

Inamgaon: A Chalcolithic Settlement in Western India

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OUR excavations at Nasik and more recently at Jorwe (District Ahmednagar, Maharashtra) revealed for the first time the existence of the chalcolithic phase in the prehistory of the Deccan (Sankalia and Deo 1955). The comparative stratigraphical position of this culture, however, was determined in our excavations at Nasik (Sankalia and Deo 1955). Subsequent explorations and excavations of selected sites in western India and the Deccan have shown that the Jorwe culture, named after the type site in the Pravara valley, was well distributed in time and space. Its nuclear zone can be said to be the Pravara and the Godavari valleys whereas the peripheral zone of the culture extends from the Tapti valley in the north to the Krishna-Tungabhadra basin in the south. Excavations at Prakash, Bahal, Tekwada, Daimabad, Nevasa, Songaon, and Chandoli have no doubt brought to light several new aspects of the culture, but all these were vertical excavations, and no complete settlement pattern of this culture has been exposed so far. The writers were, therefore, in search of a suitable site of the Jorwe culture which, unencumbered by later accretions from the historical period, could provide solutions to the many questions which have so far remained unanswered. Thus, we did not know the genesis of this culture nor was its terminal date clear. Evidence at several sites showed that the culture came into being by the middle of the second millennium B.C. and suddenly died out by the beginning of the first millennium B.C. without leaving any trace. At several sites a weathered layer separates the chalcolithic culture from the later early historical cultures, thus pointing to the desertion of the sites for about four centuries (Sankalia et al. 1960). Therefore, in order to know more about the beginnings and the end of the Jorwe culture, excavations were undertaken at Inamgaon, District Poona, Maharashtra (Fig. 1). The excavations are still in progress, but the first season's work can be said to have shed a welcome light on the problem of dating the end of the culture.

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The ancient site at Inamgaon (Pl. I) is located about three miles from the present village of the same name and is situated on the right bank of the river Ghod, a tributary of the Bhima. It is a very extensive site, consisting of five mounds forming a rough semicircle, spread over an area of 65 acres (500×500 m). Since there is no cultural deposit of the historical period, it was realized that a horizontal excavation would be possible without a great expenditure of money and labor, and as expected, the site has turned out to be purely chalcolithic in character. Our main aim was to recover the house plans of the Jorwe culture and ultimately that of the entire village. Therefore the excavations were programmed so that as many plans of houses as possible were laid bare. We also attempted to relate the pottery and other artifacts to the respective houses. This type of study would give us some idea of the family unit and consequently of the density of population, and in brief, the way of life of the chalcolithic folk.

The excavations, carried out in the winter of 1968-69, revealed that stratigraphically and culturally there were two main periods of occupation, namely, Period I: Malwa culture, and Period II: Jorwe culture. The latter, however, is divisible into two distinct subphases: IIa, Early Jorwe; IIb, Late Jorwe. It should be mentioned here that the Late Jorwe phase is a new feature that has been brought to light by our excavations and has consequently helped us in bridging the gap between the chalcolithic period and the Iron age in India.

PERIOD I (CA. 1700-1400 B.C.)

The earliest settlers at the site were the people of the Malwa culture, who seem to have first occupied the easternmost mound (INM-II) near the river, settling on the black soil. But later, as the population increased, they occupied the entire area, which now comprises several mounds. The thickness of the cultural deposit on the easternmost mound (INM-II) is not more than 1.5 m today, but on the westernmost locality (INM-I) it is nearly 5 m in depth.

Only one house of the Malwa culture was partially exposed. It is rectangular in plan and measures about 3.5×3.5 m. It had dwarf mud walls over which stood screens of reed plastered with mud. An important feature of the Malwa culture was the large pits in the house. These pits are circular in plan and have perfectly vertical sides and flat bases. The floor and the sides of the pits were finely plastered with lime. The pits measure 1.50 m and 2 m in diameter. They were probably used as storage bins or silos. In one of the pits was a small niche (50×50 cm.). From this pit was recovered a lump of earth which contained disintegrated grain, later identified as *Jowār* (*Sorghum vulgare*). It should be mentioned in this connection that this is the earliest occurrence of *Jowār* not only in western India but on the whole subcontinent, for *Jowār* is supposed to have been imported into India during the Roman period at or about the beginning of the Christian era (Allchin 1968).

The other pit is also perfectly circular in plan and also has vertical sides and a flat floor (Pl. II). Its diameter is 2 m.; the sides measure 50 cm. It is not very deep. It has, in addition, some postholes on the sides. That this area also was used for living is therefore not unlikely, although its original use might have been for the storing of grain. Incidentally, some people in the surrounding areas still live in pit-dwellings.

The Malwa culture is characterized by a distinctive pottery known as the Malwa ware. It is a black-painted-red pottery which is made of fine orange buff paste and is wheel thrown. It usually has a thick slip that is orange red in color and the designs are painted in purplish to brown-black pigment. The design elements are of great variety. Besides simple linear patterns, there also occur elaborate designs employing geometrical patterns painted into panels or registers. These include either hatched or solid triangles and diamonds in rows, concentric circles, and loops. In addition to the geometric patterns, there are some interesting animal motifs such as deer. The painted ornamentation is usually confined to the upper half of the vessels. The commonest shape in this ware is the typical Indian *lotā* or a small water vessel with a globular body and high neck, sometimes with an outcurved rim. Jars with a flaring mouth and a variety of bowls and dishes are also common. While many of the characteristic shapes of the Malwa ware are present at Inamgaon, the drinking goblet or the chalice is conspicuously absent. A new shape is a vessel with a tubular spout which might be the result of contact with the neolithic farmers from the south who used such spouted vessels. The Malwa ware is associated with coarse red and gray fabrics and a small amount of black burnished pottery.

The Malwa people used a specialized blade-flake industry. Hundreds of microlithic tools of this variety have been found, and the types include parallel-sided blades, penknife blades, points, lunates, etc. The material used is chalcedony, which is plentifully available in the form of veins found in the surrounding rocks. Several charcoal samples of this period were collected with a view to obtaining radiocarbon dates. We have so far been supplied with one C-14 date, which is for a sample from a house floor of the Malwa culture. The date is 3320 ± 200 B.P.; Ca. 1470 B.C. (Agrawal 1969). This accords very well with the time bracket for the Malwa culture, which is 1700–1400 B.C.

PERIOD IIA: EARLY JORWE (1400–1100 B.C.)

This phase is represented by the Jorwe culture as it is known from the evidence from other sites. It is now being termed the Early Jorwe phase simply because a later phase of this culture has been revealed at Inamgaon. The Jorwe culture does not appear to have developed at the site. These people probably came from the Pravara-Godavari valleys sometime after the middle of the second millennium B.C., as is shown by the appreciable overlap between the two phases of occupation. The Jorwe folk soon appear to have become predominant, pushing out the Malwa culture people.

Only one house from this period was encountered (Pl. III). It is rectangular in plan and is fairly large, measuring about 4.25×4.50 m. However, it could not be completely excavated and parts of it still lie buried in the adjoining trenches. The orientation of the house is roughly north-south with the entrance toward the west. It had a dwarf wall over which stood wattle and daub walls. Along the northern wall a series of postholes was noticed. A large fragment of a wooden post, completely burnt, was found in the house. Near the western wall was a pit (1.10 m in diameter and 70 cm in depth) with vertical sides and a flat base. The house is similar to those of the Malwa culture described above and may have similarly been used as a silo.

There were a few rubber-stones and four flattish stones inside the house. These probably served as supports for huge storage jars.

The Early Jorwe phase is represented by the characteristic Jorwe ware of fine fabric and bright orange or pink color. The concave-sided carinated bowls and the spouted jars can be said to be the guide types of the Jorwe ware. There are high and short necked jars and spouted bowls as well. The pottery is decorated with painted patterns in black pigment. The repertoire of designs is very limited; most of the patterns are linear and geometric with sets of vertical, oblique, or wavy lines, triangles, diamonds, ladder patterns, etc. Associated with these wares are the coarse red and gray fabrics which also occurred in the preceding period.

PERIOD IIB: LATE JORWE (1100-800 B.C.)

The Late Jorwe culture is characterized by a change in the pottery forms (Pl. IV). The concave-sided carinated bowl and the spouted *lotā* is replaced, though not exclusively, by a convex-sided bowl and a channel spouted cup. These become fossil types in the Late Jorwe period. Other forms of the Jorwe ware, however, continue to occur, but there is a discernible change in the fabric. There is also a marked deterioration in the potter's art, and the fine fabric of the early Jorwe culture is nowhere in sight; the coarser fabric becomes predominant. Nevertheless, there is no change in the design elements; all the earlier geometrical and linear patterns continue. There are, in addition, a few carinated bowls with an outcurved beaded rim; they simulate corresponding forms of the megalithic pottery. Associated with these forms are the coarse red and gray wares. Huge handmade storage jars are adorned with incised and appliqué patterns which remind us of Navdatoli IV and Tekkalkota II. A number of fragments of sandy ware with a flat base have also been found. A new ceramic of the Late Jorwe phase is the black-and-red ware. Almost every house seems to have at least one bowl and dish of this ware. The pottery is highly burnished and is akin to the black-and-red ware of the megalithic complex. It therefore seems to have been brought from the south.

It was in the Late Jorwe phase that a potter's kiln was found. The kiln is a shallow structure in the form of a circular pit, dug into the earth and covered with broken pots and ash.

Another distinguishing feature of the Late Jorwe phase is that the houses of the people are entirely different from the earlier ones as far as their plan is concerned. About 25 houses of this period were exposed. Of these one was intact, and it is therefore necessary to describe it in detail (Pl. V). The house is circular in plan and its mud wall is 40 cm thick. Inside the wall was a series of nine postholes, the distance between any two postholes being 50 to 55 cm. The average depth of the postholes was 15 cm. One posthole was found rammed with roadlike stone metal. This house had two groups of four flat stones and a burnt patch, possibly of the *chulāh*. In addition, there were depressions in the center and small depressions around the western margin, all supporting storage jars. The floor was made of black clay and plastered successively with a clay solution. There was evidence of successive remaking and ramming of the floor.

In every Jorwe house were found four flat stones for keeping storage jars, and in some of the houses there were *chulās*, semicircular or circular, with an opening

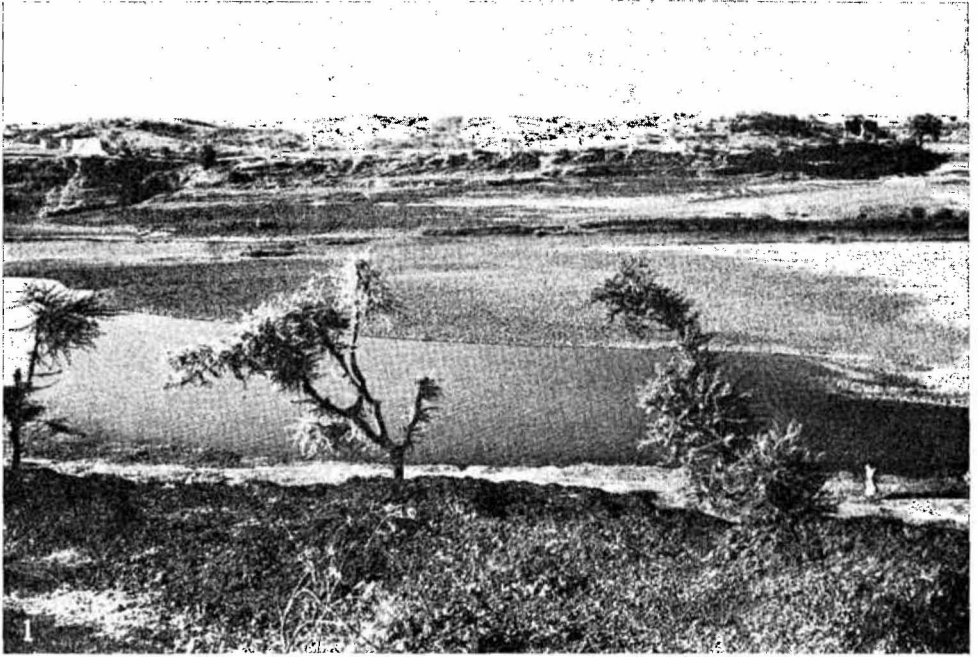


Plate I The site at Inamgaon, 53 miles east of Poona.



Plate II Circular dwelling pit (Period I).

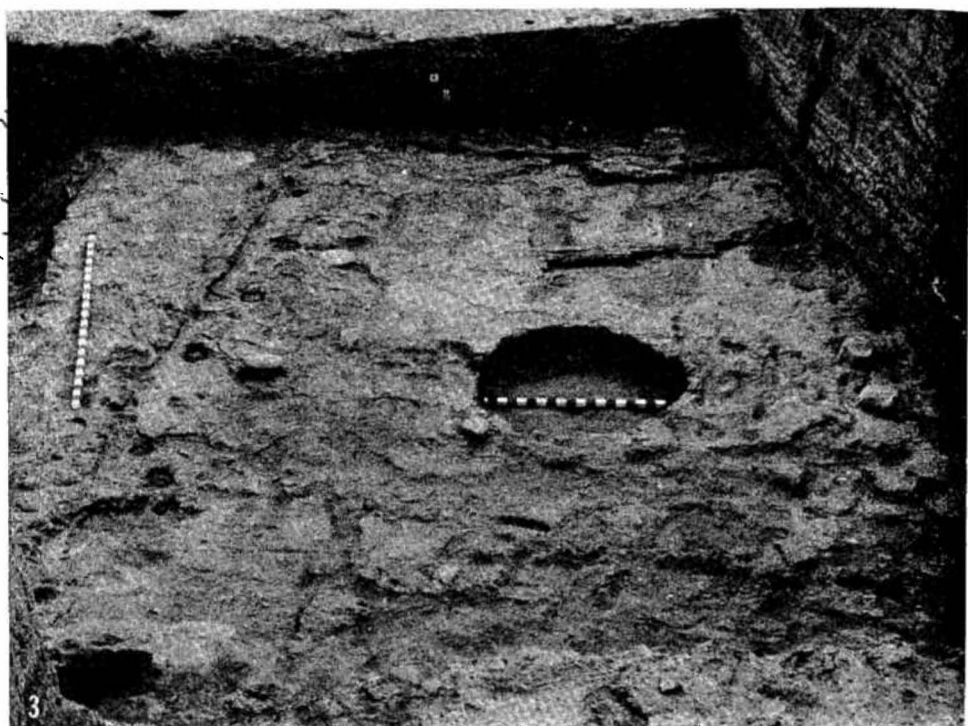


Plate III Plan of a rectangular house (Period II).



Plate IV Late Jorwe pottery (Period III).

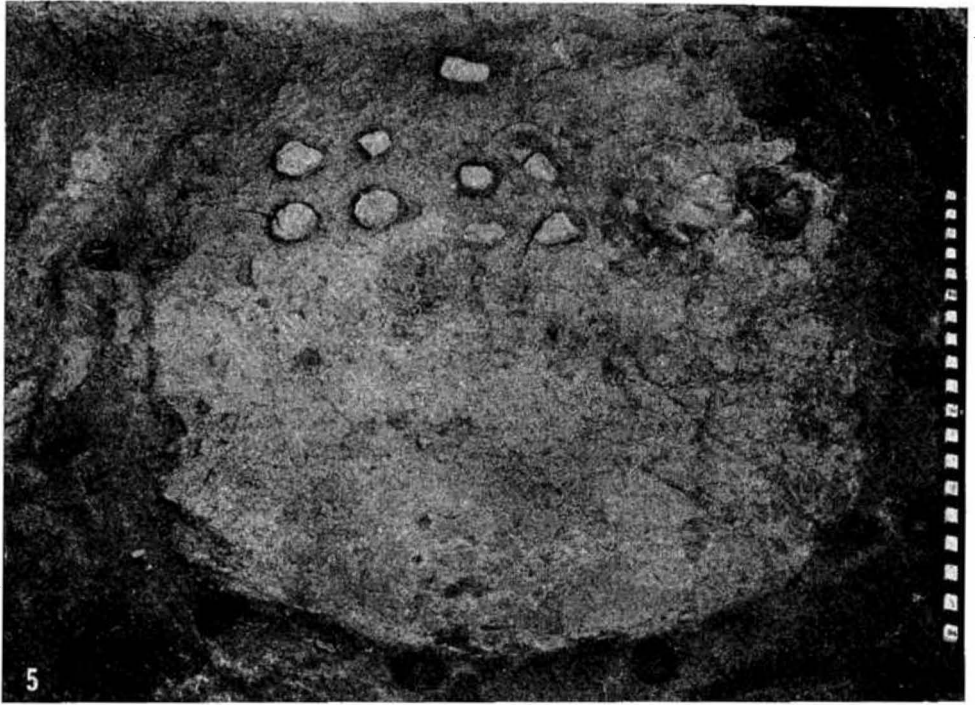


Plate V Circular house (Period III).



Plate VI Stone and copper tools: 1, ring stone; 2, polished stone axe; 3, sling ball; 4-6, stone blades; 7, bone point; 8, antler punch.

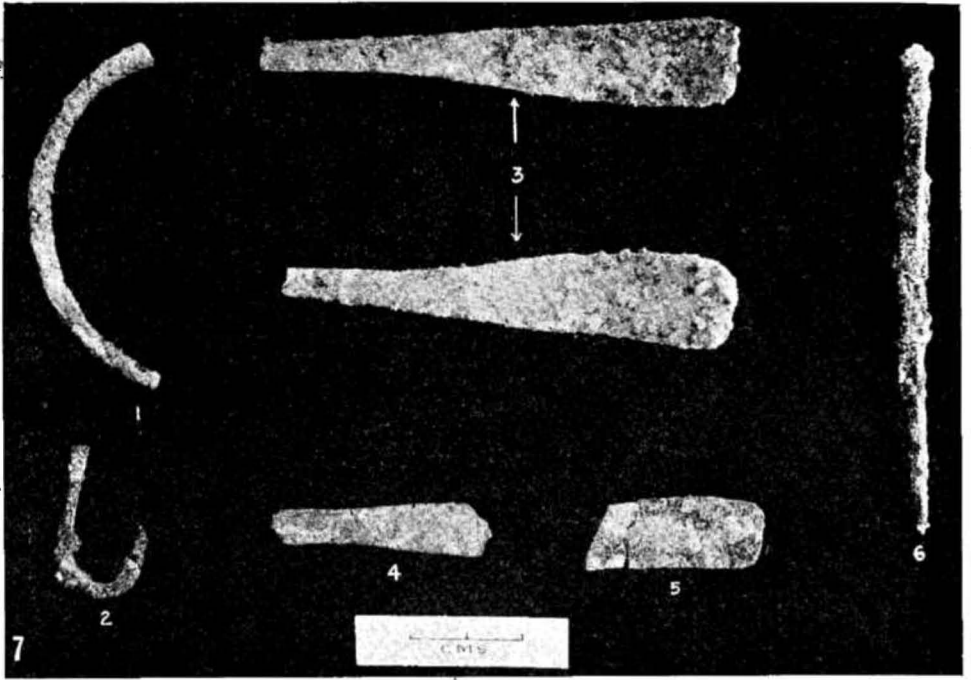


Plate VII Copper objects: 1, bangle; 2, fishhook; 3, 4 and 5, pairs of tongs; 6, chisel.

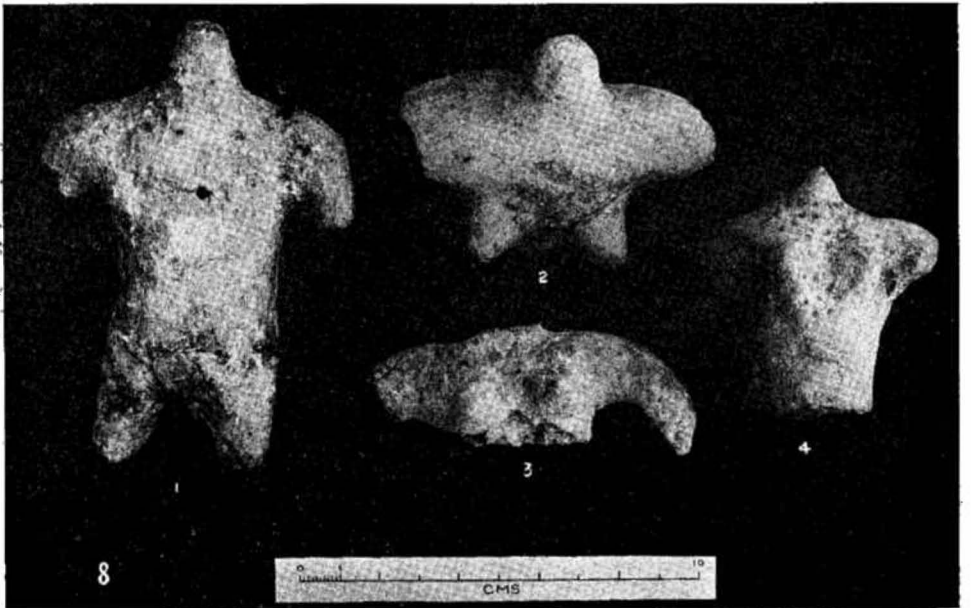


Plate VIII Terra-cotta figurines.

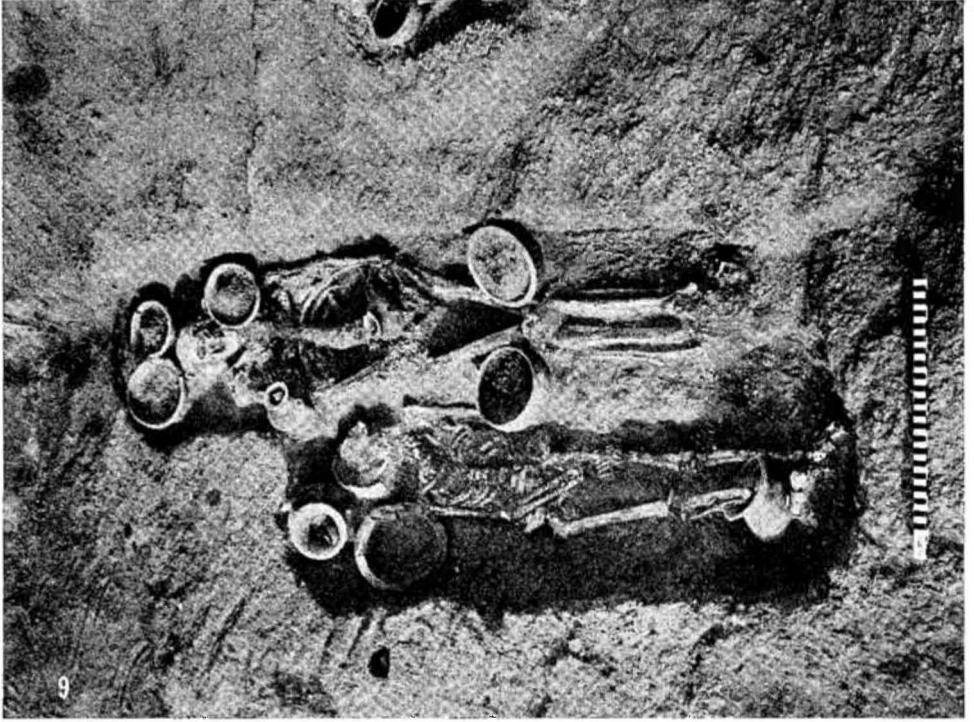


Plate IX An Early Jorwe burial.

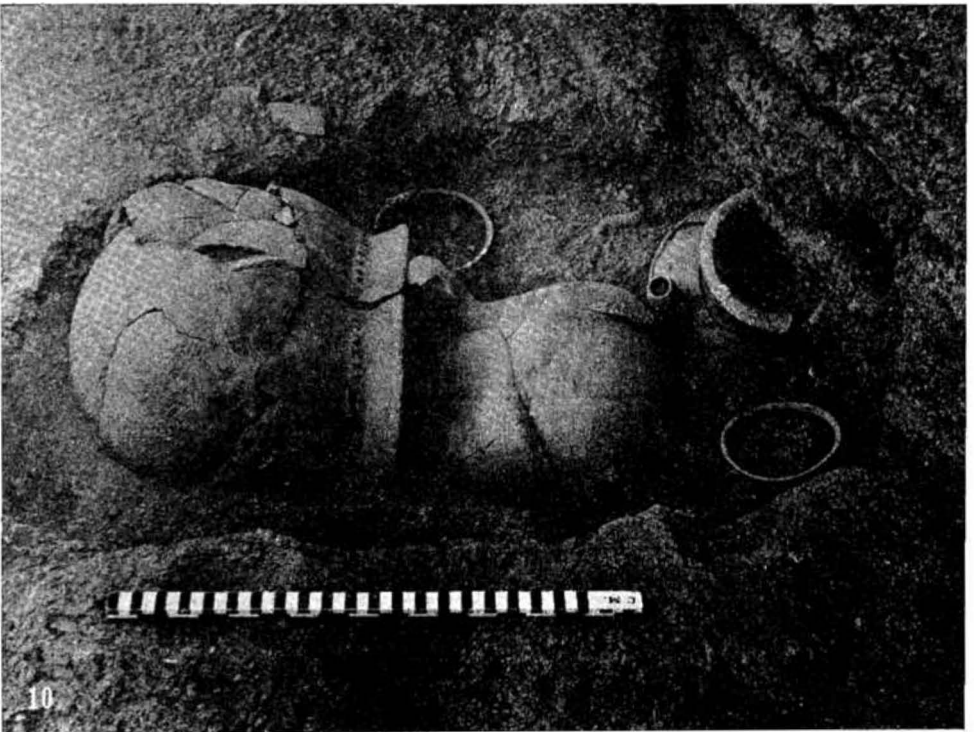


Plate X A Late Jorwe child burial.

for firewood. All these houses were very closely situated, giving an idea of a nucleated settlement. But in one house was noticed a well-made courtyard of about two m square. Its floor was made with *murrum* and rammed with fine yellow silt. Within the courtyard was a squarish *chulāh* with burnt sides. Very near this *chulāh* were found two unbaked, male clay figurines (Pl. VIII, 1). It is possible that this *chulāh* was built for some special occasion during which the male gods were invoked for success in the undertaking. Even today similar gods are made of wheat flour and are worshipped before the beginning of every ceremony. The god today is called Gaṇeśha. This, in a way, can be taken to be a survival of an ancient tradition through the millennia.

One house which was completely excavated yielded the following pottery:

JORWE WARE	QUANTITY
Convex-sided bowls	28
Concave-sided bowls	4
Channel spouted bowls	2
Spouted vessels	5
High-necked jars	1
Short-necked jars	2
BLACK-AND-RED WARE	
Bowls	3
COARSE RED/GRAY WARES	
Basins	10
Jars with flaring mouth	1
Bowls	2
Lid	1
HANDMADE POTTERY	
Storage jars	9
Basin	1

This, no doubt, is a rich yield of pottery from a single house. A casual glance at the repertoire of pottery is enough to bring home the conspicuous absence of dishes. It is therefore not unlikely that besides the dough, much of the food was in liquid or semiliquid form. The quantities are also significant inasmuch as they enable us to infer the probable use of each pottery form. Thus, the coarse red/gray ware basins and jars and the handmade jars were probably used for storage purposes. The painted Jorwe ware bowls, concave and convex sided, could have served as the table ware and the spouted ones for drinking water. The channel spouted bowls may have been used as milk bowls and the high and short necked jars for storing water. From the number of eating bowls, it appears to be a rather large family, perhaps six to eight persons, young and old together. Even today this is the average size of a family in an Indian village. This information helps us in calculating the population of Inamgaon in the Late Jorwe phase. The area occupied by the people during this phase is large enough for about 200 to 250 huts, and, if we presume an average family unit of five to six persons, the population of Inamgaon in the first quarter of the first millennium B.C. would have been from about a thousand to twelve hundred,

which is quite sizable. In fact, Inamgaon may have been one of the most populous settlements of the Jorwe culture.

A large number of curious pottery objects have been found. They are made of broken potsherds, the edges of which were ground. The striation marks on the sherds have been obliterated by constant use. These objects are oblong in shape and have rounded corners. They were probably used as skin rubbers.

Except for the change in pottery styles and domestic architecture, there is no difference in the cultural equipment of the Early and Late Jorwe phases. As already observed, the culture was chalcolithic in character; the people used copper and stone tools. As in the Malwa culture, most of the tools for cutting and chopping, etc., were made on chalcedony blades (Pl. VI, 4-6). Numerous cores and flake-blades are strewn over the surface of the ancient mound. Most of the blades are comparatively small; the longest one is about 7 cm in length. They are all made on the crested ridge technique. Besides the rich blade assemblage, we also recovered ground and polished stone axes (Pl. VI, 2). A small number of these were found in the course of excavations, but many have been found on the surface. It is possible that the axes were ground locally in huge querns, several of which were found in the excavations. A few ring-stones or mace-heads have also been found (Pl. VI, 1). They were probably hafted on wooden shafts and were used for turning the soil. They thus give us an idea of the agricultural operations. Sling balls of stone also occur (Pl. VI, 3).

Copper, being scarce, was used on a restricted scale. Only a few copper tools, such as a pair of tongs, a fishhook, and a chisel, have been found (Pl. VII, 2-6). The former was found near two small crucibles and might have belonged to a goldsmith. The tools in bone include a few points and punches of antler (Pl. VI, 7, 8).

Personal ornaments recovered consist of bangles of shell, ivory, and copper (Pl. VII, 1) and beads of ivory and semiprecious stones as well as reel-like ear studs similar to the *tātānka-chakras* of the historical period. The beads of semiprecious stones such as carnelian and agate were not made at the habitation site but nearly a furlong away, where several unfinished beads have been found. The beads are mostly spheres and long barrels in shape.

The inhabitants subsisted by farming and hunting. From among the charred grains, wheat, lentils, *Jowār* and rice have been identified. But the people also lived by hunting animals, particularly deer, the remains of which were found in almost every house.

During the last phase of the Jorwe culture it appears that the people on the western side had taken to the manufacture of lime. This appears in crude form as *Kankar* in the silt. But in the excavations we found pots filled with lime balls, probably for sale or exchange.

The artistic inclination of the people is evident in their terra-cotta figurines (Pl. VIII, 2-4). Besides the two unbaked male figurines, a few more figurines of baked clay were discovered. They are probably mother goddesses, and have stumpy arms and legs and pendulous breasts. The heads are never clearly delineated. Other terra-cotta figurines consist of bulls and other animals. The bulls have prominent humps, short horns, and block legs. One of the bull figurines is flattish and looks like a plaque. The parts of the body are marked by incisions. The other animal figurines consist of a boar, a horse, and an owl.

DISPOSAL OF THE DEAD

No evidence of the burials of the Malwa culture has so far been obtained except a solitary extended burial at Daimabad. But of the Jorwe, both Early and Late, there is now definite evidence that the dead were buried within the house. In the Early Jorwe phase, only extended burials have been found. One of these was a child burial and the other that of an adult. The skeleton in each case was accommodated in a small pit just large enough for the purpose and was oriented in a north-south direction (Pl. IX). The child seems to have been buried most unceremoniously, for no grave goods accompanied the dead body. In the other burial, a carinated bowl and a spouted vessel, both of the painted Jorwe fabric, were found. It is significant that both the burials occurred within the floor of the house.

In the Late Jorwe phase, the dead were buried in pits, the children in urns, and the adults in complete inhumation. For the children, two gray ware urns were placed horizontally mouth-to-mouth in a pit (Pl. X). These are fractional burials, but a complete skeleton has been found in a twin urn burial. Children were also buried in a single urn, though rarely. Usually a bowl and a spouted vessel accompanied the burial urns.

Adults were buried in pits in which the whole skeleton was kept. Vessels containing food and water were also placed in the pit. Both types of burials were found within the habitation area, either inside or in the courtyard of the house.

Regarding culture contacts, one may say, on the basis of excavated evidence, that the first comers to the site were a people from central India, called the Malwa people. They were soon displaced by the Jorwe people, who, like the southern neolithic people, buried the dead in pits and pots within the habitation. Later, in the last phase, the Jorwe people borrowed the black-and-red ware as well as the channel spouted bowl from their counterparts in the south.

The chronology of the Late Jorwe phase can be computed on the basis of one radiocarbon date that has been obtained from a sample from a late level of the Early Jorwe phase. It is 2975 ± 170 B.P., or ca. 1025 B.C. (Agrawal 1969). This helps us in placing the Early Jorwe phase in the time bracket 1400-1000 B.C. Lying stratigraphically above this is the cultural debris of the Late Jorwe phase which is about a meter in thickness. It would not therefore be far off the mark if we date the Late Jorwe phase to 1000-700 B.C. This also explains the introduction of the black-and-red ware of the megalithic fabric in the Late Jorwe. The Inamgaon excavations have thus narrowed the hiatus between the chalcolithic phase and the early historic period by nearly three centuries. It may be stated here that the early historic period starts in about the sixth century B.C. It is hoped that continuing excavation will close this hiatus in the not too distant future.

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* The dates given in the text are based on the value of 5730 ± 40 years for the half-life of radiocarbon. For conversion of dates 1950 has been used as the reference year.