1, 1977).
9. Shell: fragment, roughly rectangular in section. From an early level of Period III (NGD-1, 1896).
10. Shell: fragment, plano-concave in section with one edge wider than the other. Its broad strip suggests its use as a bracelet. From a late level of Period III (NGD-1, 97).
11. Ivory: fragment of a thick bangle of rectangular cross-section. Unfinished. From an early level of Period III (NGD-1, 777).
12. Shell: fragment, roughly rectangular in section. From a mid-level of Period III (NGD-1, 577).
13. Copper: complete bangle, plano-convex in section. Diameter 1.41 in. (3.6 cm.), thickness 0.15 in. (4 mm.). The large size would point to the sturdy build of the female who used it. It might have been used as an armlet as well. From an early level of Period III (NGD-1, 1181).
14. Copper: fragment, round in section. From a mid-level of Period III (NGD-1, 1023).

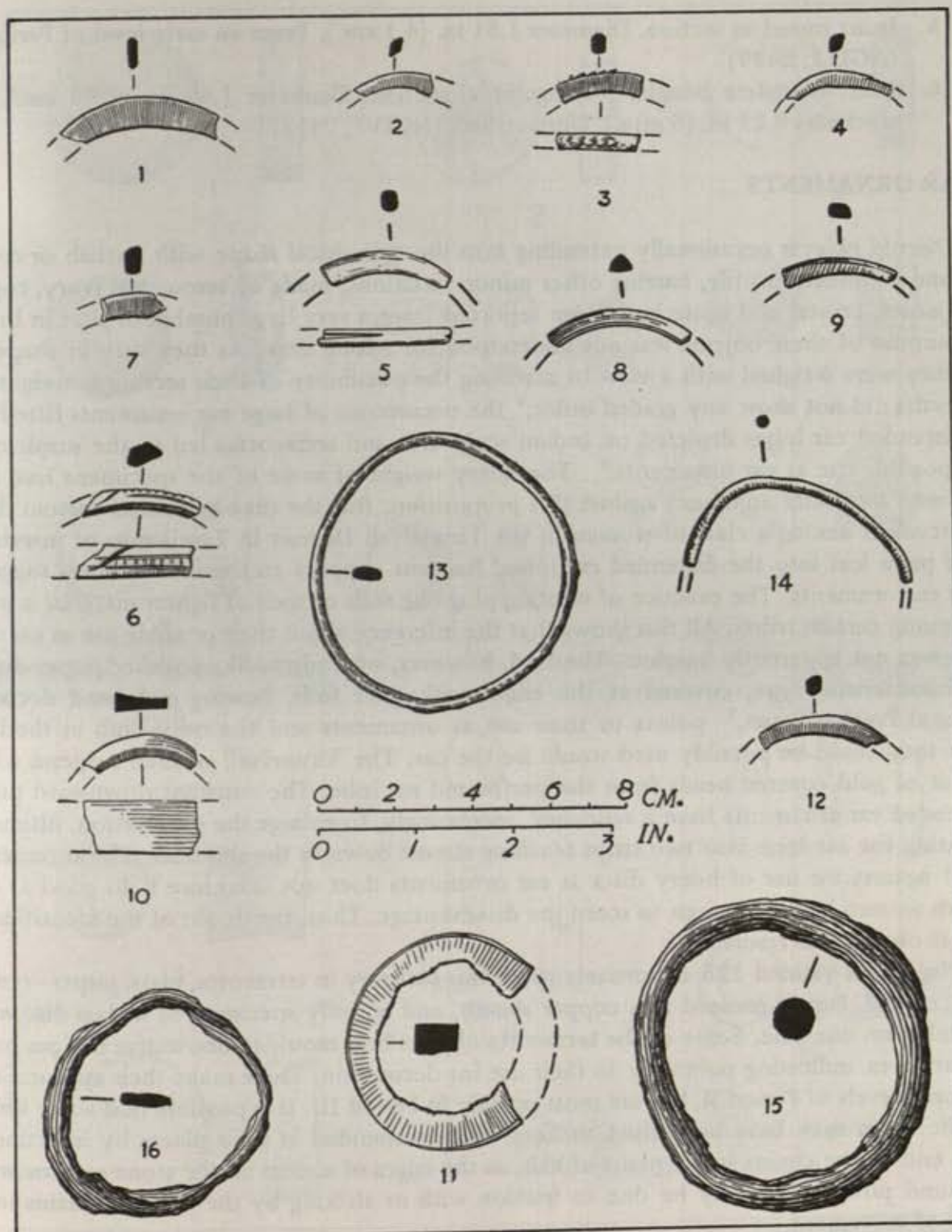


Fig.59. Bangles: 1-3, Period I; 4-8, Period II; 9-15, Period III; 16, unstratified.



15. Iron: round in section. Diameter 1.61 in. (4.1 cm.). From an early level of Period III (NGD-1, 2429).
16. Iron: complete bangle, rectangular in section. Diameter 1.41 in. (2.93 cm.), and thickness 0.23 in. (6 mm.). Unstratified. (NGD-1, 2414).

#### 4. EAR ORNAMENTS

Discoid objects occasionally extending into the cylindrical shape with flattish or convex ends and a concave profile, barring other minor variations, made of terracotta, ivory, copper, glass, jasper, crystal and agate have been reported from a very large number of sites in India.<sup>3</sup> The purpose of these objects was not understood for a long time. As they vary in shape and size, they were weighed with a view to assessing the possibility of their serving as weights. As the results did not show any graded order,<sup>4</sup> the occurrence of large ear ornaments fitted into the distended ear lobes depicted on Indian sculptures and terracottas led to the suspicion of their possible use as ear ornaments.<sup>5</sup> The heavy weight of some of the specimens has, however, been a counter argument against this proposition. But the time-honoured custom that is still prevalent among a class of women in the Tirunelveli District in Tamilnadu of inserting a roll of palm leaf into the distended ear lobes<sup>6</sup> has lent support to the idea of their suggested use as ear ornaments. The practice of wearing plug-like rolls or reels of lighter material is prevalent among certain tribes. All this shows that the inference about their possible use as ear ornaments was not apparently baseless. The find, however, of a mirror-like polished jasper disc, of the characteristic type, covered at the edges with gold foils, bearing embossed decorated designs at Prabhas Patan,<sup>7</sup> points to their use as ornaments and the only limb in the body where they could be possibly used would be the ear. The Tirunelveli women suspend a large number of gold covered beads from the perforated ear lobe. The constant downward pull of the beaded ear ornaments have a tendency, increasingly, to enlarge the perforation, ultimately separating the ear lobe into two strips reaching almost down to the shoulder. The argument of weight against the use of heavy discs as ear ornaments does not therefore hold good as even modern women have been seen to scorn the disadvantage. Thus, the doubt of the identification of these objects was resolved.

Nagda has yielded 125 ear ornaments of this category in terracotta, glass, jasper—red and black, crystal, laquer encased in a copper sheath, and an only specimen of a glass disc with a shell inlay on one side. Some of the terracotta objects bear moulded decorative designs on the circular faces, indicating pointedly to their use for decoration. These make their appearance in the upper levels of Period II, but are most prolific in Period III. It is possible that some kind of metallic chain may have been used to keep them suspended in their places by inserting the upper end of the chains in the plaits of hair, as the edges of almost all the stone ear ornaments are found pitted. This may be due to friction with or striking by the metallic chains in the course of movement.

The specimens of discoid ear ornaments made of stone were extremely well-finished with a brilliant polish, and this feature has led to their description as mirror-like polished discs.



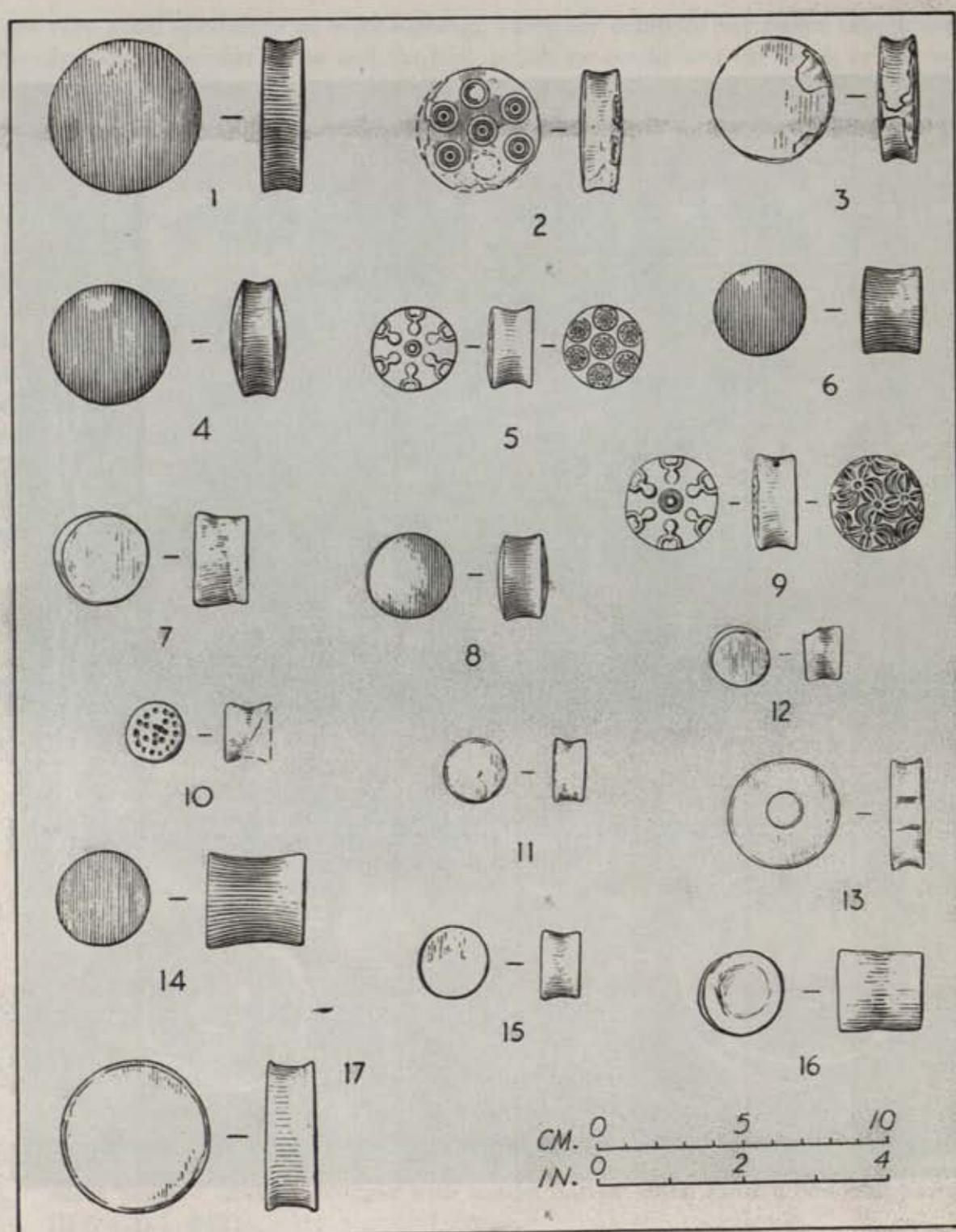
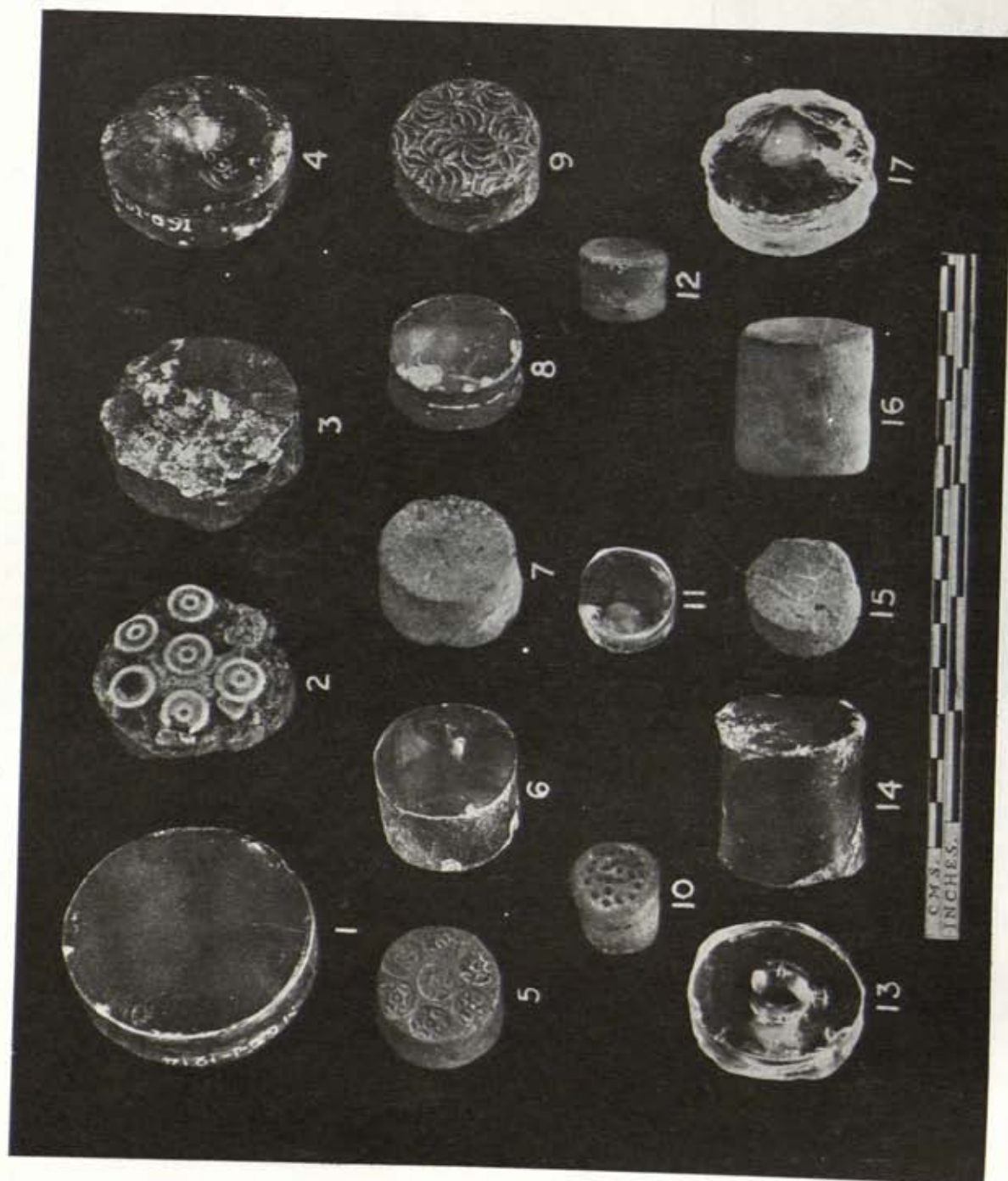


Fig. 60. Ear ornaments: 2, 4, 7, Period II; 1, 3, 5, 6, 8-17, Period III.





XXV. Nagda : Ear ornaments, Periods I-III.

These are very good specimens of workmanship, being the result of very great care in execution. The absolutely circular shape and the high polish no doubt was the result of the use of some kind of lathe which would mark a commendable advance in technology. This is also further indicated by the occurrence of a few unfinished discs of agate with absolutely rounded profile and unfinished edges. Good evidence of the manufacture of ear ornaments has, however, been obtained in the author's excavations at Ujjain, where the prepared and chipped rough-out of an ear ornament has indicated the process of manufacture. Thin chips were first removed from the core or lump of stone, leaving scarred surfaces on the core, which consequently obtained very nearly the rough outline of the disc. The waste flakes, which have been found in association, show, indeed, prominent bulbs of percussion, but the edges are untrimmed and extra thin, giving the story away. The evidence of the manufacture<sup>8</sup> of beads in Ujjain has indicated the use of sandstone slabs for grinding purposes and they in consequence are marked with deep grooves. It is not unlikely that the same material may have been used for grinding and polishing the ear ornaments also with an additional abrasive powder.

The use of different materials for the ear ornaments do indeed show difference in tastes, but the ones of terracotta could not but have been adopted and used by the poorer section of the population. They also indicate, therefore, differences in economic status in the society.

Fig. 60 and Pl. XXV

1. Black jasper : Circular, concave with flattish sides. Highly polished. From an early level of Period III (NGD-1, 1214).
2. Bluish glass with whitish exterior : circular, concave with convex sides. Decorated on one side with shell inlay work in the form of seven concentric circles (one missing) symmetrically arranged. It is a fine specimen, which confirms its use as a decorative piece of ornament, inferably of the ear. It speaks of a fastidious taste. From a late level of Period II (NGD-1, 1233)
3. Lacquer encased in a copper sheath : circular, concave, with slightly convex sides. The colour of the lacquer inside is yellow. From a late level of Period III (NGD-1, 443).
4. Black jasper : circular, concave with convex sides. From a late level of Period II (NGD-1, 691).
5. Terracotta : circular, concave, with slightly convex sides. It is a moulded ear ornament, decorated on both sides. On one side are star-shaped designs, each enclosed within a circle, and on the other, six taurine symbols around a small circle at the centre. From a mid-level of Period III (NGD-1, 210).
6. Black jasper : circular, concave with almost flattish sides. From a late level of Period III (NGD-1, 842).
7. Terracotta : circular, concave with flat sides. From a late level of Period II (NGD-1, 1305).



## NAGDA : EAR ORNAMENTS

PERIOD	Terracotta plain	Terracotta decorated	Red Jasper	Black Jasper	Crystal	Glass	Green Glass	Decorated Glass	Lacquered with Copper coating
I	1	1	1	1	1	1	1	1	1
II	5	1	1	7	1	1	1	1	1
III	83	2	2	15	4	2	1	1	1

Grand Total = 125

8. Red jasper : circular, concave, with convex sides, well-polished. From a late level of Period III (NGD-1, 576).
9. Terracotta : circular, concave with slightly convex sides. It is a moulded ear ornament. In the concavity a small perforation is noticed. It is hollow inside and gives a rattling sound owing to the presence of a small stones or grains of terracotta globules inside. Both its sides are well decorated. On one side it has an exquisite floral design and on the other, six taurine symbols shown around a central circle. From a mid-level of Period III (NGD-1, 990).
10. Terracotta : circular, concave, with flattish sides. One side is decorated with pricked perforations and the other side is damaged. From a late level of Period III (NGD-1, 277).
11. Crystal : circular, concave with slightly convex sides. From a mid-level of Period III (NGD-1, 841).
12. Terracotta : circular, concave with almost flattish sides. From a mid-level of Period III (NGD-1, 1676).
13. Crystal : circular, concave with slightly convex sides and well polished. It has a circular perforation of approximately .5 in. (1.27 cm.) wide diameter at the centre giving it the appearance of a pulley. A similar perforated specimen is available in green glass. From a late level of Period III (NGD-1, 419).
14. Red jasper : Circular, concave with flat sides. It is cylindrical in profile. From a late level of Period III (NGD-1, 372).
15. Terracotta : circular, concave, with flat sides. From a late level of Period III (NGD-1, 8).
16. Terracotta : circular, very slightly concave and cylindrical in profile. From a late level of Period III (NGD-1, 118).
17. Glass : circular, concave with almost flattish sides. From a late level of Period III (NGD-1, 432).

## 5. TERRACOTTA OBJECTS

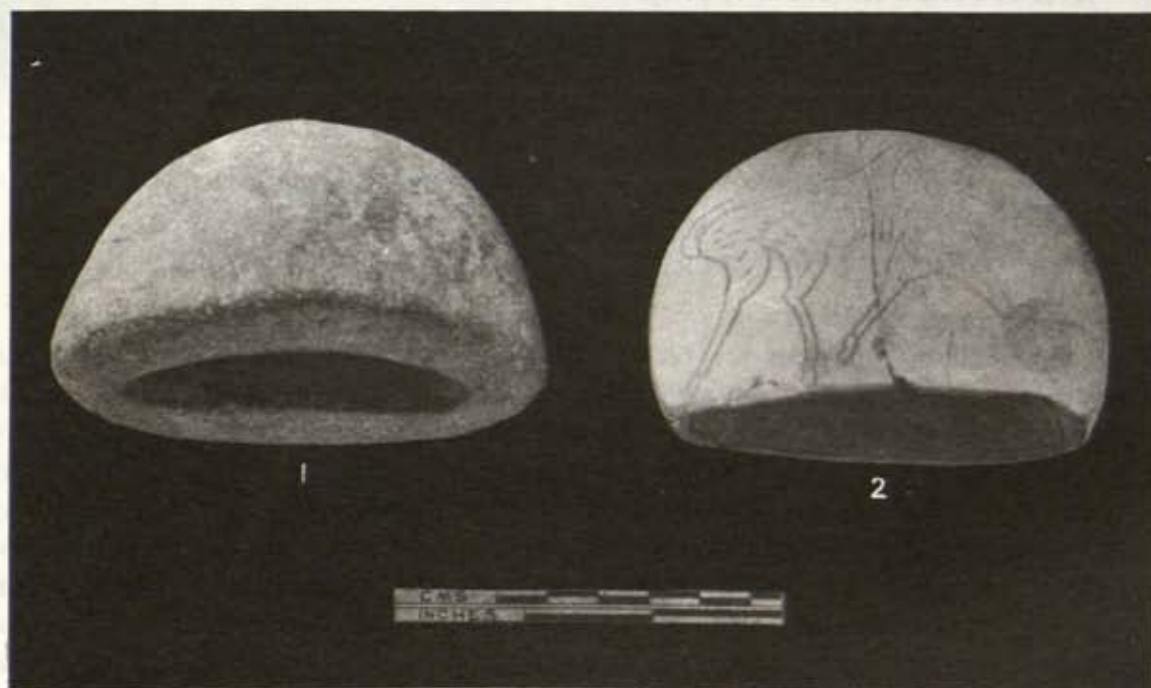
### (i) Terracotta Human Figurines

Terracotta human figurines are rather rare at Nagda, only two objects being retrieved by the excavations. One each was yielded by Periods I and II. They are, however, of outstanding interest and importance, not merely because of a very distinctive shape, namely, of the violin, but also because of their rarity in India and the availability of prototypes in terracotta in the neolithic level of Knossos, Crete, in the Mediterranean region, as also in Khafaje and Arpachiya, and Persepolis in Iran, as a reflective trait of the neolithic culture. In view, particularly, of the adduced parallels in general between ancient Iran and the post-Harappan chalcolithic cultures of west-central India, the phenomenon assumes some added measure of interest and importance. They arise from their bearing on chronological considerations on the one hand and the possible source of inspiration and directional trends on the other, unless it is attributed to a local source of emergence by protagonists of anti-diffusionism. Nevertheless, though there is a yawning gap, both in space and chronology, between the





XXVI A. Nagda: Terracotta human figurines.



XXVI B. Nagda : Terracotta hair scratchers, Period III.

Iranian specimens, the nearest foreign parallels, and the Nagda specimens, the morphological similarity of the Indian and Iranian figurine is unmistakable.

E. Herzfeld<sup>9</sup> was inclined to identify the western figures as a 'mother goddess'. The material characteristics of prominent, if not protuberant breasts and wide and ample hips have been shown very prominently in one. In the intact Nagda specimen, even the genitalia have been suggestively indicated. Whether or not these terracottas served the same presumed, though by no means proven, purpose as their western counterparts and temporal predecessors cannot be vouched for.

The find of one such specimen in terracotta, plain and unmarked by any other feature, on the surface at Bilawadi<sup>10</sup> in District Dewas, Madhya Pradesh, not very far from Nagda, along with chalcolithic pottery and microliths indicates that the phenomenon, though rare, was not isolated, and had a comparatively wide distribution at least in the Malwa region.

In retrospect one is tempted to include the comparatively larger terracotta female figurine found in the chalcolithic levels at Nevasa, delineating the semblance of an imprecise head, short, stumpy but conical arms spread out on the sides in the same manner, the incipiently prominent breasts, a pronouncedly deep navel, a dignified tall body and suggestively rounded (and inferably legless) base within the category of the violin-shaped terracotta female figurines of Malwa. Near comparable specimens, though somewhat cruder, have also been found in nearby Ujjain in the same cultural-chronological horizons (Period II) as in Nagda, though at a later date than their earliest days in Nagda. The Ujjain specimens may indicate the sustained popularity and continuity of the tradition. Gordon Childe has also noticed the striking phenomenon in the neolithic context of European civilization.<sup>11</sup>

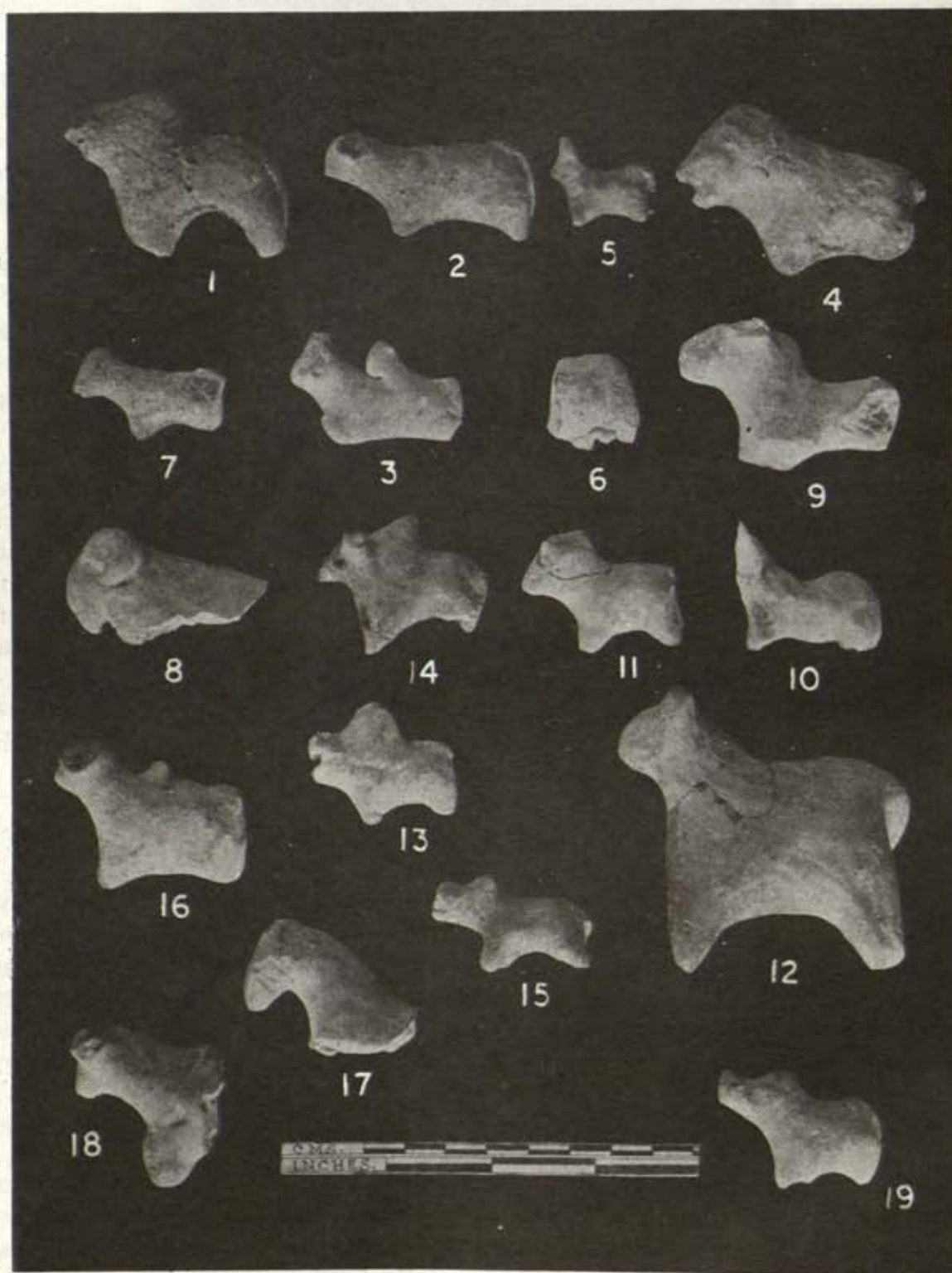
Because of their suggestive shape these figurines from Nagda, Ujjain and Bilawadi are now familiar in archaeological parlance as violin-shaped female figurines with reservations in favour of their identification with the 'mother goddess'.

## PL. XXVI A

1. Violin-shaped stylized terracotta female figurine. The eyes are shown by two oblique incisions on the narrower upper part of the figure serving as neck and head. The mouth is pinched up. The neck is distinguished from the torso by two slanting grooves. The breasts are prominently shown. The arms are stunted and are in the form of two short conical projections on the sides. The waist is attenuated and thin but the hips widen maternally and the bottom is rounded. The navel is very prominently shown. One horizontal groove below the navel probably represents the girdle, and it appears as though there is an endeavour to point to the genitalia by two grooves running diagonally across the abdomen and meeting at a deep depression below the navel. Height 2.9 in. (7.4 cm.). From an early level of Period II (NGD-1, 1450)

2. Fragment of a similar female figurine as specimen no. 1. The figure is unfortunately broken below the arms, but shows enough in the form of the notches on long slits for the eyes, the stunted and protruding arms in the same manner as in no. 1, besides the breasts to point to its similarity with the intact specimen. Its stratigraphical position brings it into





XXVII. Nagda: Terracotta animal figurines.

the chalcolithic horizon in the Indian context, and therein lies its importances. Extant ht. 1.65 in. (4.2 cm.). From a late level of Period I (NGD-3, 32).

## (ii) Animal Figurines

Thirty-five terracotta animal figurines have been discovered. Out of these seven belong to Period I, two to Period II and twenty-six to Period III. The animals fall into the categories of humped bull, cow, goat, horse, ram, dog, lion, fox, etc. The figurines are all modelled, with the exception of one from Period III. The terracottas are generally grey or slightly reddish in colour with an occasional exception, where it turns to reddish as in the case of the rams from Period III.

### Fig. 61 and Pl. XXVII

1. High-humped bull with drooping tail. Legs and head are damaged. From a late level of Period III (NGD-1, 909).
2. Figure of a cow or bull with small legs. The horns and hump are damaged. The mouth is also slightly damaged. The tail is very characteristic and droops down. From a late level of Period I (NGD-1, 2163).
3. Humped, seated bull. Very crudely modelled. One of the horns is broken. Only the front legs are shown in the crouched position. A little lump at the back indicates the tail. From an early level of Period I (NGD-1, 1696).
4. Figure of a lion with an open mouth. The manes over the shoulder or neck are very crudely depicted. Its small tail is applied to the body. The legs have been shown as mere protrusions. From a late level of Period I (NGD-1, 2241).
5. Small figure of fox with prick-ears and bushy tail and small pointed mouth. From a lower level of Period II (NGD-1, 1757).
6. Hind portion of a cow, incised tail and short extended hind legs. The udder with teats has been shown prominently. From a late level of Period III (NGD-1, 670).
7. Figure of a sheep with bushy tail (damaged). From a late level of Period III (NGD-1, 1355).
8. Head of a ram with twisted horns. From mid-level of Period III (NGD-1, 2404).
9. Figure of a horned ram with a protrusion at the nape of the neck. May be mistaken for a bull. From a late level of Period III (NGD-2, 8).
10. Figure of a bull with prominent hump but no horns. The sturdiness of the hind part is suggestive of its being a bull rather than a cow. From a late level of Period III (NGD-2, 10).
11. Figure apparently of a dog with short legs and prick-ears. Tail broken. From a lower level of Period I (NGD-1, 1186).
12. Figure of an unidentifiable animal with protrusions on head which might be horns as well as ears. Moulded and hollow inside. Only one side is available as though longitudinally cut. From an early level of Period III (NGD-1, 800).



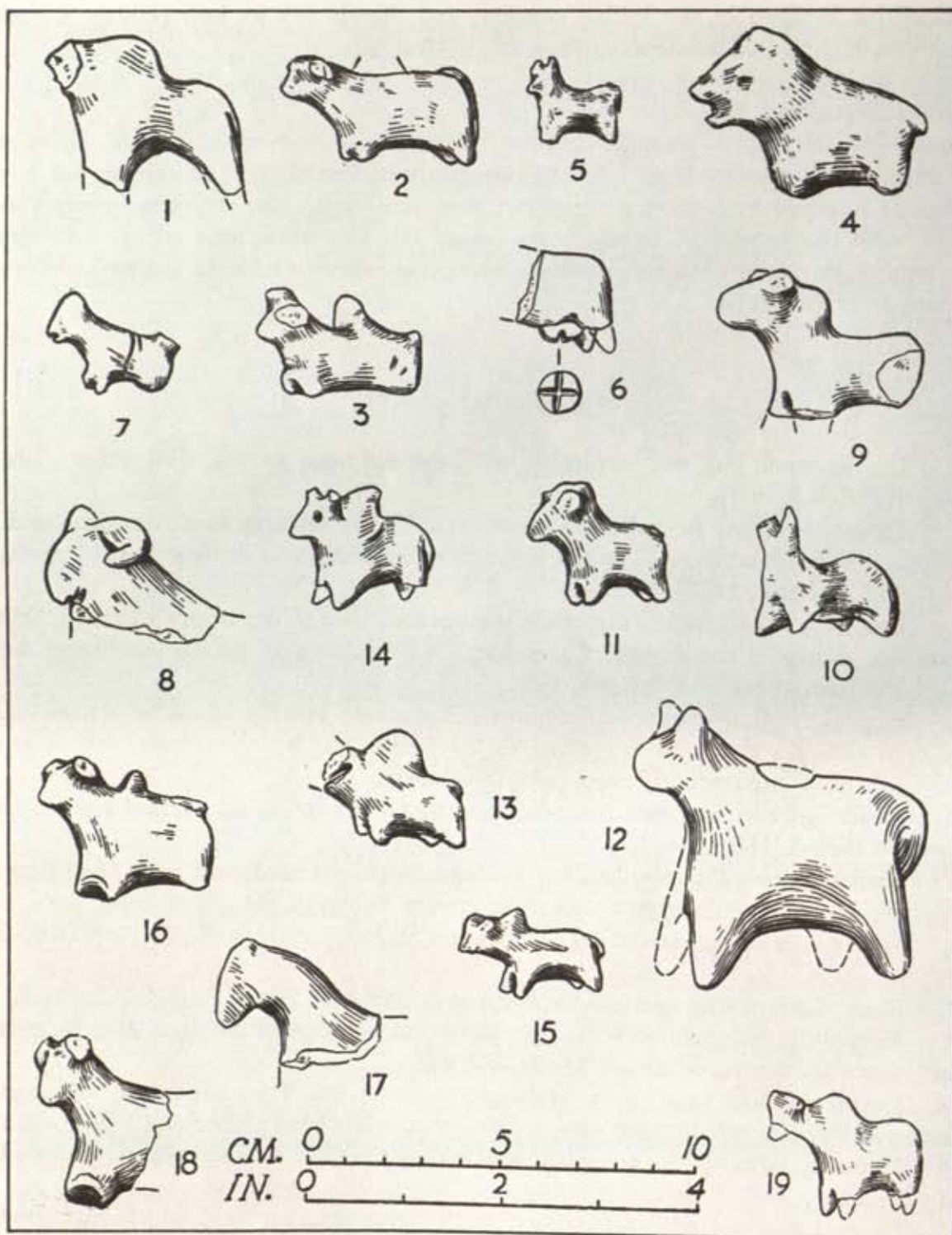


Fig.61. Terracotta animal figurines: 2, 3, 4, 11, 13, 18, Period I; 5, 14, Period II; 6-10, 15-17, 19, Period III.

13. Humped bull with short legs and applied tail, which is twisted. Head broken. Hump is also applied. An obliquely-cut hole runs through the neck or mouth for passing a string. From a late level of Period I (NGD-1, 1420).

14. Very neatly modelled figure of a bull with a prominent hump and horns and a drooping tail. A transverse perforation across the protruding mouth serves the double purpose of eyes and the passage for the string. From a mid-level of Period II (NGD-1, 1810).

15. Humped bull with short legs. Only the heel of the tail is available. Horns are broken and its mouth is damaged. From a late level of Period III (NGD-1, 92).

16. Humped bull with horns and legs; with applied tail and hump. From a late level of Period III (NGD-1, 2162).

17. Head with a long neck identified tentatively as of a horse. From a late level of Period III (NGD-1, 638).

18. Figure of a horned animal. The forelegs alone are available. The body and hind portion are missing. Just above the forelegs on the mutilated body is an incised design. From a mid-level of Period I (NGD-1, 1444).

19. Figure of a high-humped bull. Only fore-legs are available. Damaged. From a mid-level of Period III (NGD-3, 35).

### (iii) Hair Scratchers

Only three specimens of hollow terracotta objects, which are shaped like a pouch and generally described as hair scratchers, were recovered from the excavations at Nagda. These have also been widely distributed in of varying chronological levels and occur at Taxila,<sup>1 2</sup> Ropar, Hastinapura, Ahichchhatra, Kausambi, Ujjain, Timbarva. Bahal Nasik and Ukhliina (Alamgirpur).

### Pl. XXVI B

1. Hair scratcher, thick and unslipped and has a pre-firing aperture at the apex of the semi-circular hollow or dome. It bears a legend of four letters on its ridge. Only three of the letters are readable. The legend is *kha ka va* in the Brahmi script of the early 2nd century B.C. The lower face rim seems to be rendered concave in profile as though by rubbing, and this alone could point to the purpose for which this kind of object may have been used. From the roughness of their feel and the sturdiness of their form it may perhaps be presumed that they were also employed for rubbing or for massaging the skin of domestic animals. From a late level of Period III (NGD-1, 1570).

2. Hair scratcher. The figure of a spotted deer, engraved before firing, occurs on the two exterior sides of the hollow object. From a mid-level of Period III (NGD-1, 650).

A perforation through its dome seems to have been made with reason and can be expected to have served the purpose of passing a thread through so that it might be held with fingers to prevent it from slipping away during its use, which could not but be vigorous. The object was made of terracotta and was, therefore, brittle. Hence perhaps was the precaution in



the form of the functional hole, but this was not absolutely essential as many of the hollow objects found elsewhere not have the perforation through the dome.

#### (iv) Skin Rubbers

The excavations at Nagda have yielded eighteen skin rubbers, all from Period III. These are rectangular tablets with rounded corners and variously incised or notched faces. The edges are plain. Rounded grit of uniform sizes have been freely mixed with the clay to impart to it additional roughness. The two flattish sides have indeed been incised variously, but uniformly to form patterns as it were. According to the shapes of the incised notches, these can be divided into five main groups as follows:-

- (a) a pattern of chevrons arranged in five rows,
- (b) horizontal peckings, arranged in six rows,
- (c) deep longitudinal incisions,
- (d) honeycomb patterns and
- (e) five rows of notches arranged in herring bone pattern.

It may be noted that, besides being functional, the notches on the tablets were arranged with an eye on a decorative pattern and symmetry.

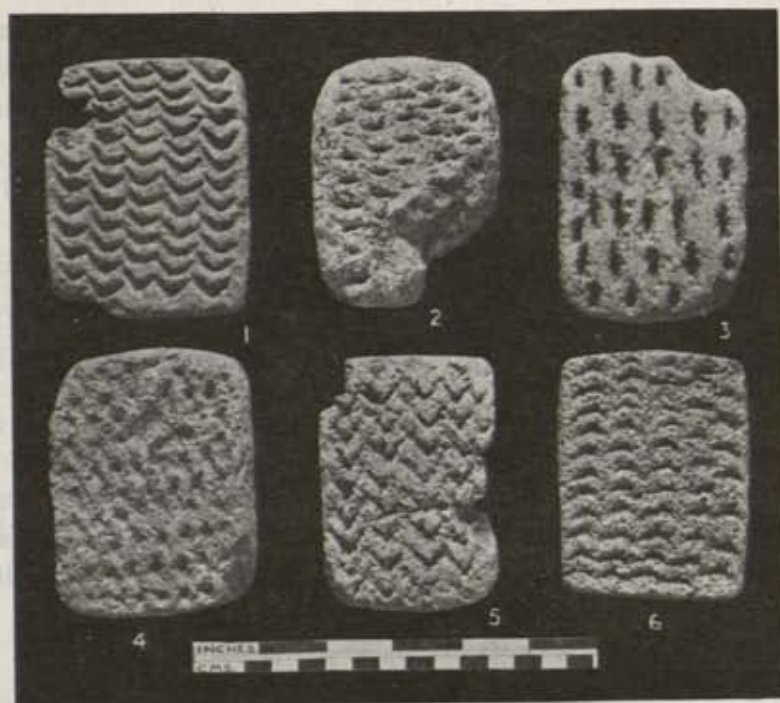
The use of skin rubbers seems to have been in vogue in very early times, as skin rubbers have been noticed even in the Harappa culture.<sup>13</sup> Made both of stone as well as terracotta skin rubbers seem to be widely distributed and occur at Bhir Mound and Sirkap (Taxila), Ropar, Hastinapura, Ahichchhatra, Kausambi, Bhita, Nagda, Maheshwar, Ujjain, Sambhar, Besnagar, Sanchi, Karad, Tripuri, Bahal, Nevasa, and Nasik.<sup>14</sup> Dikshit in this connection says, "In Indian literature this object is styled at Kataka. *Chullavagga*, V. 22, refers to earthenware of foot scrubbers, the use of which was forbidden by the Buddha; instead, the Bhikkhus were ordained to use rough objects like sakkhara (sandstone), kathala (gravel), and samudda-fenaka (sea foam). V.S. Agrawala kindly informs me that the word Kataka is to be derived from kritaka (artificially made). In medical literature Kataka is a synonym for nirmali and Krishtha, both being used as cleaners. The old meaning of the Pali word kataka seems to have been preserved in the Sanskrit rendering".<sup>15</sup>

Deo reports that the earliest specimens of skin rubbers were found in the cemetery at Kish.<sup>16</sup> They were of course made of sandstone. The skin rubbers are even now in vogue and go by its Hindi name of '*jhāwāñ*'. These are available in a large variety of shapes in most north Indian markets as articles of toilet of daily use to this day.

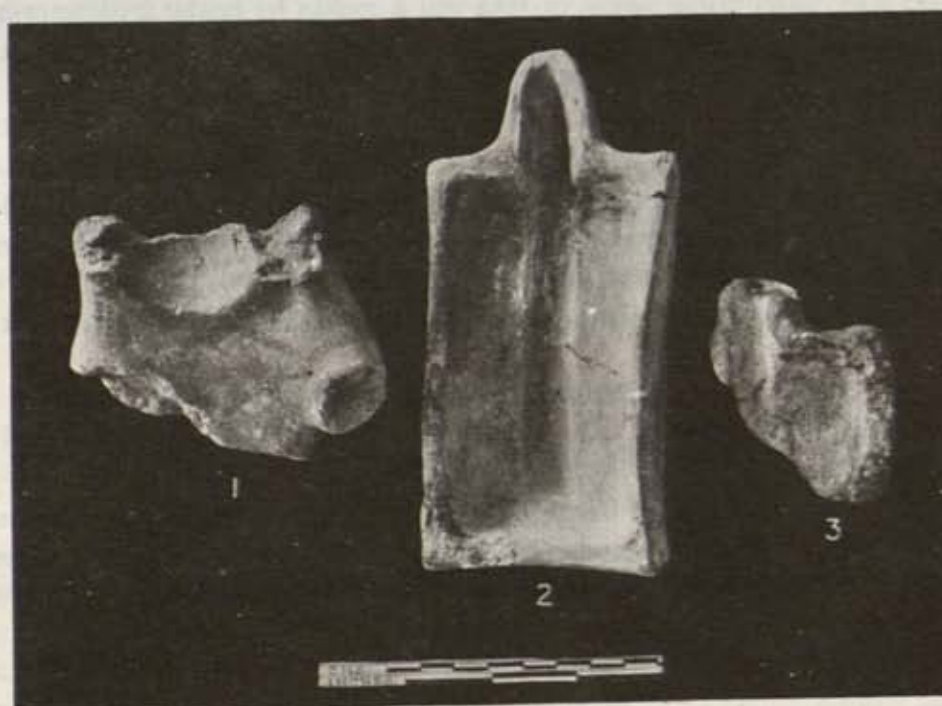
#### Pl. XXVIII A

1. Complete skin rubber, rectangular in shape having regular chevrons incised on both the sides in five rows. It is a solitary skin rubber with a red slip on it. Length 3.81 in. (9.7 cm.), width 3.11 in. (7.9 cm.), thickness 0.62 in. (1.6 cm.). From a mid-level of Period III (NGD-1, 529).

2. Rectangular skin rubber, damaged. It has six rows of small horizontal peckings



XXVIII A. Nagda: Terracotta skin rubbers.



XXVIII B. Nagda: Terracotta votive lamps.



incised on both the sides. Length 3.58 in. (9.1 cm.), width 2.71 in. (6.9 cm.), thickness 1.14 in. (2.9 cm.). From a late level of Period III (NGD-1, 158).

3. Rectangular skin rubber, almost complete with deep vertical incisions on both the sides. Rounding on all the four corners may be due to constant use. Length 3.97 in. (10.1 cm.), width 2.75 in. (7 cm.), thickness 0.70 in. (1.8 cm.). From an early level of Period III (NGD-1, 535).

4. Rectangular skin rubber with a very rough surface and honeycomb pattern on both the sides. Length 3.89 in. (9.9 cm.), width 3.03 in. (7.6 cm.), thickness 0.94 in. (2.4 cm.). From a late level of Period III (NGD-1, 818).

5. Rectangular skin rubber with a rough surface and five rows of notches arranged in herring bone pattern. Length 3.75 in. (9.5 cm.), width 2.51 in. (6.4 cm.), thickness 0.82 in. (2.1 cm.). From a mid-level of Period III (NGD-1, 322).

6. Rectangular skin rubber with a very rough surface and incised pattern of chevrons with less pronounced notches and angularities. It is a *variant* of no. 1. Length 3.62 in. (9.2 cm.), width 2.71 in. (6.9 cm.), thickness 0.86 in. (2.2 cm.). From a mid-level of Period III (NGD-1, 1476).

#### (v) Votive Lamps and Tanks

A number of terracotta lamps, used presumably in connection with religious worship, are described as votive lamps.

### Pl. XXVIII B

1. A red ware object, slipped and painted, to serve possibly as a contraption of multiple votive lamps. Badly damaged and, therefore, reconstruction of original shape is not possible. Unstratified (NGD-1, 2409).

2. A rectangular lipped lamp with a deep groove inside. From an early level of Period II (NGD-1, 2408).

3. Fragment of a votive tank. From a late level of Period I (NGD-1, 2410).

#### (vi) Perforated Wheels

Forty-six terracotta wheels have been found from different levels. The majority of these wheels were made out of broken potsherds by smoothening the edges. A survey of these wheels suggests the following classification:-

- (a) perforated wheels made out of potsherds,
- (b) perforated wheels modelled by hand, and
- (c) spindle whorls.

The wheels were used possibly as playing discs by the children except those of the third

category, which were reasonably used as spindle whorls in the spinning of yarn for textiles. The Period-wise distribution of the different categories of wheels is indicated below:-

Period	Perforated wheels made of potsherds	Perforated wheels modelled	Spindle whorls modelled
I	14	—	1
II	10	—	2
III	22	3	3

Perforated wheels made from potsherds vary in diameter as follows:-

2.95 in. (7.5 cm.), 1.95 in. (5 cm.), 1.49 in., (3.8 cm.), 0.82 in. (2.1 cm.), 0.62 in. (1.6 cm.), 0.51 in. (1.3 cm.).

#### Pl. XXX A

1. Wheel made from a potsherd, irregularly dressed and made roughly circular, 2.95 in. (7.5 cm.) in diameter. The perforation has a diameter of 0.11 in. (3 cm.). From a mid-level of Period I (NGD-1, 2037).

2. Hand-modelled wheel of either a toy cart or some other children's contraption of like nature. Double convex circular. Diameter 2.55 in. (6.5 cm.). From a late level of Period III (NGD-1, 88).

3. Double convex fragment of a terracotta wheel of toy cart. Modelled. From a mid-level of Period III (NGD-1, 1791).

4. Double convex whorl with fine circular edge. From an early level of Period II (NGD-1 1126).

In all the five examples of the whorls it has been noticed that the circular edge is very smooth and has no mark of friction, which would be expected if they had been used as wheels in toy carts.

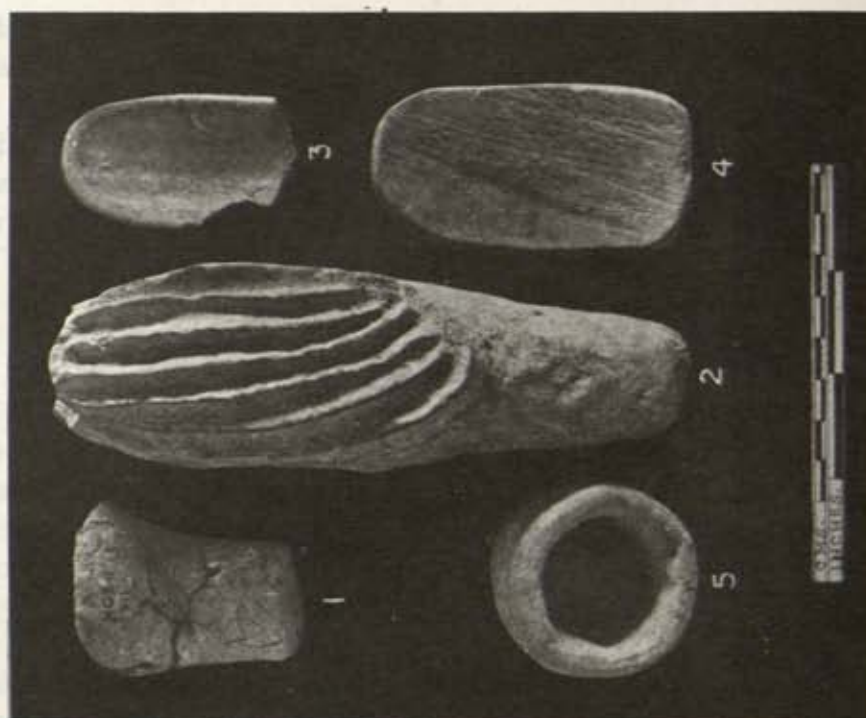
#### (vii) Hopscotches

#### Pl. XXX A

Forty-nine terracotta hopscotches have been found. These have all been made from potsherds which are well-rounded. These were possibly used by children in a game of hop and win. Period I yielded 2, Period II, 17, and Period III, 30, respectively.

The biggest has a diameter of 3.22 in. (8.2 cm.), and the smallest has a diameter of 0.47 in. (1.2 cm.). Some of those are very well-rounded. The shapes are plano-convex, double convex, concavo-convex and with flat sides. The following specimens are worthy of notice:

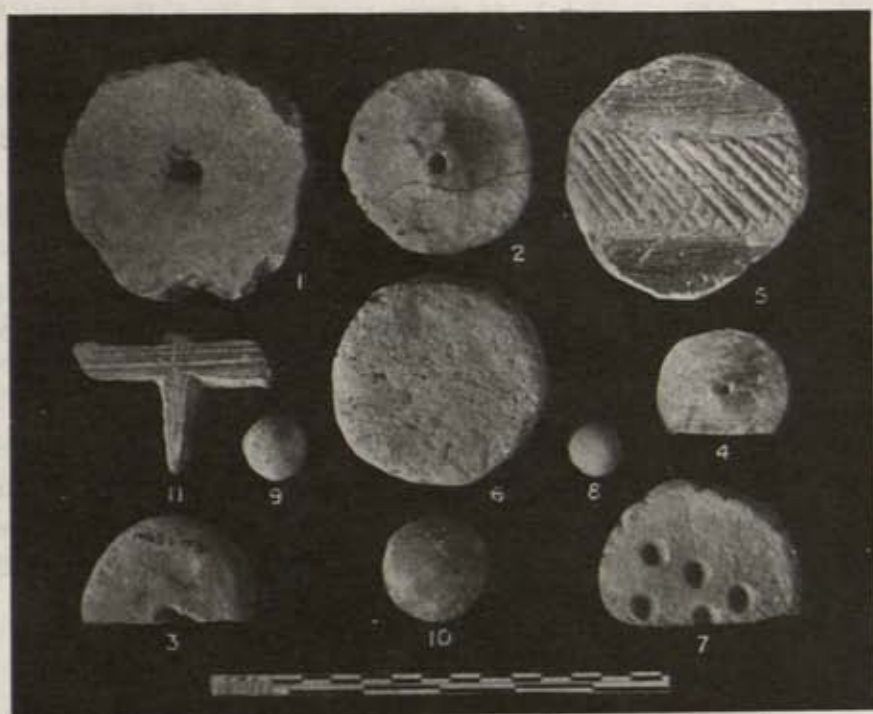




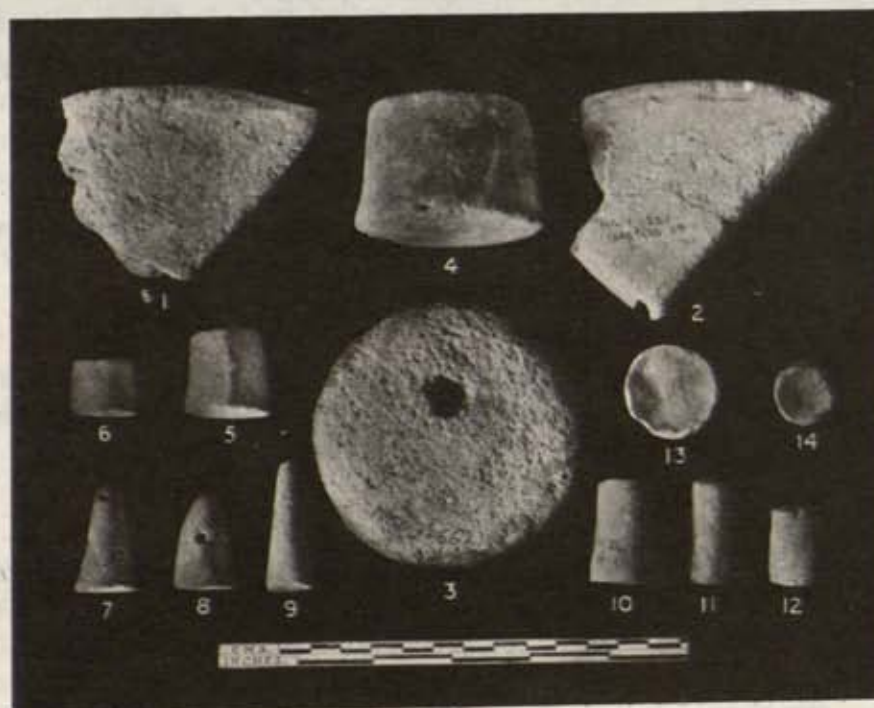
XXIX B. Nagda: Terracotta potters' implements.



XXIX A. Nagda: Terracotta inscribed ball.



XXX A. Nagda: terracotta wheels, hopscotches, balls, and bird.



XXX B. Nagda: Miscellaneous terracotta objects.



## Pl. XXX A

5. Hopscotch made out of a potsherd which had red slip and an incised criss-cross pattern on it. Diameter 3.2 in. (8.2 cm.). Concavo-convex in shape. From a late level of Period I (NGD-1, 1021).

6. Hopscotch with flat sides. Diameter 2.59 in. (6.9 cm.). From a mid-level of Period III (NGD-1, 946).

7. Hopscotch, plano-convex, circular and modelled. The convex surface has punched circlets on it. Diameter 2.59 in. (6.9 cm.). From a mid-level of Period III (NGD-1, 1660).

## (viii) Balls and Bird

As many as twelve terracotta solid balls have been found. Of these five occur in Period I and seven in Period III. One of these is inscribed and has been found from the upper levels of Period III. These are very well-fired and one is also treated with a red slip. The unslipped ones might have been used by children for playing as marbles. The diameter of these range from 1.45 in. (3.7 cm.) to 0.74 in. (1.9 cm.).

## Pl. XXX A

8. Ball. From a late level of Period I (NGD-1, 1616).

9. Ball. From a late level of Period III (NGD-1, 36).

10. Ball. From a mid-level of Period III (NGD-1, 1204).

11. Bird, aero-shaped made out of a potsherd. From a mid-level of Period III (NGD-1, 1872).

## (ix) Inscribed ball

The excavation yielded one terracotta inscribed ball. It was found in two pieces one of which was red, and the other black.

## Pl. XXIX A

Terracotta inscribed ball. The inscription<sup>17</sup> on it in the form of a punched line reads '*Samphena pitam - pam dikhi-tam*'. Diameter 1.49 in. (3.8 cm.). From a late level of Period III (NGD-1, 840).

## (x) Potters' Implements

The potters' implements made of terracotta or potsherds comprise dabbers, decorators and polishers

## Pl. XXIX B

1. Dabber, used by the potter. It is very much damaged. The lower and upper faces are flat. There is a concavity at the centre for the grip. The handle has a diameter of 1.03 in.

(2.6 cm.), and the lower portion has a diameter of 1.59 in. (3.9 cm.). From a late level of Period III (NGD-1, 511).

2. Decorator, having the shape of a long handled clothes-brush, with the working face marked with a ribbed pattern. It was obviously used for decorating pottery. Length 6.06 in. (15.4 cm.). From a late level of Period III (NGD-1, 1933).

Four polishers made of terracotta potsherds have been found, their edges being smoothed in the course of polishing. Two are from Period I and two from Period II.

3. Polisher, upper surface with a concavity due to constant use. Length 2.20 in. (5.6 cm.), width 1.33 in. (3.4 cm.). From a late level of Period I (NGD-1, 1825).

4. Polisher, upper surface with a concavity due to constant use. Length 3.07 in. (7.8 cm.), width 2.36 in. (6 cm.). From a late level of Period I (NGD-1, 1706).

5. Terracotta socket-like ring of 1.11 in. (4.5 cm.) diameter. Purpose indeterminate. From a late level of Period II (NGD-3, 25).

#### (xi) Miscellaneous Terracotta Objects

##### Pl. XXX B

#### (a) Quadrants and Discs

1. Terracotta quadrant-shaped cake. The purpose is indeterminate. Radius 3.03 in. (7.7 cm.). From a late level of Period III (NGD-1, 2412).

2. Terracotta quadrant-shaped cake. The purpose is indeterminate. Radius 3.62 in. (9.2 cm.). From an early level of Period II (NGD-1, 1522).

3. Terracotta oval disc with a perforation on one side; might have been used as a pendant for an animal's neck. Diameter 3.46 in. (8.8 cm.). From a late level of Period III (NGD-1, 662).

#### (b) Truncated cones

From the various layers of Period III, 12 terracotta truncated cones have been found. These objects are circular, truncated cones of varying height and diameter. The probable use of these might have been as weights or gamesmen.

##### Pl. XXX B

4. Truncated cone, circular. Diameter 2.36 in. (6 cm.), height 1.57 in. (4 cm.). From a late level of Period III (NGD-1, 1).

5. Truncated cone, circular. Diameter 1.10 in. (2.8 cm.), height 1.02 in. (2.6 cm.). From a mid-level of Period III (NGD-3, 13).

6. Truncated cone, circular. Diameter 0.78 in. (2 cm.), height 0.66 in. (1.7 cm.). From a late level of Period III (NGD-1, 2).



## (c) CONICAL OBJECTS

Ninety-three conical objects of various sizes have been found in all. These vary in diameter and height. A study of these has revealed the following classification:-

(1) conical objects with a perforation at the top. These might have been used as pendants or net sinkers.

(2) conical objects with a perforation at about the centre. These might have been used as net sinkers.

(3) conical objects without perforation. These might have been used as stoppers.

(4) conical objects without perforation but with slight cavity at the top. These might have been used as gamesmen. Their Periodwise distribution is indicated below:-

Period	I	1
Period	II	5
Period	III	87

## Pl. XXX B

7. Conical object, with a lip-shaped top and a transverse perforation across it. Probably used as a pendant. Height 1.37 in. (3.5 cm.), diameter 0.82 in. (2.1 cm.). From a late level of Period III (NGD-1, 1572).

8. Conical object with a lip-shaped top and a horizontal perforation just above the centre, probably used as a net sinker. Height 1.22 in. (3.1 cm.), diameter 0.70 in. (1.3 cm.). From a late level of Period III (NGD-3, 43).

9. Conical object, without perforation, but the top has a little cavity, and was probably used as stopper. Height 1.69 in. (4.3 cm.) and diameter 0.59 in. (1.5 cm.). From a late level of Period III (NGD-1, 615).

10. Conical object, top truncated and with a slight cavity, probably used as a gamesman. Height 1.29 in. (3.3 cm.), and diameter 0.86 in. (2.2 cm.). From a late level of Period III (NGD-1, 377).

## (d) Stoppers

Stoppers have been found only from Period III. These are long-cylindrical in shape.

## Pl. XXX B

11. Stopper. Length 1.37 in. (3.5 cm.), diameter 0.39 in. (1 cm.). From a late level of Period III (NGD-1, 223).

12. Stopper. Length 1.02 in. (2.6 cm.). From a mid-level of Period III (NGD-1, 988).

## (c) TOY LAMPS

These are hand-modelled, having a featureless -thinned rim, thick flat or round base and used evidently—as toys and were probably children's handiwork.

13. Toy lamp. From a late level of Period I (NGD-1, 979).

14. Toy lamp. From a mid-level of Period III (NGD-1, 666).

## 6. IVORY AND BONE OBJECTS

The excavations at Nagda have yielded seventeen objects of ivory from different levels of different Periods. One single unfinished object suggests acquaintance with its use in Period I. Period II has yielded only one object, which is a comb.

In Period III ivory was represented by fifteen objects. The use of ivory itself is an index of an advanced economic level besides a fastidious taste for the niceties of life, the result of leisure. It is also noticed from unfinished specimens that the objects were locally manufactured. The acquisition of raw ivory would either mean elephant hunt or import, suggesting an economy based on commercial prosperity.

The excavation has also added twenty one bone objects, besides horns and two unfinished articles. The occurrence of unfinished objects indicates local manufacture of bone objects at Nagda. Of these 13 belong to Period II and 8 to Period III. Period I did not yield any bone object. The only bone objects illustrated and described below are nos. 5 and 22 of Pl. XXXI.

## Pl. XXXI

1. An ivory comb with 47 teeth, of almost square shape. The handle portion is carved with two laterally disposed groups of semi-circles, but joining in the centre upon a base of 6 horizontally grooved lines (6 semi-circles). The semi-circles are bounded at the upper edge by a line of small circles. At the upper edge there are five horizontally parallel lines. The device of carving has been executed on both faces of the comb. Carving clearly is limited to the depiction of geometric patterns, neatly executed. The comb measures: length 2.91 ins. (7.4 cms.), width 2.79 ins. (7.1 cms.), thickness 0.15 ins. (4 mms). From a lower level of Period II (NGD-1, 1927).

2. A human shaped object of bone decorated with grooves and circlets on both the faces. The outstretched arm is symbolic. The thin waist and expansive hips are suggestive of a female figure. Its use is indeterminate though the suggested use as a pendant is not unlikely. Its possible use as a 'Mother Goddess' is worthy of investigation. Such human shaped objects are available in Period III at Nagda,<sup>18</sup> in Period II at Ujjain,<sup>19</sup> and Prabhas Patan.<sup>20</sup> In the present case it can be suggested that the device has been in vogue from the pre-N.B.P. Period II of Nagda. Min. length 1.65 in. (4.2 cm.), maximum width 1.29 in. (2.3 cm.), thickness 0.19 in. (5 mm.). From a mid-level of Period II (NGD-1, 1460).

3. A damaged and unfinished fragment of which only one face is carved with charact-

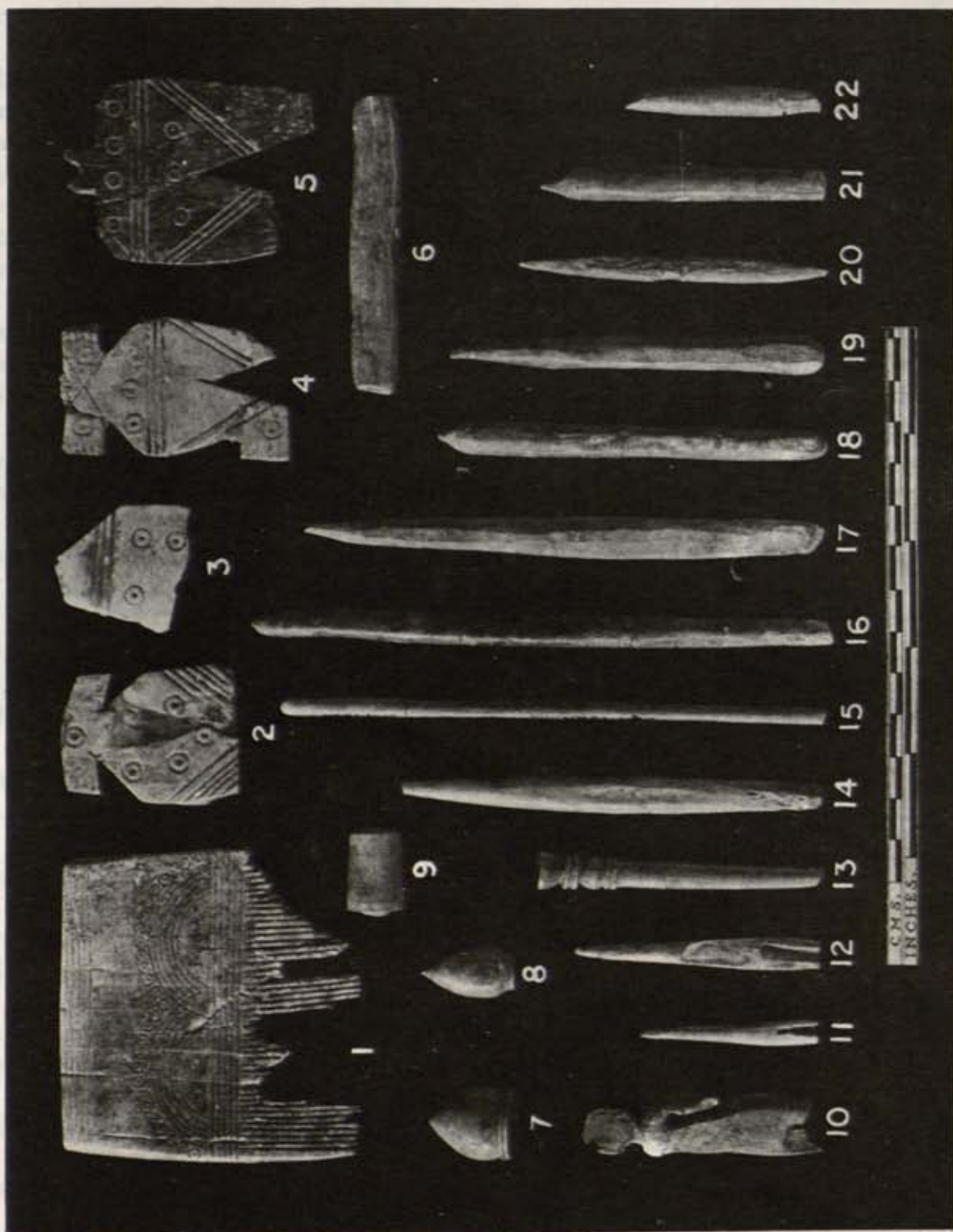


## NAGDA : IVORY OBJECTS [A]

Period	Engravers Hollow points	Combs	Human shaped Pendants	Pigment sticks	Conical objects	Bangles	Human figure	Hair pin	Hollow point	Ear ornaments	Stubs	Unfinished objects
I	—	—	—	—	—	—	—	—	—	—	—	1
II	—	1	—	—	—	—	—	—	—	—	—	—
III	1	—	—	4	2	2	1	1	2	1	1	—

Grand Total = 17

The use of ivory objects in Period I was indicated by an unfinished object; the objects of Period II included a comb, and those of Period III included an engraver, hollow points, pigment sticks, conical tops of composite objects of indeterminate use, two bangles, a human figure and a stub of indeterminable purpose, and an ear ornament.



XXXI. Nagda: Ivory and bone objects.



eristic designs, suggests local manufacture. Human shaped. Maximum length 1.80 in. (3 cm.), width 1.18 in. (3 cm.). From a mid-level of Period II (NGD-1, 2416).

4. An almost complete specimen in the series of the human shaped objects, with the head and the left foot missing. The decoration consists of: (i) a couple of circlets presumably for the breasts at the two ends of an incised cross, (ii) short arms marked with incisions to indicate the fingers, (iii) three circlets in a horizontal line above the hips, one of which might stand for the navel, alongside three parallel incised lines, (iv) obliquely poised double lines along the length of thighs and legs, (v) a circlet in the middle of the right instep, and (vi) incised toes. Max. length 2.04 in. (5.2 cm.), maximum width 1.29 in. (3.3 cm.), thickness 0.11 in. (5 mm.). From a late level of Period III (NGD-1, 310).

5. Human shaped object of bone. The legs too have been shown with a very crudely carved foot with five toes; one of the legs is broken. The decorative design occurs on one face only. Maximum length 2.08 in. (5.3 cm.), width 1.29 in. (3.3 cm.), and thickness 0.196 in. (5 mm.). From a late level of Period III (NGD-1, 202).

6. Smooth piece of rectangular cross-section, but of rounded edges. Its intended use is indeterminate. Maximum length 2.75 in. (7 cm.), maximum width 0.47 in. (1.2 cm.), maximum thickness 0.23 in. (6 mm.). From a mid-level of Period I (NGD-1, 1034).

Two conical objects with circular cross-section have been found. The base has a mortise-hole, indicating that these objects would form finial-like part of a composite article of indeterminate use.

7. Conical object. Diameter 0.66 in. (1.7 cm.), height 0.86 in. (2.2 cm.). From a mid-level of Period III (NGD-1, 880).

8. Conical object. Diameter 0.27 in. (7 cm.), height 0.51 in. (1.3 cm.). From a lower level of Period III (NGD-1, 1755).

9. Stub with a circular cross-section with a broken knob or tenon at one end. Maximum length 0.70 in. (1.8 cm.), maximum diameter 0.54 in. (1.3 cm.). From a late level of Period III (NGD-1, 813).

10. Damaged human figure made of ivory. One of the hands and neither of the legs are available. One of the hips is slightly raised which may suggest a posture in dance. The head is circular, purpose is indeterminable. Present maximum length 2.24 in. (5.7 cm.), present maximum width 0.70 in. (1.8 cm.), present maximum thickness 0.314 in. (8 mm.). From a late level of Period II (NGD-1, 1424).

Two hollow points have been found. These have a pointed end and the butt portion is hollow inside in the manner of a mortise-hole. Apparently they appear to have served as caps for the so-called styluses.<sup>21</sup>

11. Hollow point. Maximum length 1.65 in. (4.2 cm.), maximum diameter 0.23 in. (6 mm.). From a mid-level of Period III (NGD-1, 839).

12. Hollow point. Maximum length 2.32 in. (5.9 cm.), maximum diameter 0.31 in. (8 mm.). From a late level of Period III (NGD-1, 1768).

13. Stick ornamented at one end and broken at the other. Could possibly have also been used as a hair pin.<sup>22</sup> Maximum length 2.67 in. (6.8 cm.), diameter 0.43 in. (1 cm.).

## NAGDA : BONE OBJECTS [B]

Period	Engravers	Human shaped pendants	Arrowheads	Indeterminate objects
I	—	—	—	—
II	9	3	—	1
III	4	1	1	2

Grand Total = 21 objects



From an early level of Period III (NGD-1, 1900).

14. Engraver, thick at one end and pointed at the other. Maximum length 3.97 in. (10.1 cm.), diameter 0.039 in. (1 mm.). From a late level of Period III (NGD-1, 255).

15. Antimony rod found broken into four pieces. It has a maximum length of 5.19 in. (13.2 cm.), and diameter of 0.15 in. (4 mm.). From a late level of Period III (NGD-1, 1655).

16. Engraver, with a pointed end. Maximum length 5.51 in. (14 cm.), diameter 0.31 in. (8 mm.). From a late level of Period II (NGD-1, 1227).

17. Engraver, butt portion flatish and with a pointed end, approximately 4.92 in. (12.5 cm.) in length, 0.43 in. (1 cm.) in width. From a late level of Period III (NGD-2, 14).

18. Engraver. Maximum length 3.66 in. (9.3 cm.), diameter 0.31 in. (8 mm.). From a mid-level of Period II (NGD-1, 1652).

19. Engraver. Maximum length 3.58 in. (9 cm.), diameter 0.393 in. (1 cm.). From a late level of Period III (NGD-1, 221).

20. Double pointed object, with a groove across its middle length. Maximum length 2.95 in. (7.5 cm.), and diameter 0.27 in. (7 mm.). From a mid-level of Period II (NGD-1, 1654).

21. Engraver (broken) with a very sharp point. Maximum length 2.67 in. (6.8 cm.), diameter 0.27 in. (7 mm.). From a mid-level of Period III (NGD-1, 1762).

22. Fragmentary arrowhead of bone with a circular cross-section. Tang damaged and point broken. It is a solitary specimen of an arrowhead. Maximum length 1.88 in. (4.8 cm.), diameter 0.31 in. (8 mm.). From a mid-level of Period III (NGD-1, 1454).

## 7. COPPER OBJECTS

The excavations at Nagda have yielded six copper objects from Period I, twenty-six from Period II and forty from Period III, making a total of seventy-two. It is to be noted that the number of copper objects found associated with microliths and painted pottery of the chalcolithic complex of Period I is very small. The forms of copper objects in this period confine themselves to a copper bangle and copper foil ring and the others, being fragmentary, are of indeterminable shape. It is no doubt possible that copper was used in a larger proportion than is indicated in the excavations. Nevertheless, one cannot escape the feeling that the use of copper in Period I occupies a secondary place in comparison with the use of microliths. In Period II copper continues, but it is overtaken by the more plentiful and helpful metal, namely, iron and most of the heavier works in this Period are done with objects of iron, though copper continues to play its own limited role.

Periodwise distribution of Copper Objects at Nagda		
Period I	Period II	Period III
6	26	40

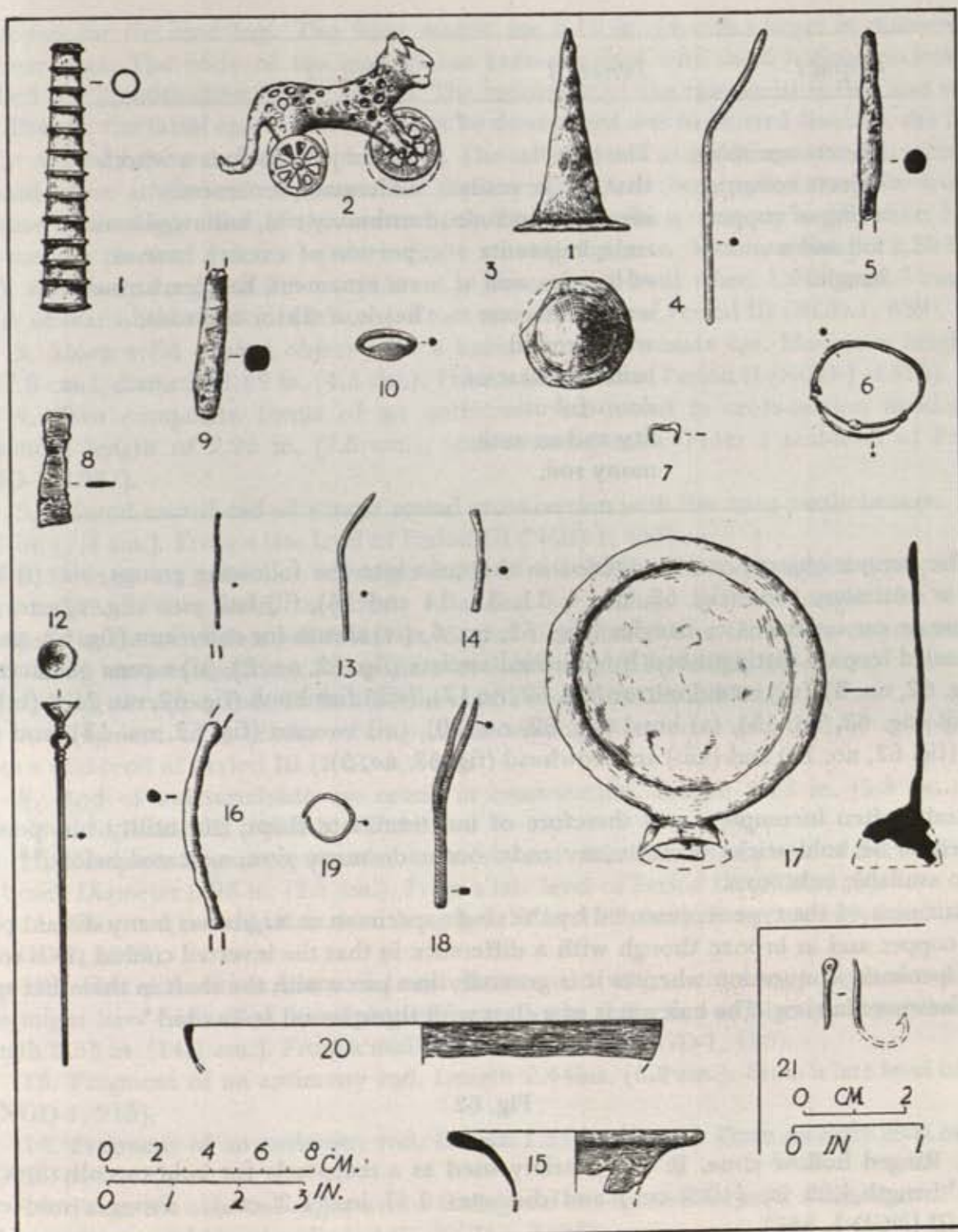


Fig.62. Copper Objects: 7, 16, 19, Period I; 3, 4, 11, 13, 14, Period II; 1, 2, 5, 6, 8-10, 12, 15, 17, 18, 20, 21, Period III.



<i>Period I</i>	<i>Period II</i>	<i>Period III</i>
The recognizable objects comprise a ring of copper foil and a bangle.	The objects that can be easily identified include rods, fragments of bangles, and a well-made cone with a round brimmed base of doubtful utility and an antimony rod.	The objects include a wheeled leopard, ornamented antimony rod, hollowed cone, portion of a vessel, nose or ear ornament, bangles, arrowheads, a mirror and rods.

The copper objects can be divided in the main into the following groups, viz. (i) kohl-sticks or antimony rods (fig. 62, no. 4, 11, 13, 14 and 16), (ii) hair pins (fig. 62, no. 12), (iii) nose or ear ornament or bangles (Fig. 62, no. 6, (iv) sheath for collyrium (fig. 62, no. 1), (v) wheeled leopard distinguished by punched circlets (fig. 62, no. 2), (vi) a cone of uncertain use (fig. 62, no. 3), (vii) round mirror (fig. 62, no 17), (viii) fish hook (fig. 62, no. 21 ), (ix) jar or 'loṭā' (fig. 62, no. 15), (x) bowl (fig. 62, no. 20), (xi) tweezer (fig. 62, no. 18), and (xii) finger (fig. 62, no. 10) and (xiii) an arrowhead (fig. 62, no. 5).

Rods, often incomplete and therefore of indeterminate shape and utility but possibly intended to be kohl sticks or antimony rods, occur on many sites, as stated below,<sup>22</sup> and are also available in bronze.

Hair pins of the type represented by the single specimen at Nagda has many distant parallels in copper and in bronze though with a difference in that the inverted conical tip is rotary in the specimen in question whereas it is generally in a piece with the shaft in the other specimens elsewhere in view. The hair pin is of a class with those found at Taxila.<sup>24</sup>

Fig. 62

1. Ringed hollow cone. It was possibly used as a receptacle for kohl or collyrium pigment.<sup>25</sup> Length, 4.05 in. (10.3 cm.) and diameter 0.47 in. (1.2 cm.). From a mid-level of Period III (NGD-1, 857).

2. Wheeled leopard,<sup>26</sup> beautifully made and standing on four wheels. The two front wheels are joined with a rod which passes through the front legs. The same device has been



employed for the hind legs. The front wheels are 0.15 in. (4 mm.) larger in diameter than the rear ones. The body of the leopard has been punched with small hollow circlets which vivified the identification of the animal. The treatment of the thin waist is fine and very life like. Though the facial expression could not be determined due to blurred features, the ferocity of the animal has been clearly brought out. The tail has been shown lowered down with a light upward curve at the end. It seems that the toy must have been pulled from the front side because of the bigger size of the front wheels. The execution is masterly and life-like. Its possible use as a piece of a decor would indicate a fastidious taste. Maximum height 2.20 in. (5.6 cm.), maximum length 3.464 in. (8.8 cm.), diameter of front wheel 1.06 in. (2.7 cm.), diameter of rear wheels 0.90 in. (2.3 cm.). From an early level of Period III (NGD-1, 889).

3. Sharp solid conical object with a base; of indeterminate use. Maximum height 3.07 in. (7.8 cm.), diameter 1.69 in. (4.3 cm.). From a late level of Period II (NGD-1, 1315).

4. Two composite forms of an antimony rod round in cross-section making up a maximum length of 2.95 in. (7.5 cm.), with rounded ends. From a mid-level of Period II (NGD-1, 1027).

5. Pointed arrowhead of almost round cross-section with the tang partly broken. Length 2.91 in. (7.4 cm.). From a late level of Period III (NGD-1, 457).

6. Nose or ear ornament or bangle made of wire so wound and arranged as to provide an extra length, with a bead, to permit extension by sliding. A silver bangle with a similar arrangement for extension was found at Moghul Ghundai.<sup>27</sup> The loop wire at present moves freely along the principal ring. From a late level of Period III (NGD-1, 55).

7. Ring of copper foil. From a late level of Period I (NGD-1, 970).

8. Fragment of a blade, rectangular in section. Maximum length 1.69 in. (4.3 cm.). From a mid-level of Period III (NGD-1, 689).

9. Rod of indeterminate use round in cross-section. Length 2.28 in. (5.8 cm.). From a late level of Period III (NGD-1, 457 A).

10. Complete finger ring rounded interiorly and ribbed exteriorly with a flat oval or biconal bezel. Diameter 0.98 in. (2.5 cm.). From a late level of Period III (NGD-1, 5).

11. Thin rod, round in section. Length 1.77 in. (4.5 cm.). From an early level of Period II (NGD-1, 1832).

12. Hair pin with a sharp end and ornamented with a rotatory lampshade-like top. This might have been used for wiping off superfluous collyrium or pigment from the fingers. Length 5.55 in. (14.1 cm.). From a mid-level of Period III (NGD-1, 480).

13. Fragment of an antimony rod. Length 2.44 ins. (6.2 cm.). From a late level of Period II (NGD-1, 915).

14. Fragment of an antimony rod. Length 1.57 in. (4 cm.). From an early level of Period II (NGD-1, 1345).

15. Fragment of a vase or jar with a flaring and out-turned rim with a diameter of 3.93 in. (10 cm.). From a mid-level of Period III (NGD-1, 1495).

16. Fragment of an antimony rod. Length 3.14 in. (8 cm.). From a late level of Period



## I (NGD-1, 1080).

17. Mirror with a thickened rim. Diameter 4.29 in. (10.9 cm.). The hollow handle or stand is broken at the base of the mirror. It is 1.25 in. (3.2 cm.) in diameter and suggests a possible wider base. The central circular disc has a thickened rim.<sup>28</sup> From a late level of Period III (NGD-1, 146).

18. Tweezer, of rectangular cross-section, 3.26 in. (8.3 cm.) long. From a late level of Period III (NGD-2, 24).

19. Copper wire, circular in cross-section, twisted into a loop, 2.36 in. (16 cm.) long. From a late level of Period I (NGD-1, 1086).

20. Rim fragment of a bowl with thickened rim, 7.28 in. (18.5 cm.) in diameter. From a late level of Period III (NGD-1, 1533).

21. Fish hook with perforation, but the tip is broken. Length 0.59 in. (1.4 cm.). From a late level of Period III (NGD-1, 1695).

## 8. IRON OBJECTS

The excavations at Nagda have yielded 269 objects of iron in all, of which 59 are from Period II, and the remaining 210 are from Period III. The occurrence of iron in the earliest levels of Period II is a significant evidence, which has been discussed elsewhere in the report. Apart from the fifty-two objects described below, one bead and two bangles of iron, all from Period III, have been described elsewhere in the respective sections. The rest could not be considered because they are fragmentary and of indeterminable shape or repetitive. The objects can be classified into the following groups:-

(1) Sickles (fig. 63, nos. 1-7), (2) hoes (fig. 63, nos. 8 and 9), (3) axes (fig. 63, no. 14), and (4) wedges (fig. 63, nos. 18 and 19) representing agricultural equipments, (5) dishes (fig. 63, no. 20), (6) bowls (fig. 64, nos. 21, and 22), (7) spoons or ladle (fig. 63, no. 15) representing household equipments; (8) door devices (fig. 63, nos. 16 and 17), and (9) nails (fig. 64, no. 46) left out in furniture; (10) rings (fig. 64, nos. 43 and 44), including a possible washer (fig. 64, no. 45), and (11) sockets (fig. 64, nos. 51 and 52) possibly as fasteners of tools; (12) daggers (fig. 63, nos. 10, 11, 12 and 13), (13) knives (fig. 64, nos. 41 and 42) serving in warfare and in household alike; (14) arrowheads (fig. 64, nos. 23-34), (15) spearheads (fig. 64, nos. 35-40) comprising the equipments of warfare and the chase; and (16) a possible plumbbob (fig. 64, no. 47), besides miscellaneous objects of iron of uncertain shape or utility (fig. 64, nos. 48, 49 and 50) such as chisel or *khurpa* (fig. 63, no. 8).

An important sidelight has been thrown on the antiquity of iron in India by the discovery of as many as 59 iron objects from Period II. It is interesting to note that iron starts occurring in the lowest levels of Period II. The evidence at Nagda is complementary to the bigger evidence at Ujjain, and together with the evidence of the occurrence of 30 objects of iron in the nearly 14-15 ft. (4.3 - 4.6 in.) thick pre-N.B.P. Ware deposit at Prakash,<sup>29</sup> another chalcolithic site in East Khandesh, situated a little to the south of Nagda, constitute the earliest known occurrence of iron in north India.



The use of the objects for domestic purposes, in the form of the celt or wedge, bowls, spoon, door devices, nails, knives, bangles, rings and axes; for agricultural purposes, in the form of the hoe, chisel (*khurpā*) hand sickles; and for war, in the form of daggers, spearheads and arrowheads, point to the multifarious utilities to which iron had been adapted. The warlike weapons speak of prosperous conditions which required defence against extraneous attacks, unless they were meant for aggrandisement, or hunt and chase, which again would indicate a greater degree of prosperity indeed that could possibly have come in the wake of the mastery of iron.

#### (i) Sickles

The sickles at Nagda can be broadly divided into two types, namely, (1) with long curved blades, represented by nos. 1, 2, 4, 5 and 6 in fig. 63 and (2) with crescent-shaped blades represented by nos. 3 and 7 in fig. 63. All the specimens have a thin triangular cross-section, and square or rectangular, for the tang, and belong uniformly to Period III. Similar sickles, resembling either one or the other or both the types have also been reported from many other sites.<sup>30</sup>

#### (ii) Hoes

Both these objects, from Period III, are similar in shape, and consist of a socketed top for hafting, and a protruding blade, which is thinner and oblong or lenticular in cross-section to serve as a chisel or a hoe.<sup>31</sup>

#### (iii) Axes

The only specimen (fig. 63, no. 14) of axe is represented by a socket, with a protruding end, being suggestively the base of an axe. The exact type cannot be safely reconstructed, but it may be one with a splayed edge. Similar objects occur at many other sites.<sup>32</sup>

#### (iv) Wedges

The wedges are represented by two specimens, namely, fig. 63, nos. 18 and 19, and belong respectively to Periods II and III. Similar objects have been reported from many other sites.<sup>33</sup>

#### (v) Bowls

The bowls are represented by two specimens (fig. 64, nos. 21 and 22). Similar bowls have been found at other sites.<sup>34</sup>

#### (vi) Door Plates or Devices

These are represented by two specimens (fig. 63, nos. 16 and 17). These consist of a broad strip of iron bent to form a clamp, obviously intended for use on a wooden panel, and fixed with cross-bolts.<sup>35</sup>

#### (vii) Rings

Rings at Nagda are represented by two specimens (fig. 64, nos. 43 and 44). They are flat-



tish in cross-section, and are presumed to be employed as fasteners.<sup>3 6</sup>

#### (viii) Washers

The washer or flattened ring is represented by a single specimen (fig. 64, no. 45). Though the purpose of these circular objects cannot be stated for certain, their use as rings or washers, on the analogy of the piston rings in automobiles, in a contraption of wheels can perhaps be suggested.<sup>3 7</sup>

#### (ix) Sockets

Sockets made of strips of iron and given a round enclosing shape are represented by nos. 51 and 52 of fig. 64. Like the rings these too may have been more conveniently employed for fastening tools and equipments. Specimen no. 48 is probably a strip that remained to be rounded into a socket.

#### (x) Daggers and Knives

The daggers and knives are represented by six specimens, namely nos. 10-13, in fig. 63, and nos. 41, 42 in fig. 64, respectively and consist of a longish blade, apparently sharp at both ends, being of a thin lenticular cross-section, and a tang (no. 12 of fig. 63) for hafting on a handle. They belong to Period III, except no. 13, which is assigned to an upper level of Period II. Specimen no. 12, which is nearly complete, shows the sides of the blade tapering towards the top, though this feature is not apparent in the other specimens, which have almost parallel edges on either side. The daggers are, therefore, divisible into two types, namely, (i) with near parallel edges, and broken. Specimen no. 41 belongs to Period III and 42 to Period II.<sup>3 8</sup>

#### (xi) Arrowheads

Arrowheads are represented by 12 specimens (fig. 64, nos. 23-34). The arrowheads are invariably tanged, and at least in one instance (fig. 64, no. 25), and possibly in another too, (fig. 64, no. 28) is one with iron shaft. Except in two instances (fig. 64, nos. 23, 27) they are leaf-shaped but vary in cross-section, on the basis of which they are distinguished, as (1) flattish, (2) triangular with a flat bottom and median ridge, (3) square or rectangular, (4) circular, (5) biconical or lenticular, and (6) bud-shaped. One of the specimens is barbed (fig. 64, no. 25). None is socketed. They all belong to Period III.

#### (xii) Spearheads

Spearheads, of solid stems, represented by six specimens, (fig. 64, nos. 35-40) are of three types, namely, (1) leaf-shaped with flattish or slightly elliptical cross-section, nos. 37 and 40 of fig. 64, (2) short pointed with square cross-section (no. 38 of fig. 64), and (3) leaf-shaped with elliptical cross-section but with apparent protuberance at the base of the blade, on a solid stem (nos. 35 and 37 of fig. 64).<sup>3 9</sup>

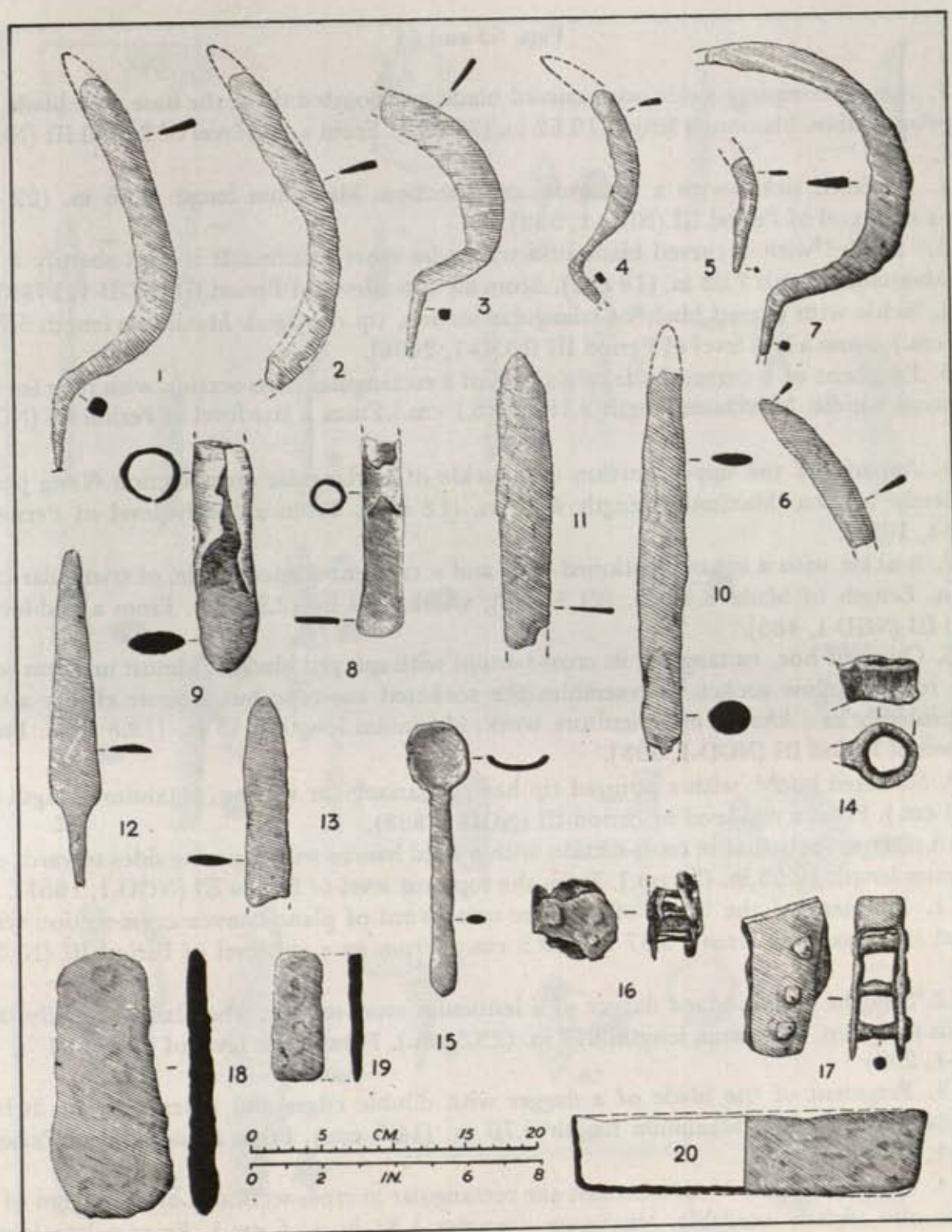


Fig.63. Iron Objects: Period III



## Figs. 63 and 64

1. Almost complete sickle with curved blade and pointed tip at the base. The blade has a triangular section. Maximum length 10.62 in. (27 cm.). From a mid-level of Period III (NGD-1, 1274).
2. Damaged sickle with a triangular cross-section. Maximum length 8.66 in. (22 cm.). From a mid-level of Period III (NGD-1, 328).
3. Sickle<sup>40</sup> with a curved blade of a triangular cross section. It is bent sharply at the base. Maximum length 7.08 in. (18 cm.). From an upper level of Period III (NGD-1, 1759).
4. Sickle with curved blade of triangular section, tip damaged. Maximum length 5.78 in. (14.7 cm.). From a late level of Period III (NGD-1, 2406).
5. Fragment of a curved knife or a sickle of a rectangular cross-section with tang for hafting into a handle. Maximum length 3.18 in. (8.1 cm.). From a late level of Period III (NGD-1, 203).
6. Apparently the upper portion of a sickle of a triangular cross-section. Tang portion completely broken. Maximum length 4.72 in. (12 cm.). From an early level of Period III (NGD-1, 1658).
7. A sickle with a square sectioned tang and a crescent-shaped blade, of triangular cross-section. Length of blade 8.46 in. (21.5 cm.), width 1.14 in. (2.9 cm.). From a mid-level of Period III (NGD-1, 485).
8. Chisel or hoe, rectangular in cross-section with splayed blade of almost uniform width and a round hollow socket. It resembles the socketed axe-type but is more clearly a chisel used probably as a *khurpā* in agriculture work. Maximum length 5.43 in. (13.8 cm.). From a late level of Period III (NGD-1, 498).
9. Socketed hoe<sup>41</sup> with a pointed tip having a triangular section. Maximum length 6.29 in. (16 cm.). From a mid-level of Period III (NGD-1, 808).
10. Dagger lenticular in cross-section with a solid handle with tapering sides towards edge. Maximum length 10.23 in. (26 cm.). From the topmost level of Period III (NGD-1, 1651).
11. Fragment of the blade of a dagger or a sword of plano-convex cross-section with a pointed tip. Maximum length 8.07 in. (20.5 cm.). From an early level of Period III (NGD-1, 553).
12. Straight double-edged dagger of a lenticular cross-section. The blade gradually tapers towards the point. Maximum length 9.17 in. (23.3 cm.). From a late level of Period III (NGD-1, 206).
13. Fragment of the blade of a dagger with double edges and tapering point. It has a lenticular cross-section. Maximum length 5.70 in. (14.5 cm.). From a late level of Period II (NGD-1, 1697).
14. Circular socket<sup>42</sup> of a broken axe rectangular in cross-section. Lower portion of the blade is also slightly available. Maximum diameter 1.81 in. (4.6 cm.). From a late level of Period II (NGD-1, 1102).

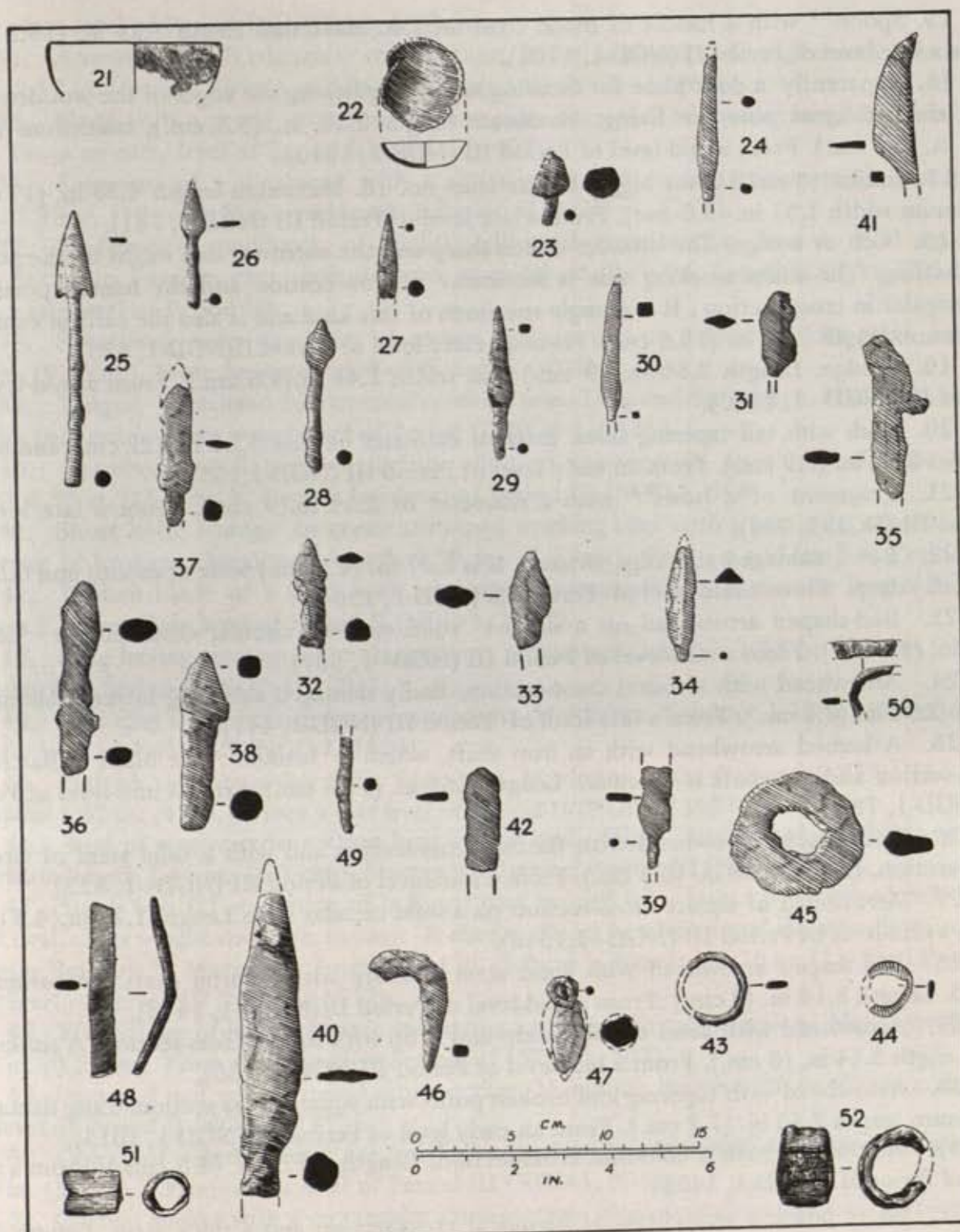


Fig 64. Iron Objects: 39, 42, 43, 49, Period II; the rest, Period III.



15. Spoon<sup>43</sup> with a handle of ovoid cross-section. Maximum length 7.55 in. (19.2 cm.). From a late-level of Period II (NGD-1, 1101).

16. Apparently a door plate for securing and strengthening the edges of the wooden door with rivetted cross pins for fixing. Maximum length 2.16 in. (5.5 cm.), maximum width 1.29 in. (3.5 cm.). From a mid-level of Period III (NGD-1, 1640).

17. Similar to no. 16 but bigger in size than no. 16. Maximum length 4.33 in. (11 cm.), maximum width 1.37 in. (3.5 cm.). From a late level of Period III (NGD-1, 781).

18. Celt or wedge. The broader side is sharp and the narrower side might be the portion for hafting. The sharp working side is lenticular in cross-section and the handle portion is rectangular in cross-section. It is a single specimen of this kind and is also the earliest example. Maximum length 7.32 in. (18.6 cm.). From an early level of Period II (NGD-1, 623).

19. Wedge. Length 3.54 in. (9 cm.) and width 1.41 in. (3.6 cm.). From a mid-level of Period III (NGD-1, 1073).

20. Dish with tall tapering sides. Internal diameter of base 3.66 in. (22 cm.) and height of sides 2.32 in. (5.9 cm.). From an early level of Period III (NGD-1, 753).

21. Fragment of a bowl<sup>44</sup> with a diameter of 3.54 in. (9 cm.). From a late level of Period III (NGD-1, 786).

22. Bowl, damaged and edge twisted. It is 1.77 in. (4.5 cm.) wide at mouth and 0.59 in. (1.5 cm.) deep. From a late level of Period III (NGD-1, 1564).

23. Bud-shaped arrowhead on a slender solid stem of circular cross-section. Length 1.53 in. (3.9 cm.). From a mid-level of Period III (NGD-1, 587).

24. Arrowhead with a round cross-section. Badly damaged and tang broken. Maximum length 2.99 in. (7.6 cm.). From a late level of Period III (NGD-1, 447).

25. A barbed arrowhead with an iron shaft, which is broken. The blade is flattish in cross-section and the shaft is circular. Length 5.66 in. (14.4 cm.). From a mid-level of Period III (NGD-1, 787).

26. Leaf-shaped arrowhead with flattish cross-section and with a solid stem of circular cross-section. Length 2.48 in. (6.3 cm.). From a mid-level of Period III (NGD-1, 833).

27. Arrowhead of square cross-section on a solid circular stem. Length 1.77 in. (4.5 cm.). From a mid-level of Period III (NGD-1, 1546).

28. Bud-shaped arrowhead with solid stem possibly with an iron shaft. A variant of no. 23. Length 3.14 in. (8 cm.). From a mid-level of Period III (NGD-1, 1473).

29. Arrowhead with solid circular stem and a tip with square cross-section. A variant of 27. Length 3.14 in. (8 cm.). From a late level of Period III (NGD-1, 165).

30. Arrowhead with tapering and broken point with square cross-section. Tang damaged. Maximum length 2.83 in. (7.2 cm.). From an early level of Period III (NGD-1, 1015).

31. Arrowhead with a biconical cross-section. Length 1.77 ins. (4.5 cms.). From a mid-level of Period III (NGD-1, 1458).

32. Short pointed arrowhead of biconical cross-section and a thick stem. Length 2.63 in. (6.7 cm.). From a mid-level of Period III (NGD-1, 1765).

33. Leaf-shaped arrowhead with an oval cross-section. Maximum length 1.96 in. (5 cm.).



From a late level of Period III (NGD-1, 532).

34. Arrowhead with triangular cross-section. Badly damaged and tang broken. Maximum length 2.36 in. (6 cm.). From a mid-level of Period III (NGD-1, 864).

35. Blade with a prong projecting on one side, damaged. Maximum length 3.34 in. (8.5 cm.). From an early level of Period III (NGD-1, 494).

36. Fragment of a spearhead with a sharp point and ovaloid cross-section. Maximum length 3.93 in. (10 cm.). From mid-level of Period II (NGD-1, 1129).

37. Leaf-shaped spearhead, of slightly elliptical cross-section, and a solid squarish stem. Seems to have an extra protuberance or width at the base. Length 2.95 in. (7.5 cm.). From a late level of Period III.

38. Spearhead, with short tip, of square cross-section on a solid circular stem. Length 3.66 in. (9.3 cm.). From an upper level of Period II (NGD-2, 1).

39. Tanged spearhead of biconical cross-section. Tang and tip broken. Maximum length 1.77 in. (4.5 cm.). From a mid-level of Period II (NGD-1, 1458).

40. Spearhead of flattish or slightly elliptical cross-section on a solid circular stem. Length 6.33 in. (16.1 cm.). From a late level of Period III (NGD-1, 568).

41. Short knife *khadga* or crescent-shaped working edge with a triangular cross-section. The tang is broken. Maximum length 2.99 in. (7.6 cm.). From a mid-level of Period III.

42. Broken blade of a knife with a triangular cross-section. Maximum length 2.16 in. (5.5 cm.). From a late level of Period II (NGD-1, 1667).

43. Ring having rectangular cross-section. Maximum diameter 1.53 in. (3.9 cm.). From a late level of Period II (NGD-1, 1701).

44. Iron ring with rectangular cross-section. Maximum diameter 1.18 in. (3 cm.) From an early level of Period III (NGD-1, 1024).

45. Flattish ring or washer from Period III. Maximum outer diameter 2.83 in. (7.2 cm.) and inner 1.57 in. (4 cm.). From a late level of Period II (NGD-1, 1557).

46. Rod of square cross-section bent at one end. Might have served possibly as a nail. Maximum length 2.44 in. (6.2 cm.). From a late level of Period III (NGD-1, 791).

47. Plumb bob (?) consisting of bulbous part topped by a loop. It has apparently lost a good deal of its weight owing to rusting. A similar object in a bell metal alloy has been reported from Bangarh.<sup>45</sup> Maximum length 2.04 in. (5.2 cm.), diameter 0.70 in. (1.8 cm.). From an early level of Period III (NGD-1, 1717).

48. Flattish bar of indeterminate use having a rectangular cross-section. Maximum length 3.62 in. (9.2 cm.). From a mid-level of Period III (NGD-1, 307).

49. Damaged nail with a round cross-section. Maximum length 1.96 in. (5 cm.). From a late level of Period II (NGD-1, 1770).

50. Object of indeterminate use, might be the handle of a small pan. Maximum length 1.29 in. (3.3 cm.). From a late level of Period III (NGD-1, 504).

51. Circular socket with a rectangular cross-section. Maximum diameter 1.69 in. (4.3 cm.). From a late level of Period III (NGD-1, 516).

52. Cylindrical socket with a rectangular cross-section. Maximum diameter 0.94 in. (2.4



cm.). From a late level of Period III (NGD-1, 520).

## 9. STONE OBJECTS

Two hundred and four objects in all have been found at Nagda from various layers of different periods. These are classified according to their shape and probable use. They are grouped as querns, pestles, pounding hammers, mace-heads, sling stones, pounding stones, fabricators or anvils, whetstones, potters' dabbers, etc. and are described in detail below:—

### (i) Querns

In the absence of rotary querns saddle querns were used obviously for grinding corns, after they were softened by wetting, for making into a paste. They were hollowed in the course of grinding. The nature and direction of the depression depended not only on the shape of the grinder or rubber, but also on the manner in which it was used.<sup>4 6</sup>

Three fragments of unlegged saddle querns were found in Period I. Though no complete specimen of a saddle quern is available, the fragments do suggest their use in the domestic life of the earliest inhabitants of Nagda. The evidence at Nagda shows that the plain, unlegged saddle querns<sup>4 7</sup> came into disuse in Period III.

The people of Period III evolved the legged querns thereby raising the height of the working level and thus making for comparative comfort for the housewife, and making an advance in technology, as compared to the preceding Periods.<sup>4 9</sup>

### PL. XXXIIA

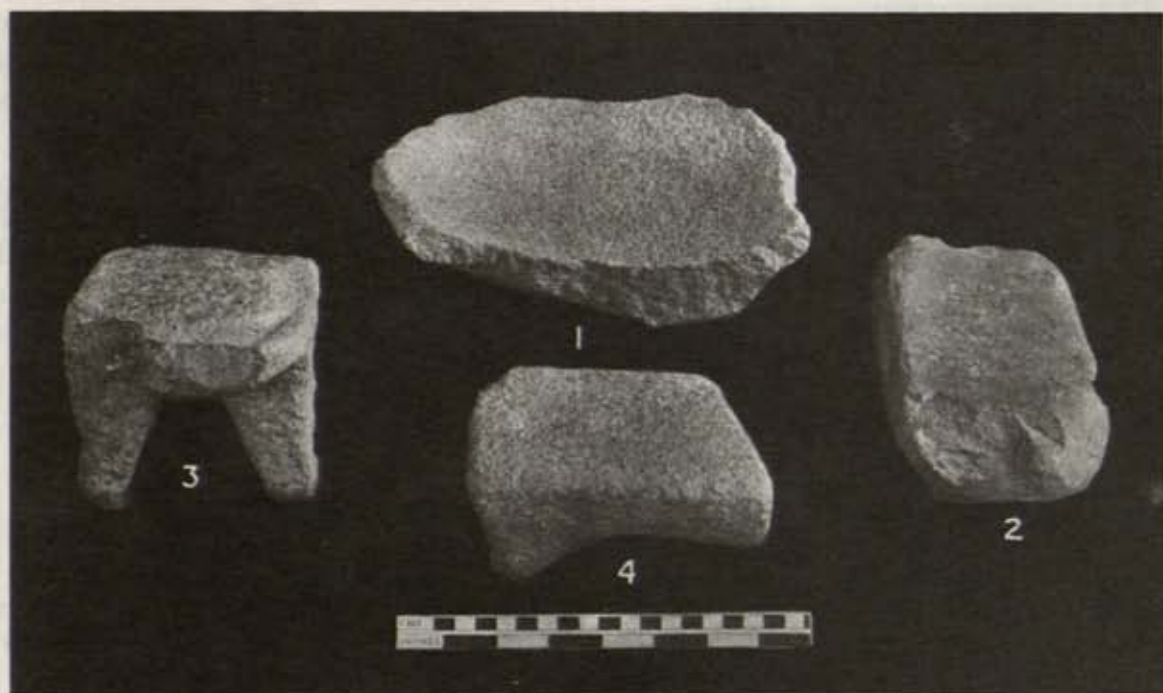
1. Fragment of a saddle quern with very crudely made sides presenting an irregular outline; upper surface hollowed owing to vigorous and prolonged use; lower surface very crudely made. Maximum length 7.44 in. (18.9 cm.), maximum breadth 9.68 in. (24.6 cm.), maximum thickness 1.96 in. (5. cm.). From a mid-level of Period I (NGD-1, 2383).

2. Plain quern, the lower portion is flat, and, due to use, a little concavity, though not as pronounced as in Period I, has occurred in the upper part. Maximum length 9.92 in. (25.2 cm.), maximum width 4.44 in. (11.3 cm.), maximum thickness 1.22 in. (3.1 cm.). One other example of such plain querns has also been noticed in Period I. From a late level of Period II (NGD-1, 2327).

Suddenly the saddled querns disappeared and legged querns came into vogue<sup>4 9</sup> in Period III. Nine legged querns have been found in this Period.

3. Fragment of a legged quern. Body projects beyond the legs, while the other end stops short at the vertical line of hind legs. The top surface is flat and smooth. An arched lunar design is engraved on the portion projecting beyond the legs of the flat surface. Present maximum length 4.05 in. (10.3 cm.), height 4.68 in. (11.9 cm.), breadth 5.07 in. (12.7 cm.). From a mid-level of Period III (NGD-1, 1589).

4. An almost complete legged quern, made of dyke rock. Only a length of 0.5 in. (1.27 cm.)



XXXII. Nagda: Stone querns.



XXXII B. Nagda: Stone pestles and hammerstones.



is projecting beyond the legs. The upper surface is smooth and flat. The legs are crudely made and are very short. Maximum length 5.47 in. (13.9 cm.), maximum breadth 3.46 in. (8.8 cm.), maximum thickness 1.96 in. (5 cm.). From a lower level of Period III (NGD-1, 788).

## (ii) Pestles

In Period I only two types of pestles are available. These can be classified according to their cross-sections into two categories, viz. (1) rectangular, and (2) plano-convex. In Period II pestles with oval, round or square cross-sections are totally absent. The types represented in this Period are either: (a) plano-convex, or (b) rectangular in cross-section. In Period III a variety of pestles has been discovered which can be classified according to their cross-sections as: (a) plano-convex, (b) rectangular, (c) oval, (d) round, and (e) square types.

## Pl. XXXII B

1. Pestle with a plano-convex cross-section. The upper portion is convex and lower portion is plain or flat and is smoothened by vigorous use. Maximum length 7.44 in. (18.9 cm.), maximum breadth 3.50 in. (8.9 cm.), maximum thickness 1.96 in. (5 cm.). From an early level of Period II (NGD-1, 1131).

2. Fragmentary pestle with an oval cross-section. Maximum length 4.44 in. (11.3 cm.), maximum breadth 2.45 in. (7 cm.), maximum thickness 1.53 in. (3.9 cm.). From a late level of Period III (NGD-1, 106).

3. Complete pestle with a roughly rectangular cross-section. Both sides are flat and smoothened by use. Maximum length 6.22 in. (15.8 cm.), maximum breadth 3.22 in. (8.2 cm.), maximum thickness 1.25 in. (3.2 cm.). From a mid-level of Period I (NGD-2388).

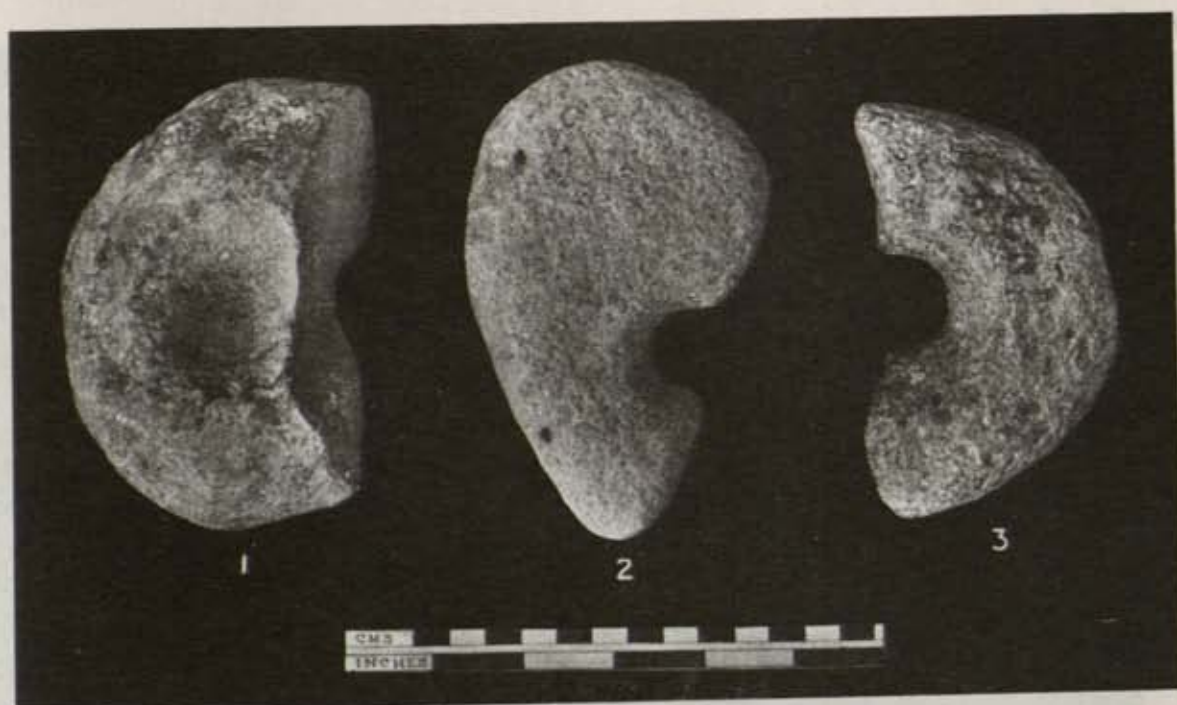
4. Fragmentary pestle with a plano-convex cross-section. Length 4.44 in. (11.3 cm.) breadth 2.95 in. (7.5 cm.), thickness 1.96 in. (5 cm.). From a late level of Period III (NGD-1, 107).

5. Pestle with a oval cross-section. Maximum length 5.9 in. (15 cm.), maximum breadth 2.99 in. (7.6 cm.), maximum thickness 2.24 in. (5.7 cm.). From a late level of Period II (NGD-1, 1163).

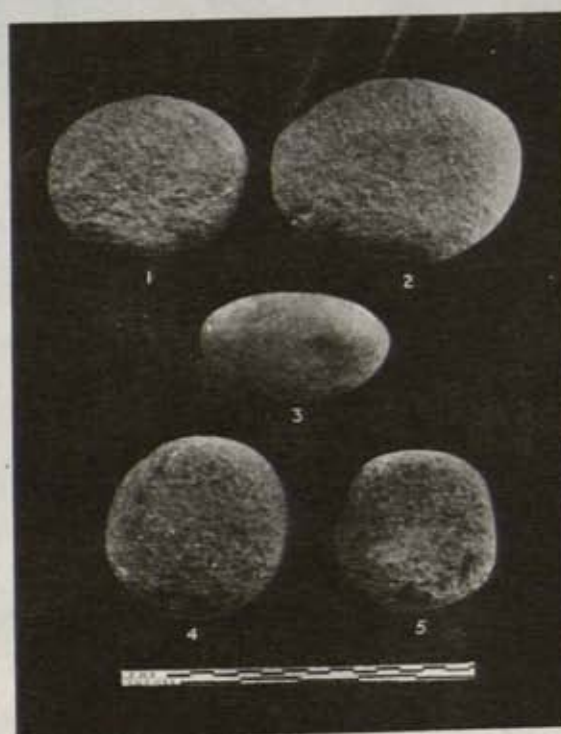
6. Pestle with sharp rectangular cross-section. It has been well-cut and sides are well-made. This feature enables one to use it on all the sides. Maximum length 7.44 in. (18.9 cm.), maximum breadth 1.96 in. (5 cm.), maximum thickness 2.44 in. (6.2 cm.). From a late level of Period III (NGD-1, 120).

7. Fragmentary pestle of square cross-section. Maximum length 3.93 in. (10 cm.), maximum breadth 1.73 in. (4.4 cm.), maximum thickness 1.49 in. (3.8 cm.). From a late level of Period III (NGD-1, 99).

8. Pestle with a round section. Length 6.45 in. (16.4 cm.), diameter 1.96 in. (5 cm.). From a mid-level of Period III (NGD-1, 1157).



XXXIII A. Nagda: Stone mace heads.



XXXIII B. Nagda: Stone pounding balls and fabricators.



**(iii) Pounding Hammer**

Ten pounding hammers in all have been found, of which 2 are from Period I, 1 from Period II and 7 from Period III. The lower portion is broader and the cross-section does not make any definite shape. Tendencies towards an ovaloid shape are greater. These may have been used as a hammer for pounding grains.

9. Pounding hammer with rectangular cross-section. The upper portion is thinner than the lower one which is bulbous. It might probably have been used for grinding grains. Maximum length 5.90 in. (15 cm. ), maximum breadth 2.48 in. ( 6.3 cm. ), thickness 1.96 in. (5 cm.). From a late level of Period II (NGD-1, 2344).

**(iv) Mace-heads**

The possible use of mace-heads has been suggested as a part of a digging tool in agricultural operations.<sup>50</sup> These comprised stone rings, hollowed out from flattish discs or discoid blocks. Four finished and two unfinished mace-heads were found in the earliest levels of Period I, and two finished and one unfinished specimens in Period II, and two unfinished specimens in Period III.

**Pl. XXXIII A**

1. Unfinished mace-head. The intended perforation seems to have been attempted from both sides as in this case. Obviously these were locally manufactured. The diameter of the incomplete perforation is 1.96 in. (5 cm.). Maximum outer diameter 4.52 in. (11.5 cm.). From a lower level of Period I (NGD-1, 2309).

2. Fragmentary finished mace-head. It is quite crude and has no regular shape. It seems to be ovoid and has an hour-glass perforation at the centre. The upper and lower surfaces are flat. The diameter of the perforation is 1.25 in. (3.2 cm.). From a late level of Period II (NGD-1, 2379).

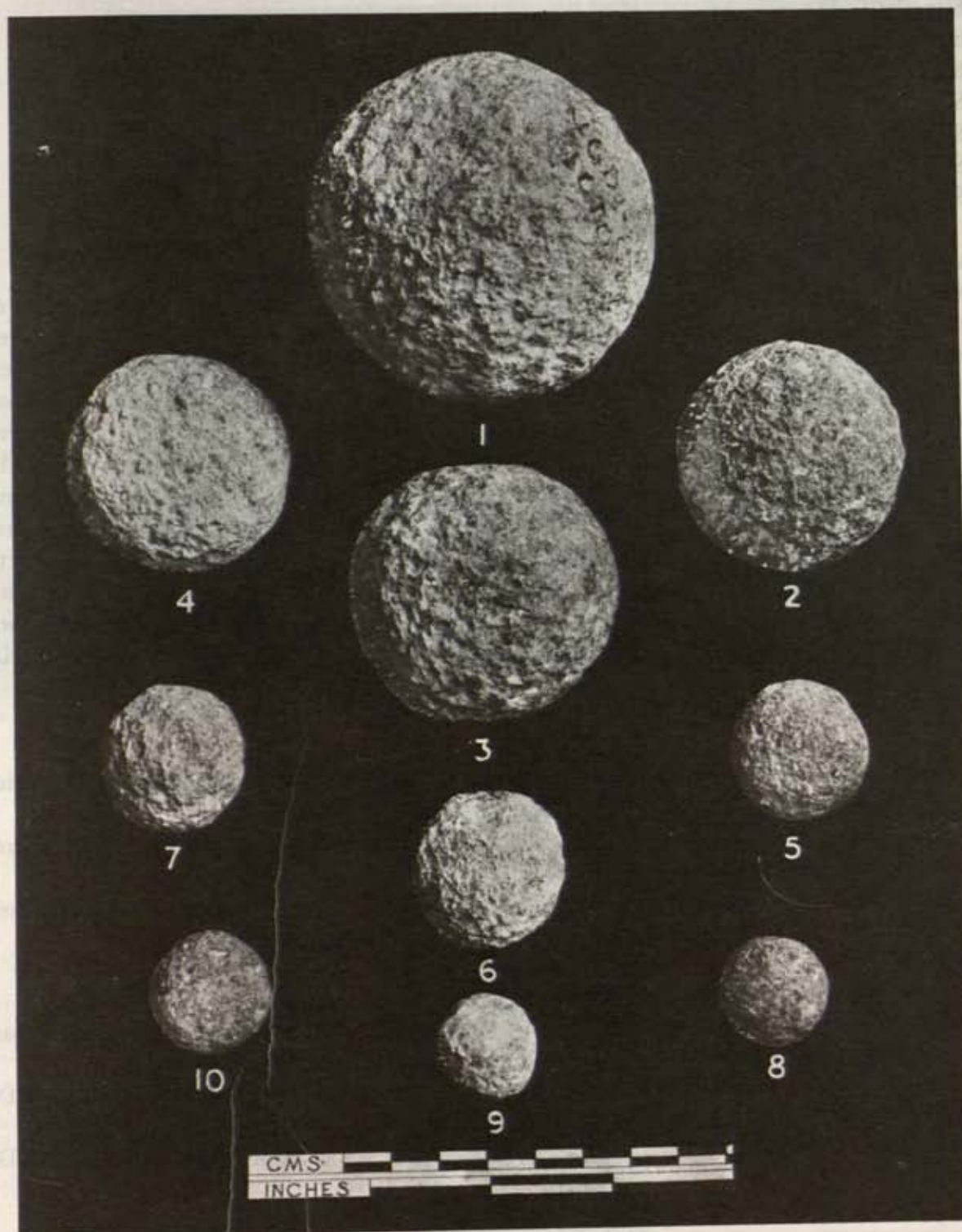
3. Fragment of a perforated mace-head with hour-glass cross-section. The inner side is smooth but the outer side is rough. Outer diameter is 5 in. (12.7 cm.), and the diameter of the perforation is 1.96 in. (5 cm.). From a mid-level of Period I (NGD-1, 2383).

**(v) Sling Stones**

Sixty-five sling stones have been found in all. These are all spherical and well-made and vary in diameter from 0.78 in. (2 cm.) to 2.36 in. (6 cm.). Of these 43 are from Period I, 8 from Period II, and 14 from Period III.

**Pl. XXXIV**

1. Sling ball. From a mid-level of Period III (NGD-1, 859).
2. Sling ball. From a late level of Period II (NGD-1, 2419).
3. Sling ball. From an early level of Period II (NGD-1, 2420).



XXXIV. Nagda: Stone sling balls.



4. Sling ball. From an early level of Period I (NGD-1, 2319).
5. Sling ball. From a mid-level of Period II (NGD-1, 2060).
6. Sling ball. From a late level of Period I (NGD-1, 2421).
7. Sling ball. From a mid-level of Period I (NGD-1, 2425).
8. Sling ball. From a late level of Period I (NGD-1, 2422).
9. Sling ball. From a late level of Period I (NGD-1, 2423).
10. Sling ball. From a late level of Period II (NGD-1, 2424).

#### (vi) Fabricators

Seven such objects have been found, of which one is from Period I and six from Period II. They have been described tentatively as fabricators of sorts for the manufacture of beads or microliths. Discoid or ovoid stones with battered edges are suspected to have been used specially in the fabrication of microliths. These might have been employed as hammer stones for striking off a smaller lump from a larger block. The bruised edges around the circumference of the flattish, discoid or circular pieces is suggestive of their use as hammers employed in the manufacture of microliths, beads, ear ornaments, etc., to strike-off flakes from the core or lump. An ovoid fabricator on a pebble which has been picked up from the surface shows battered ends such as can only be produced by delivering similar strokes from a particular point and in a particular angle. These may possibly have been used as seats as well as anvils on which the nodules or lumps of stones were supported for receiving the blows. The use of such stones as fabricators to produce microliths is likely from the parallel example in Navdatoli.<sup>51</sup>

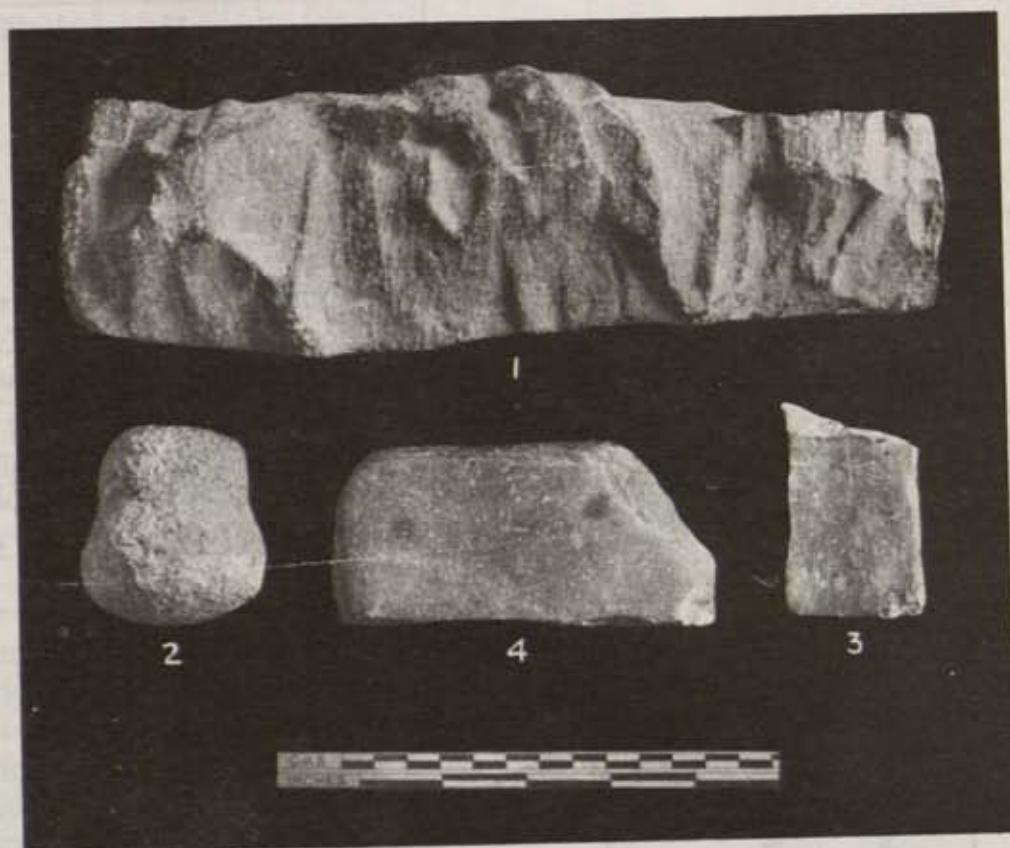
### Pl. XXXIII B

1. Fabricator, ovoid in shape and with battered edges. Major axis 3.5 ins. (9 cm.), minor axis 1.88 ins. (4.8 cm.). From a mid-level of Period I (NGD-1, 2387).
2. Fabricator, ovoid in shape and with battered edges. Major axis 4.25 in. (10.8 cm.), minor axis 2.5 in. (6.55 cm.). From an upper level of Period II (NGD-1, 1890).
3. Fabricator, ovoid in shape and very much battered edges. Major axis 3.1 in. (8 cm.), minor axis 1.25 in. (3.1 cm.). From the surface collection (NGD-1, 2431).

#### (vii) Pounding Stones

Pounding stones are bigger in size than the sling stones and have a flattish top. Four such specimens have been found from Period I, 1 from Period II, and 22 from Period III.

4. Pounding stone. Diameter 3 in. (7.5 cm.). From a mid-level of Period III (NGD-1, 1201).
5. Pounding stone. Diameter 2.36 in. (6 cm.). From an early level of Period I (NGD-1, 2329)



XXXV A. Nagda: Miscellaneous stone objects.



XXXV B. Nagda: Copper punch-marked coin, Period II.



## NAGDA -- STONE OBJECTS

PERIOD	Querns			Pestles					Mace-heads finished	Mace-heads unfinished	Pounding Stones	Pounding Hammer	Sling stones	Fabricators	Whetstones	Grooved Block	Potter's Dabber	Misc. Indeterminate fragments etc.		
	Saddle	Plain	Legged	Oval	Plano-Convex	Round	Square	Rectangular												
I	3	1	—	—	4	—	—	—	2	4	2	4	2	43	1	1	—	—	4	71
II	—	1	—	—	1	—	—	—	1	2	1	1	1	8	6	1	—	—	7	30
III	—	—	9	15	13	2	10	2	2	—	2	22	7	14	—	2	1	1	12	112
Surface	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—

Grand Total - 213±214

## (viii) Grooved Block

## Pl. XXXVA

1. A block of stone bearing irregularly impressed grooves would suggest constant vigorous friction with a rope or some other material and may not have used for grinding. The purpose of the slab, is indeterminable. Maximum length 10 in. (25.4 cm.), maximum breadth 2.48 in. (6.3 cm.). From a late level of Period III (NGD-1, 2411).

## (ix) Potter's Dabber

2. Potter's dabber round in section has a concavity in the centre. Lower portion is broader than the upper. This is a solitary find of potter's implement in stone. Upper diameter 1.49 in. (3.8 cm.), lower diameter 3.22 in. (8.2 cm.). From a late level of Period III (NGD-1, 270). (see also under Miscellaneous Terracotta Objects).

## (x) Whetstone

Four whetstones have been found in all, of which one each occurs in Period I and II, and two in Period III.

3. Broken fragment of whetstone which might have been used for sharpening or grinding objects of various kinds. Has a smooth upper surface. Maximum length 1.96 in. (5 cm.), maximum width 1.45 in. (3.7 cm.) and thickness 0.511 in. (1.3 cm.). From a late level of Period I (NGD-1, 1702).

4. Whetstone. Maximum length 4.8 in. (11.4 cm.), maximum width 3.46 in. (8.8 cm.), maximum thickness 0.94 in. (2.4 cm.). From a late level of Period III (NGD-1, 172).

## 10. COIN

A solitary punch-marked copper coin has been obtained from the upper levels of Period II. However the find of a copper punch-marked coin from Nagda had been known earlier. The find of the coin in a stratified context has a bearing on its date and its applicability in general to coins of this type elsewhere.

## Pl. XXXV B

A Copper Punch-marked Coin (NGD-1, 1627).

Metal — Copper; size 1.1 cm. (0.433 in.) x 1.1 cm. (0.433 in.); weight 2.28 gr; shape square; condition fair.

Obv. Human figure, sun symbol, six-armed symbol (partly available), caduceus, animal (?).

Rev. Caduceus.



1. The technique of the manufacture of microliths has been described by B. Subbarao in *The Excavations at Maheshwar and Navdatoli*, (Poona, Baroda, 1958), pp. 41-65.
2. H.C. Beck, *Classification of Beads and Pendants*, *Archaeologia*, vol. LXXVII (1928), pp. 1 ff.
3. Some of the sites and relevant bibliography are given below:  
 Taxila, Sir John Marshall, *Taxila*, vol. II, p. 508 (nos. 160-164), vol. III, pl. 142; Ropar, Collection of antiquities in the Central Archaeological Collection, Purana Qila, New Delhi;  
 Hastinapura. *Ancient India*, nos. 10-11, (1954-55), p. 90, pl. L.; Kausambi, information from G.R. Sharma to M.G. Dikshit, *Tripuri -1952*, p. 111;  
 Ahichchhatra, Collection of antiquities in the Central Archaeological Collection in Purana Qila, New Delhi;  
 Sisupalgarh, *Ancient India*, no. 5, (1949), pp. 89-91; Rairh, K.N. Puri, *Excavations at Rairh, Report of the Dept. of Archaeology & Historical Research, Jaipur State, 1938-39*, 39-40, (Jaipur), pp. 41-42  
 Nagari, D.R. Bhandarkar, *The Archaeological Remains & Excavations at Nagari. Mem. Arch. Surv. Ind.*, no. 4, p. 145; Ujjain, A.S. Gadre, *Annual Administration Report, Gwalior State, for 1938-39*, p. 63;  
 The subsequent finds in the excavations of 1955-58 are in the Central Archaeological Collection in Purana Qila, New Delhi, Tripuri, M.G. Dikshit, *Tripuri-1952*, p. 110, fig. 40; Bahal, *ibid.*, p. 100;  
 Prabhas Patan, *Indian Archaeology 1956-57-A Review*, Pl. XVIII, nos. 1, 2, 3 & 4.  
 Nasik and Jorwe, Sankalia & Deo, *op. cit.*, (Poona, 1955), p. 100, Pl. XXII, nos. 10, 11, 14, 15, 16.  
 Maheshwar, Sankalia, Subbarao & Deo, *op. cit.*, (Poona; Baroda, 1958), p. 96;  
 Maski, Thapar, *Ancient India*, no. 13 (1954), p. 111; Kondapur, Exhibits in Hyderabad Museum;  
 Prakash *Indian Archaeology 1954-55 - A Review* p. 13. Pl. XXII; *Ancient India*, Nos. 20 and 21. p. 129. Pl. XXIX, 9, 10; Brahmapuri, H.D. Sankalia & M.G. Dikshit, *The Excavations at Brahmapuri*, Pl. XXIV b; Nagarjunakonda, Longhurst, *Mem. Arch. Surv. Ind.* no. 54, Pl. XIII-d.
4. Information from the late T.R. Gairola, then Conservator, National Museum, New Delhi.
5. *Sculpture in Govt. Museum, Madras*. fig. 10, *Ancient India*, no. 6 (1950), p. 22, fig. 1; *ibid.*, fig. 16, p. 32; sculpture of Bhadra of the Dipankara Jataka in the State Museum, Lucknow, *Arch. Surv. Ind. Annual Report, 1909-10*, p. 72, fig. 5; female figure engraved on ornamental tile, D.R. Bhandarkar, *op. cit.*, Pl. XXI (b) and (c); K.N. Dikshit, *Excavations at Paharpur, Mem. Arch. Surv. Ind.*, no. 55, Pl. XXVII(a) and (b); Pl. XVII (a); Pl. XXI (a) and (b); terracotta plaque from Kausambi, *Indian Archaeology 1953-54 A Review*, Pl. XI, fig. B; terracotta figures from Ropar, Y.D. Sharma, *Past patterns in living as unfolded by Excavations at Ropar, Lalit Kala* Nos. 1 & 2, 1955-56 p. 124, Pl. XLVII; terracotta figure from Ujjain, *Indian Archaeology 1956-57 - A Review*, pl. XXXIV, fig. B; terracottas from Tamluk, *A Survey of Indian Sculpture*, p. 110, Pl. XVIII, fig. 82.
6. Information from Shri K.R. Srinivasan, Minutes of the Central Advisory Board of Archaeology meeting 1957, p. 19 (cyclostyled copies available at the Central Archaeological Library, New Delhi).
7. *Indian Archaeology 1956-57 - A Review*. Pl. XVIII A, 1, p. 17.
8. N.R. Banerjee, The technique of the manufacture of beads in ancient Ujjain, *Journal of the Asiatic Society*, 1959, vol. I, no. 2, pp. 186-96.
9. E. Herzfeld in *Iran in the Ancient East*, 1941, pp. 15-17, writes, "a number of clay figurines (Pl. II) burnt and painted, less frequently unpainted, teach us something about the religious ideas of the people. There are more female than male figures. Some are rudimentary and almost abstract; others have arms and legs in various attitudes, or no arms and legs at all; they may have heads or not; sometimes even muscles of shoulders and legs are rendered, or just round protuberances instead of arms. There is no uniformity of style; we find utter abstraction beside attempts at realistic treatment. Our modern aesthetic categories, like abstract and naturalistic, expressionist and impressionist, do not hold good before this old material. One of the male heads (fig. 8) is quite naturalistic, with all the parts in the right place and proportions; others are pointed cones with a pair of lateral slits indicating eyes....." "Fig. 11 gives more such figures from Arpachiyya, and fig. 12b a unique unpainted piece from Persepolis, identical with neolithic idols from Knossos, Crete, and immediately distinguishable as an imported piece by the quality and colour of its clay. The Knossos specimen compared in our figure has a zigzag line across the breast, just like the design on the short kilt worn by men on the oldest sculptures of Tell Halaf. But other specimens from Knossos have the same incised line under the breasts as the Persepolis specimen. The piece must have been imported in Neolithic times. From Crete to Persepolis, just as in Tepe Gawra, idols were imported from western Asia Minor. The analogies from Arpachiyya and sites related to it, on the other hand, indicate, not a trade but common culture. The heads of the Persepolis figures are all severed; no two pieces that belong together have been found. They are idols, a kind of household god, the female figure possibly a mother goddess in primitive society



of matriarchal character. And the fact, that, not a single one was preserved with the head on, may be connected with sudden abandonment of the village and interpreted as punishment. They were beheaded when they had been inefficient or unwilling to help".

J.D. Evans writing as far back as 1964 (in *Excavation in the Neolithic Mound of Knossos, Bulletin of the Institute of Archaeology*, London, vol. 4, 1964 p. 56, figs. 12, 3) states (p. 57), that the Early Neolithic Phase II (which has yielded a Nagda type figure) is dated on the basis of carbon-14 analysis (of BM no. 126) to 5050±180 B.P. which works out approximately to 3100 B.C.±180 B.C.

Reynold Higgins, writing in the *Archaeology of Minoan Crete*, (Broadly Head, 1973), p. 13, states that the earliest Cretans had arrived from somewhere in West Asia around 6000 B.C. in the Neolithic times. He further writes "..... they made crude female idols of fired clay (terracotta) which they probably worshipped as representations of their goddess".

Notwithstanding the overwhelming weight of evidence adduced above, it is not suggested that the Nagda figure was derived lineally from Crete or even Persepolis, though in the Cretan example we do observe a distant predecessor. Incidentally, it may be added that the Knossos specimen is indeed similar to the Nagda specimen. The difference lies in two oblique grooves on the rounded lower part, to suggest plump thighs and buttocks as in a seated figure, and two parallel zigzag lines incised diagonally across the body in the Cretan specimen.

Furthermore, the head is represented by an upward protrusion without any other distinguishing mark.

10. *Indian Archaeology 1956-57-A Review*, p.11, Pl. VI records the discovery of comparable terracotta at Bilawadi. The terracotta figures from Bilawadi shown in plate VI A is plain, none of the diagnostic features such as the breasts and navel, etc., being depicted. In outline and general appearance it agrees with the Nagda figures, both of which are feminine. As in the case of Iran, where the female figures exceeded the male in number, this figure, in particular, perhaps suggests the existence, as in Iran, of a male counterpart. This is also inferable from the associated figure shown in plate VI B, where the apparently male figure is shown with a similar rounded base, but with a beaded *hara* (necklace), and some skirt-like drapery (?) of four vertical rows of floral petals. The arms are folded against the sides and over the chests. For the exact location of the site of Bilawadi in the map, (fig. 4) facing page 8 may be seen.  
Sankalia and others, *From History to Prehistory in Nevasa*, and *Indian Archaeology 1959-60 - A Review*, p. 28, Pl. XXXVI B. The reference here is to the find of a female figure strongly reminiscent of the Nagda figurine in question in the chalcolithic levels at Nevasa in District Ahmednagar, Maharashtra.
11. V.G. Childe *Dawn of European Civilization*, 1925, p. 24 fig. 10.  
Childe shows several specimens known from Neolithic times in Knossos (Crete) as well as in the Kuban region of the Caucasus as well as elsewhere. The cultural and chronological horizons indicate a Neolithic cultural trait and the end of the 4th millennium B.C. as a point in its chronological range which may further recede backwards to circa 6000 B.C.
12. Taxila, Marshall, *Taxila*, vol. III, Pl. 129Y; Ropar, collection of antiquities in the Central Archaeological Collection at Purana Qila, New Delhi; Hastinapura, Dikshit, *Tripuri*, 1952, p. 100; Ahichchhatra, *ibid.*, p. 100; Kausambi, *ibid.*, p. 100; Ujjain, Collection of antiquities in the Central Archaeological Collection Purana Qila, New Delhi; Timbarwa, *ibid.*, p. 100; Bahal, *ibid.*, p. 100; Nasik, *ibid.*, p. 100; Ukhliana, antiquities in the Central Archaeological Collection, New Delhi.
13. Marshall, *Mohenjo-Daro and the Indus Civilization*, pp. 467-68, Pl. xxxiii 13-17.
14. Marshall, *Taxila*, III, p. 425, Pl. ; Ropar, collection of antiquities in the Central Archaeological Collection at Purana Qila, New Delhi,  
Hastinapura, *Ancient India*, nos. 10 & 11 (1954-55), Pl. XLVII; Ahichchhatra, collection of antiquities in the Central Archaeological Collection at Purana Qila, New Delhi; Kausambi, Collection of antiquities in the Kausambi Museum, Allahabad University;  
Bhita, *Archaeological Survey of India, Annual Report*, 1911-12, Pl. XXIX, 18;  
Nagda, Sankalia, Rao & Deo, *op. cit.*, (Poona, 1958), p. 198;  
Maheshwar, *ibid.*; Ujjain, Gadre, *op. cit.*; Pl. XIa, XXb.  
Sambhar, Sahni, *Excavations at Sambhar*, Pl. XIIIc;  
Besnagar, *Archaeological Survey of India, Annual Report*, 1913-14, Pl. IX, 56; 1914-15, Pl. LIII, 5.  
Sanchi, Marshal, Catalogue of the Archaeological Museum of Sanchi, Pl. XX p.644; Karad, explorations at Karad, Pl. XIIIa;  
Tripuri, Dikshit, *op. cit.*, (Nagpur, 1955), p. 99; Bahal, *ibid.*, p. 99;  
Nevasa, *Indian Archaeology 1955-56 - A Review* p. 10;  
Nasik, Sankalia & Deo, *op. cit.*, (Poona 1955) p. 101. A list of sites where skin rubbers have been



- noticed, has been listed by S.B. Deo in the *Excavations at Maheshwar-Navdatoli, 1952-53*, (Poona, Baroda, 1958) chapter IX, pp. 198-199; Dikshit, *op. cit.*, (Nagpur, 1955), p. 99.
15. Dikshit, *ibid.*, p.99
  16. Sankalia, Subbarao and Deo, *op. cit.*, (Poona Baroda, 1958), p. 198.
  17. Information from the late D.C. Sircar who had kindly undertaken to study the legend.
  18. *Indian Archaeology 1955-56 - A Review*, Pl. XXIV, B.
  19. *Ibid.*, 1956-57, Pl. XXXIII, 7.
  20. *Ibid.*, Pl. XVIII, 5.
  21. Since no epigraphical material has been found in Period II, and since the existence of any script in the period is not known so far it may be more appropriate to call these objects as engravers and not as styluses.
  22. Marshall, *op. cit.*, vol. III, Pl. 199, no. 33.
  23. Bangarh, K.G. Goswami, *The Excavations at Bangarh*, (Calcutta, 1948), p. 16, Pl. XXV (a).  
 Brahmagiri, *Ancient India*, no. 4 (1947-48) *op. cit.*, p. 267, fig. 41, nos. 1 (bronze), and 2, both belonging to IB culture.  
 Hastinapura, *Ancient India*, nos. 10 and 11, (1954-55), p. 97, fig. 30, nos. 1-10, in Periods IV and V.  
 Maheshwar, Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), p. 209 fig. 108, nos. 1, 6, 7, II all belonging to Period IV.  
 Maski, Sankalia and Deo, *op. cit.*, (1955), p. 114, fig. 34, no. 1, Period I.  
 Nasik, Sankalia and Deo, *op. cit.*, (Poona, 1955), fig. 51, nos. c and d, and unillustrated specimens described on pp. 108-109.  
 Nevasa, Sankalia and others, *op. cit.*, (Poona, 1960), p. 410, fig. 184, nos. 1 and 2, belonging to Periods IV and V respectively.  
 Taxila, *Ancient India*, no. 4, *op. cit.*, (1947-48), Pl. XVIII A, nos. 4, 5, 7-9, where a distinction has been made between two types on the basis of the absence or presence of broad heads at both ends, those broad at one and pointed at the other being held as hair pins. No. 10 in the same plate is in bronze.  
 Tripuri, Dikshit, *op. cit.*, (Nagpur/1955), p. 104, Pl. XXXIX, 2-3, and unillustrated specimens described on p.104, ranging from stratum II to stratum IV.
  24. Marshall, *op. cit.*, (1956), vol. III, pl. 182; vol. II, p. 586.  
 At this site they are generally dated to the Saka-Parthian period, except two, which are dated respectively to 3rd - 2nd centuries and 2nd - 1st centuries B.C. Herzfeld, *op. cit.*, p. 152, writes of similar objects, "pins of silver copper or bronze appear at all Iranian sites in great numbers, especially at Tepe Giyan and in Luristan; their sizes range from one and a half to eleven inches. They are always single and were probably not pins, but devices used for fastening cloaks or other garments."
  25. Similar objects at Taxila have been identified as kohlphials, and the various specimens are dated from stratum II, i.e. Saka-Parthian to stratum IV, i.e. early Saka. They are also provided with a stopper. See Marshall, *op. cit.*, Vol. II, p. 587, and Vol. III, pl. 173, nos. 240 and 241. prototypes in bronze, also provided with stoppers occur in the urn-burials at Adichanallur, see *Arch. Surv. India, An. Rep.*, 1902-03 p. 130, fig. 16, nos. 975 and 1432.
  26. In this connection and in conjunction with the terracotta animal figurines described above, the views of Herzfeld, *op. cit.*, pp. 17-18, on similar objects from Iran may be considered. He says, "Besides the human figurines there is a variety of animals, domesticated and wild, oxen, sheep, dogs, lions, leopards, bears and birds, some of them highly artistic (see Pl. III and fig. 13). Similar animals occur at Tepe Giyan, Anau - not only all over Iran, but also in the lowest strata of mounds in Sumer and Asia Minor. They may be ex-votos with a magic virtue: protection against wild beasts, fertility of the flocks, success in hunting or trapping. They count among the oldest attempts at imitating exterior objects, of expressing man's creative imagination of plastic art." In regard to the copper leopard from Nagda, its similarity to the terracotta figurines from Persepolis illustrated on plate III, figs. 2 and 8 of the above named publication may be specially pointed out. The latter is punched like the Nagda specimen.
  27. Stein, *op. cit.*, (Calcutta, 1929), no.37 p. 47, pl. XII, no. MVI. I am obliged to Shri B.B. Lal for drawing my attention to this parallel specimen.  
 E. Herzfeld writes in *Iran in the Ancient East*, 1941, pp. 147-148, "The bracelets or similar ornaments ( . . . ) pose a difficult problem. A large bronze bracelet from Tepe Giyan is made of a bar of circular cross section, thicker in the middle and tapering towards the ends. The thinly stretched ends form a movable and springy knot, which permits the armlet to be widened. Smaller bracelets and rings of the same construction occur in tombs of the 'A' cemetery of Kish, of the Mesilim period; also - exactly as at Tepe Giyan - at Moghul Ghundai, the Zhobvalley, and in gold at Assur. . . . .  
 Already these few specimens differ widely, but the identical and very special form is typical for the La



Tene epoch in central Europe, much too late for any of the oriental specimens."

28. A similar specimen in bronze has been found at Rairh (K.N. Puri, *The Excavations at Rairh*, Pl. XXI, no. 14, p. 43), but with an apparently solid handle. A mirror with a rim, and a raised point in the centre, besides a solid tapering tang or handle, occurs also at Taxila (Marshall, *Taxila*, vol. III, Pl. 181, fig. no. 200; vol. II, p. 585). A similar mirror attributed to the Sunga period is reported to have been found at Bulandi Bagh, Patna. At Sirkap (Taxila) they occur only in the Saka-Parthian period. Two circular discs, with a thickened rim, in one case with a raised knob at the centre and in the other with a handle, have been found in the urn-burials at Adichanallur. District Tirunelveli (Tinnevely), *Arch. Surv. ind. An. Rep.*, 1902-1903, pp. 128, figs. 12 and 13.

B.K. Thapar, Prakash 1955: A chalcolithic site in the Tapti valley, *Ancient India*, nos 20 and 21, pp. 14-17; *Indian Archaeology 1954-55 - A Review*, p. 13.

Brahmagiri has yielded sickles of crescent-shaped types, found in the megaliths, and inferably, of the curved blade type, found in the habitation levels of the Andhra Period, *Ancient India*, no. 4, (1947-48), p. 260, fig. 38, nos. 29 and 30, and fig. 40, nos. 48 and 49.

Brahmapuri has yielded a crescent-shaped sickle from the Bahmani-Silahara levels, showing a long life of this convenient shape. See H.D. Sankalia & M.G. Dikshit, *The Excavations at Brahmapuri*, 1945-46. Poona, 1952, p. 128, fig. 27, no. 1942.

Kausambi has yielded a specimen resembling the curved blade type from Period IV (45 B.C.-450 A.D.) (incomplete), G.R. Sharma, *The Excavations at Kausambi*, 1957-59, (Allahabad, 1960), p. 56, fig. 8, no. 39.

Maheshwar has yielded blades from Periods V (100 B.C. - 100 A.D.), and VI (100-500 A.D.) of the crescent-shaped type. See Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), p. 214, fig. 112.

Nevasa: Curved crescent-shaped sickles occur also at Nevasa. Those occur in Period IV (2nd-1st century B.C.) and Period V (last century B.C.- 2nd-3rd century A.D.), respectively. See Sankalia, Deo, Ansari and Ehrhardt, *op. cit.*, (Poona 1960), p. 425, fig. 188, nos. 10-11.

Sisupalgarh has yielded a curved sickle blade in Period III, circa A.D. 200-350, *Ancient India*, no. 5, (1949), p. 95, fig. 11, no. 37.

31. Hastinapura: Two objects with a loop at the top, and a round blade occur in Period V (1200-1400 A.D.), *Ancient India*, nos. 10 and 11, (1945-55), pp. 98-99, fig. 31, nos. 17 and 18.

Maheshwar: In Period IV, the blade end widens at the terminal and is more like a chisel than a hoe, though the distinction between the two is little (Period IV is dated c. 400-100 B.C.). Sankalia, Subbarao & Deo, *op. cit.*, (Poona, Baroda, 1958), p. 214, fig. 112, No. N 4077.

Taxila: Similar objects have been found in Strata I & II (surface and late Saka-Parthian) respectively. See Marshall, *op. cit.*, (1951), vol. II, pp. 559-60; vol. III, Pl. 169, nos. 191 and 192.

32. Kausambi, Period IV (circa 45 B.C. to circa 580 A.D.), Sharma, *op. cit.*, (Allahabad 1960), fig. 8, no. 41. Nasik, Sankalia and Deo, *op. cit.*, (Poona 1955), p. 114, fig. 52, no. 12, Period IIA (Early Historic).

33. Brahmagiri, *Ancient India*, no. 4, (1947-48), p. 257, fig. 38, nos. 21-24.

Sanur, where it is datable to circa 300 B.C. or earlier. The early occurrence of such an object in Period II at Nagda, and its echo in Sanur in c. 300 B.C. (an empirical date) would seem to point to a connection and by implication indicate the trend of this shape in iron! N.R. Banerjee & K.V. Soundararajan, *Ancient India*, no. 15, (1959), p. 37 fig. 10, nos. 11 and 12.

34. Nevasa, Sankalia & others, *op. cit.*, (1960), fig. 190, no. 2, Period IV, c. 150 B.C.- 50 B.C.

Taxila, Marshall, *op. cit.*, Vol. II, p. 540, Pl. 162, nos. 1 and 11, from Strata III & II respectively, late Saka-Parthian Vol. III.

35. Tripuri, A similar object, though varying in details, has been found in stratum IV, datable to circa 100 B.C. to 200 A.D. Dikshit, *op. cit.*, p. 103, fig. 38, no. 10, and described as a door clamp.

36. Similar flattish sided rings occur at the following sites:-

Hastinapura: *Ancient India*, nos. 10 and 11, 1954-55, p. 99, fig. 32, no. 28, from a mid-level of Period V, late 11th to early 15th century A.D.

Kausambi: Sharma, *op. cit.*, (Allahabad, 1960), p. 55, fig. 7, no. 33, Period III, c. 605 to c. 45 B.C. Maheshwar: Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), fig. 111, no. M 397.

Nasik: Sankalia & Deo, *op. cit.*, pp. 114-115, fig. 53, nos. 5 & 6 current during Periods II, III and IV, corresponding to 300 B.C. to 100 A.D., 50 A.D. to 225 A.D., and 1500 to 1800 A.D., respectively.

Nevasa: Sankalia and others, *op. cit.*, p. 435. The objects belong to Period IV & VI, 150 B.C. to 50 B.C., 1400 A.D. to 1700 A.D.

Taxila: A. Ghosh, *Ancient India*, no. 4 (1947-48), p. 79, Pl. XIX, no. 22.

37. The specimen at Nagda has parallels at the following sites:-

Arikamedu: Wheeler, Ghosh and Krishna Deva, *Ancient India*, no. 2 (1946), p. 103, fig. 43, no. 4.

The occurrence is post-Arretine.



- Maheshwar: Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), fig. 111, no. M 353.  
 Maheshwar: Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), fig. 111, no. M 352.
38. Similar knives have been noticed at the following sites:—  
 Short blade, curved cutting edge, concavo-convex in outline. Long blade with straight cutting edge.  
 Bangarh : It has yielded possibly a dagger of this type ; Goswami, *op. cit.*, (Calcutta, 1948), Pl. XXV, no. 2.  
 Maheshwar : It resembles the Nagda type, but it is a complete specimen with a long tang characterised by a perforation at the terminal end. From Period VI (100-500 A.D.), Sankalia, Rao & Deo, *op. cit.* (Poona, Baroda, 1958), p. 215, fig. 112, no. M 830.  
 Maski : *Ancient India*, no. 13 (1957), p. 117, fig. 36, no. 7, Period II, c. 200 B.C. to 50 A.D.; Sankalia & Deo, *op. cit.*, (Poona, 1955), fig. 54, nos. 2 & 4 (Period II & IIa) & 5 (Period IIb) c. 400 B.C. to 50 A.D. and 400 B.C. to 200 B.C. and c. 200 B.C. to 50 A.D.; also p. 113, Pl. XXVii nos. 3, 4 and 5 (long blade).  
 Nevasa : Longer blades, Sankalia & others, *op. cit.*, (Poona, 1960), fig. 188, nos. 8 & 9, Period V (50 B.C. to 200 A.D.) & IV (150 B.C.-50 B.C.), respectively.  
 Tripuri : Dikshit, *op. cit.*, (Nagpur, 1955), pp. 102-103, fig. 38, no. 4, Stratum IIIA, 100 B.C. to 300 B.C. It has however a tang along one edge.
39. Leaf-shaped with elliptical cross-section.  
 Hastinapura: *Ancient India*, nos. 10 & 11 (1954-55), p. 99, fig. 32, no. 21, Period V (late 11th to early 15th century A.D.).  
 Kausambi: Sharma, *op. cit.*, (Allahabad, 60), pp. 54-55, fig. 8, nos. 27-28 both from Period III, c. 605 B.C. to 45 B.C.  
 Maheshwar: Sankalia, Subbarao & Deo, *op. cit.*, (Poona, Baroda, 1958), p. 212, fig. 100, nos. 888-V (100 B.C. to 100 A.D.) 495-VI, 147-VI, 463-VI.  
 Maski: *Ancient India*, no. 13, p. 117, fig. 37, no. 11.  
 Nasik : Sankalia & Deo, *op. cit.*, (Poona, 1955), p. 112, fig. 52, no. 1, Period II A, 400 B.C. to 200 B.C., but socketed.  
 Rairh : K.N.Puri, *op. cit.*, (Jaipur 1939-40), p. 36, Pl. XIX, nos. 7, 11, 14; p. 36, Pl. XX, nos. 2 and 13.  
 Sambhar : D.R. Sahni, *op. cit.*, p. 49, Pl. XIV, no. i.  
 Sanur : *Ancient India*, no. 15, *op. cit.*, p. 37, fig. 11, no. 23.  
 Sisupalgarh : *Ancient India*, no. 5, pp. 94-95, fig. 10, nos. 24 (III), 25 (IIB) and 28 (III), corresponding to c. A.D. 200-350; 100-200; & 200-350 ; (with prong at base), pp. 94-95, fig. 10, no. 26 (III) (c. A.D. 200-350).  
 Taxila : Marshall, *op. cit.*, vol. II, p. 548; vol. III, Pl. 164, no. 67 (5th century A.D.).
40. Sickles have been reported from Taxila. Marshall, *op. cit.*, (1951), vol. III, Pl. 169; Sankalia, Rao and Deo, *op. cit.*, (Poona, Baroda, 1958), fig. 112 (M. 630 A).
41. *Ibid.*, pp. 213-15, fig. 112 (N 4077).
42. Sankalia and Deo, *op. cit.*, p. 114, fig. 52, no. 12.
43. Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958), p. 212, fig. 111, M. 378 .
44. Iron bowls from Taxila, Marshall, *op. cit.*, (1951), vol. III, p. 163, no. 8.
45. Goswami, *op. cit.*, (Calcutta 1948), p. 33, Pl. XXXIII (b), 1.
46. Sankalia, Subbarao & Deo, *op. cit.*, (Poona Baroda, 1958), pp. 233-34.
47. H.D. Sankalia, 'Cultural Significance of Saddled Querns', *Journal of the Anthropological Society of Bombay*, New Series, Vol. IV, no. 1 pp. 35-39, Pls. I-IV, 1950; K.D. Banerjee, 'Querns and Anvils from the Narmada valley', *Bulletin of the Deccan College Research Institute*, Vol. 18, pp. 8-9.
48. Dikshit, *op. cit.*, (Nagpur, 1955), p. 107: "To sum up, the date provided for the legged querns in India, through stratified excavations ranges between 1st cent. B.C. and 2nd cent. A.D. The legged type of the querns, therefore, should within reasonable limits provide a dating value".
49. Bahal : *Indian Archaeology 1956-57-A Review*, p. 18.  
 Bairat : *Excavation at Bairat*, Pl. IXC.  
 Basarh : *A.S.I. Annual Report, 1903-04*, p. 90.  
 Bhita : *Ibid.*, 1911-12, Pl. XXX.  
 Besnagar : *J.B.B.R.A.S. (O.S.)*, XXIII, p. 142, fig. 11.  
 Chandravalli : *Mysore Arch. Report, Supplement*, 1929, p. 9, Pl. VI, 2.  
 Kankadighi : *Modern Review*, 1948, p. 208.  
 Karvan : *Journal, Bombay University*, Plate XVIII, fig. V, p. 61, and *Journal Anthropological Society*, Bombay, 1950, Plate IV.  
 Kasia : *A.S.I. Annual Report, 1906-07*, p. 54.  
 Kolhapur : Sankalia and Dikshit, *Excavations at Brahmapuri*, Pl. XXXI E.

Karad : *Explorations at Karad*, Pl. XII, a.

Maheshwar : Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda 1958), p. 236 fig, 115.

Nasik : Sankalia and Deo, *op. cit.*, (Poona, 1955), p. 117. Pl. XXVIII, No. 1.

Nevasa : Sankalia and others, *op. cit.*, (Poona, 1960), p. 473.

Sambhar : D.R. Sahni, *Excavations at Sambhar*, p. 35.

Sanchi : Marshall, *Monuments at Sanchi*, Pl. III, a, I.

Sirkap : Taxilla, *A.S.I. Annual Report*, 1907-08 Pl. XXIII; Marshall, *Taxila*, II, Pl. 140, e; f; i.

Tripuri : Dikshit, *op. cit.*, (Nagpur, 1955), p. 106.

Timbarva : R.N. Mehta, *Excavations at Timbarva*, (Baroda, 1955), p. 25.

Ujjain : Author's excavations at Ujjain, 1956-58.

50. *Indian Archaeology 1957-58-A Review*, pp. 32-35; Sankalia, Subbarao and Deo, *op. cit.*, (Poona, Baroda, 1958).

51. K.D. Banerjee, *op. cit.*, p. 16.



## XI. ANIMAL REMAINS

By Bhola Nath

The animal remains from Nagda are mostly fragmentary and fragile in nature. In many cases charred bones have been found as at Harappa, Mohenjodaro, Hastinapura and Ropar. The majority of the animal remains are of the domestic animals, that of *Bos Indicus* Linn. (the humped cattle of India) being by far the most predominant. The remains of *Bubalus bubalis* Linn. (the Indian domestic buffalo) are very limited in number, which indicates that the inhabitants probably did not maintain large herds of *Bubalus bubalis* as compared to *Bos Indicus*. The remains of goat (*Capra hircus aegagrus*) and sheep (*Ovis Orientalis Vignei* Blyth race *domesticus*) are fairly numerous. The remains of pig are very scantily represented.

Among the wild animals, two members of the deer family, the Sambar (*Rusa Unicolor*) and the Barasingha (*Cervus duvancelli*) have been recorded. The single find of Muggar or the Great Indian Crocodile (*Crocodylus palustris*) from Nagda is, however, noteworthy, as it has not been recorded from Harappa, Mohenjodaro and other prehistoric sites of India. Remains of fish and reptiles have also been recorded. The reptilian remains present are mainly of the turtles *Lissemys punctata*, *Chitra indica* and *Trionyx gangeticus*.

The animal remains from Nagda resemble in their species those of Harappa, Mohenjodaro, Hastinapura, Maski, Nevasa and Brahmagiri, respectively.

The presence of a large number of bones belonging to young animals indicates that the people practised full fledged domestication. A few bones, particularly, of the humped cattle, buffaloes, sheep, goats and pigs have definite cut marks by sharp instruments which indicate that the inhabitants used those animals for food.

Altogether 16 species are represented in the Nagda animal remains collection.

The following species are represented in Period I : *Bos Indicus* Linn. *Bubalus bubalis* Linn., *Ovis Orientalis Vignei* Blyth race *domesticus*, *Capra hircus aegagrus* Erxl., and *Sus Scrofa Cristatus* Wagner (the Indian domestic pig).

In Period II the following species have been recorded:—

*Lissemys punctata forma typica* (the common soft-shelled turtle). *Trionyx gangeticus* Cuvier (the Ganges soft-shelled turtle). *Chitra indica* Gray (the soft-shelled river turtle). *Felis Catus* Linn. (the domestic cat). *Bos indicus* Linn., *Bubalus bubalis* Linn., *Ovis Orientalis Vignei* Blyth, race *domesticus*, *Capra hircus aegagrus* Erxl., *Sus Scrofa Cristatus* Wagner, *Rusa unicolor* Kerr., *Parreyssia fevidens* (Benson) (the fresh water mussel), *Lamellidens* sp.

The following species are represented in Period III:—

*Lissemys punctata* (Bonnaterre) *forma typica*, *Crocodylus palustris* Lesson, *Rattus rattus*

Linn., *Bos indicus* Linn., *Bubalus bubalis* Linn., *Ovis Orientalis Vignei* Blyth, race *domesticus*, *Capra hircus aegagrus* Erxl., *Sus Scrofa Cristatus* Wagner, *Rusa Unicolor* Kerr., *Curvus Duvancelli* Cuv. *Rita rita* (Ham. Buch) and a carp fish.

# Pl. XXXVI

No.1, *Trionyx gangeticus* Cuvier one fragment of *epiplastron*, no. 2, *Crocodylus palustris* Lesson, fragment of mandible; no. 3, *Felis Catus* Linn. right humerus of modern specimen; no.4, *Felis Ratus* Linn, right humerus of Nagda specimen; no. 5, *Sus scrofa Cristatus* Wagner, fragment of canine tooth ; no.6, *Capra hircus aegagrus* Erxleben, fragment of horn core; no.7, *Capra hircus aegagrus* Erxleben, fragment of mandible; no. 8, *Capra hircus aegagrus* Erxleben, distal fragment of 3rd and 4th metatarsals; no.9, *Capra hircus aegagrus* Erxleben, left astragalus; no. 10, *Bubalus bubalis* Linn, right astragalus; no.11, *Bos indicus* Linn, right astragalus.



## XII. SOIL ANALYSIS

By B. B. Lal

Shri N. R. Banerjee asked us to find out the nature of the formation of soil of Layer no. 9 which according to him is artificially laid, after the site remained abandoned for a while, but traces of the same cultural remains of the earlier period, i.e. chalcolithic, were found in fair abundance even above this deposit. Similar information is sought for other layers.

In this respect the following points were studied:—

Dif. of Ma of M.H. & L.C. , grade size, bedding, presence of Limonite or Haematite, organic matter and P2 O5.

Dif. of Ma of H. M. & L. C. :— The arithmetic mean, average diameter of the heavy minerals and the lighter fractions were calculated mathematically and were found not less than 0.15mm. anywhere . This figure indicates a fluid deposit.

Grade size:— The mean average diameter of the soil lies in the coarse silt. The fine portion is more than 65% which indicates a deposition by a current of less velocity.

Bedding :— In the section of the trench the bedding is almost horizontal and homogeneous which indicates dilute suspension whereas in the case of a concentrated suspension we get a graded bedding.

Presence of Fe<sub>2</sub> O<sub>3</sub>:—The comparative light colours of the samples indicate an aereated water deposit.

Organic matter:—The percentage of organic matter being less than 4 supports the above view.

Phosphorite:— Absence of a higher percentage of phosphoric material is indicative of oxydizing environment.

Conclusion:— In view of the above it is conclusive that the soil in the trench was deposited by slowly moving water. The suggestion that layer no. 9 was deposited artificially cannot be proved in the light of the present observations as there is no contrasting difference among the composition of the soil samples from the trench.

### XIII. ACKNOWLEDGEMENTS

The excavations described here were carried out by the Excavations Branch of the Archaeological Survey of India under my direction. I am deeply obliged to all those who participated in the excavations or otherwise helped in the preparation of the report in various ways. Dr. K.K. Sinha, now Professor of Ancient Indian History and Archaeology, Banaras Hindu University, Varanasi, was the author's principal assistant throughout the entire period of the excavations. Among my departmental colleagues, who participated in the excavations, mention may be made of Sarvashri J.S. Nigam, R.N. Gupta, Laxmi Dutt, L. K. Jain, M. Singh and the late R.P. Khare. The maps, plans and sections were prepared by Sarvashri Laxmi Dutt, S. P. Jain, A. K. Roy, and L. K. Jain, and the drawings of the pottery and antiquities were prepared by the late Gouri Shanker, the late R. P. Khare, and Sarvashri L.K. Jain, M. Singh, S. K. Mukerjee, H. Sajnani and J. N. Gandhi. The drawings of microliths were prepared by Shri L.K.Jain. The photographs were taken by Shri M. B. Limaye, assisted by the late S.P. Nanda. The analysis of pottery was made by Shri J.S. Nigam under my guidance, and the antiquities likewise were handled by Shri J.P. Joshi, now Additional Director General, A.S.I., with the help of Shri S.Banerjee. Shri N.C. Ghosh, now Professor of Archaeology, Shantiniketan, helped generally during the preparation of the report. Those who participated in the excavations included the late Dr. T. V. Mahalingam, Professor of Indian History and Archaeology, Madras University, Dr. H. Sarkar who has recently retired as Joint Director General in the A.S.I., Shri S.N. Sen, Miss Uma Chaturvedi (now Mrs. Madan) and Shri J.P. Joshi.

Dr. R.V. Joshi kindly identified the raw materials of many an object. The metal objects were treated by Dr. B.B. Lal, then Archaeological Chemist in India, Dehradun, and the late T.R. Gairola, Asst. Director, National Museum, New Delhi. The animal bones were studied and analyzed by Shri Bhola Nath, then Vertebrate Zoologist, Zoological Survey of India, Calcutta. Special mention must be made of Sarvashri J.S. Nigam and J.P. Joshi for the ungrudging help rendered to me at all stages of the preparation of the report, and of Shri S.R. Pahwa, and Shri G.P. Srikumaran, who typed the script carefully and in good time.

The late Dr. D. C. Sircar, then Government Epigraphist for India, and who later became Carmichael Professor of Ancient Indian History, Culture and Archaeology, Calcutta University helped us with his suggestion on the perforated inscription on a terracotta ball and on a potsherd. To all those, I would avail myself of this opportunity to express my gratitude.

My thanks are also due to Dr. H. D. Sankalia for allowing me to study the fresh materials discovered from Navdatoli on the spot during the excavations for comparison with similar materials from Nagda, and also to numerous others who have at different times helped in ever so many ways in this undertaking.



## XIV. APPENDICES

### 1. BRICK MEASUREMENTS

#### A. GENERAL

The mud-bricks employed in the structures of Period I are mostly rectangular and occasionally square. The rectangular bricks conform, barring slight variations, to the norm of 1 ft. 4 in. x 10 in. x 2½ in. (40.64 x 25.4 x 6.35 cm.), and the square ones found only in the mud rampart, (I-7), to either 1 ft. 5 in. x 1 ft. 5 in. x 2½ in. (43.18 x 43.18 x 6.35 cm.) or 1 ft. x 1 ft. x 2 in. (30.48 x 30.48 x 5.08 cm.). The burnt bricks (III-1), of which specimens were found in Period III, measure on an average 1 ft. 7 in. x 1 ft. 6 in. x 3 in. (48.26 x 45.72 x 7.62 cm.).

#### B. PERIOD I

Structure 1-3 and 3C (I-5) (Sect. III-IV): 1 ft. 6 in. x 10 in. x 2 in. (40.64 x 25.4 x 5.88 cm.), 1 ft. 3 in. x 1 ft. 2 in. x 2½ in. (38.1 x 38.1 x 6.35 cm.).

Structures 3D, 3E (I-6) (Sect. III): 1 ft. 6 in. x 10 in. x 2½ in. (40.64 x 25.4 x 6.35 cm.); 1 ft. 9 in. x 11 in. x 2½ in. (53.34 x 27.94 x 6.35 cm.).

Structures 2, 2A, 2B, and 2C (I-6) (Sect. IA and II): 1 ft. 4 in. x 10 in. x 2½ in. (40.64 x 25.4 x 6.35 cm.); 1 ft. 6 in. x 1 ft. 5 in. x 2½ in. (43.18 x 43.18 x 6.35 cm.); 1 ft. 1 in. x 1 ft. 1 in. x 2 in. (33.02 x 33.02 x 5.08 cm.).

Mud-brick platform (I-7) (Sect. I): 1 ft. 5 in. x 11 in. x 2½ in. (43.18 x 27.94 x 6.35 cm.); 1 ft. 4 in. x 9½ in. x 2½ in. (40.64 x 24.15 x 6.35 cm.); 1 ft. 5 in. x 1 ft. 5 in. x 2½ in. (43.18 x 43.18 x 6.35 cm.).

#### C. PERIOD III

Burnt brick structure (III-1), (Sect. III): 1 ft. 7 in. x 1 ft. 6 in. x 3 in. (48.26 x 45.72 x 7.62 cm.).

## 2. METEOROLOGICAL REPORT

The following data on the temperature, rainfall and humidity, as far as available, for Ratlam and Ujjain, have been very kindly supplied by the Director, Regional Meteorological Centre, Nagpur, and are gratefully acknowledged. From 1957 to 1960, the rainfall is given in Mm., and temperature in Centigrade.

Place	Year	Month	Max. F°	Min. F°	Mean temp.	Monthly rainfall in.	Humidity at 8.30	1.51
Ratlam	1956	Jan.	79.9	53.0	66.5	0.59	64	
		Feb.	84.5	55.6	70.1	0.32	40	
		March	93.9	64.7	79.3	0	31	
		April	100.9	72.9	86.9	0	30	
		May	101.9	78.2	90.0	2.57	60	
		June	94.1	78.5	86.3	3.28	77	
		July	82.6	72.8	77.7	12.22	95	
		Aug.	81.7	71.5	76.6	5.02	92	
		Sept.	85.5	71.4	78.5	2.99	86	
		Oct.	86.4	65.9	76.1	2.88	69	
		Nov.	82.7	58.0	70.3	0	53	
		Dec.	80.5	52.9	66.7	0.06	61	
Ratlam	1957		C°	C°		Mm.		
		Jan.	25.8	10.8	18.3	2.0	61	
		Feb.	27.6	10.8	19.2	0	39	
		March	32.2	16.9	24.5	4.6	45	
		April	37.6	22.9	30.3	10.2	32	
		May	38.6	25.2	31.9	13.8	46	
		June	36.5	25.2	30.9	74.1	73	
		July	30.5	23.6	27.1	94.3	90	
		Aug.	29.1	22.6	25.9	511.3	96	
		Sept.	31.1	21.4	26.3	28.9	84	
		Oct.	33.7	19.1	26.4	7.4	53	
		Nov.	31.9	17.1	24.5	0	54	
		Dec.	29.0	15.0	22.0	0	55	



Place	Year	Month	Max C°	Min C°	Mean temp.	Monthly rainfall	Humidity at 8.30	1.51
Ratlam	1958	Jan.	28.0	12.9	20.5	5.1		
		Feb.	29.9	13.2	21.5	0		
		March	34.6	18.6	26.6	0		
		April	39.1	23.9	31.5	1.7		
		May	40.4	26.6	33.5	0		
		June	37.9	25.7	31.8	113.4		
		July	29.7	23.2	26.5	381.8		
		Aug.	30.3	23.0	26.7	150.4		
		Sept.	28.6	22.0	25.3	640.6		
		Oct.	31.5	19.3	25.4	73.3		
		Nov.	29.8	15.5	22.7	8.2		
		Dec.	27.9	12.2	20.0	0		
Ratlam	1959	Jan.	26.8	11.0	18.9	0		
		Feb.	29.1	12.4	20.7	0		
		March	35.6	17.6	26.6	0		
		April	38.1	22.9	30.5	3.8		
		May	40.1	27.1	33.6	4.2		
		June	37.2	25.5	31.4	51.0		
		July	29.0	22.7	25.8	463.5		
		Aug.	28.0	22.5	25.3	336.1		
		Sept.	29.4	22.4	25.9	287.4		
		Oct.	31.5	20.1	25.8	129.0		
		Nov.	30.1	15.4	22.6	2.1		
		Dec.	28.3	12.1	20.2	0		
Ujjain	1960	Jan.	NOT STARTED					
		Feb.	31.9	10.0	20.9	0	48	
		March	32.2	14.3	23.3	31.1	42	
		April	38.0	19.0	28.5	0	0	
		May	40.2	23.3	31.7	4.9	40	
		June	36.8	25.0	30.9	96.5	70	
		July	31.8	23.6	27.7	150.6	81	
		Aug.	27.2	22.7	24.9	233.8	91	
		Sept.	32.1	21.8	26.9	53.8	80	
		Oct.	33.2	16.3	23.7	4.6	60	
		Nov.	31.1	9.3	20.2	0	47	
		Dec.	29.4	10.3	19.9	5.3	58	

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7. Pottery: Period I.
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9. Pottery: Period I.



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