

**Enquiries
into the
political organization
of
Harappan society**

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Shereen Ratnagar

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*and this is for
Shebrnaz and Rosban.*



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SHEREEN RATNAGAR

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1 *Introduction*

Between about 2600 and 1800 B.C., the Indian subcontinent saw the efflorescence of a bronze age civilization that we today call the Harappan. The term 'civilization' refers to distinctive cultural patterns of fairly long duration, patterns incorporating diverse groups of people over largish areas, in which local traditions might vary and continue to vary, but which are in certain spheres of life encapsulated in a 'great' tradition. 'Civilization' also carries connotations of impressive levels of cultural development in the intellectual, artistic or technological fields, so that the term is often used synonymously with 'high culture', with city life, literacy, and so on. Many people have assumed that the Harappan civilization represents political organization of the type represented by the state. But this is not a matter to be assumed : 'civilization' is a term very loosely used, and has too many referenda. On the other hand, in the context of early South Asia, with its stereotypical association with caste, snake-charmers and spiritualism, many question the primacy of politics over religion, or of class over caste. So I wish to establish in this study a reasoned inference for the existence of a state (or several states), and then to proceed to suggest what possible form(s) state organization may have taken.

Let us begin with a few preliminaries on the Harappan map as we know it today (Map 1). In the first place, we will assume that it is an incomplete map, not only because sites may as yet be undiscovered, but also because prehistoric mounds near the courses of large and swiftly flowing rivers such as the Indus and Ravi will have a much lower chance of survival than mounds in areas with little surface drainage, as in Kutch. If the Harappan period comprises a timespan as long as perhaps eight

centuries, we must come to terms with the possibility that there were many developments and changes within the period : some settlements may have been occupied continuously, others for only a fraction of the Harappan period. Unfortunately, little work has been carried out on the internal chronology of the Harappan period; we do not know, for example, whether the Makran sites are exactly contemporary with Lothal, but only assume a general contemporaneity.

Thus far it seems that the heartland of the Harappan civilization lay on the lower reaches of the now dry Hakra river, within the frontiers of modern Pakistan. This tract has the largest number, and densest cluster, of Harappan sites. Less dense spreads of sites occur in lower Punjab, in Sind on plains and hills, in Indian territory along the Sutlej-Jumna divide, in Kutch and in Saurashtra. Scattered settlements also occur in Baluchistan, on the Makran coast, on the navigation heads of the Chenab and Sutlej, and on the upper Oxus in north-eastern Afghanistan. For this region as a whole, present evidence suggests that wheat and barley and the herding of cattle, sheep, and goat provided the subsistence base, with supplements from sesamum, mustard, gram, and peas, and from fishing and hunting. The fibre crop was cotton. (The status of millet and rice, found at Surkotada and at Rangpur and Lothal respectively, as staples, is not yet established.) Few of these items were newly exploited in the Harappan period : centuries earlier, wheat, barley, cattle, sheep, and goat were domesticated at neolithic Mehrgarh in the angle of the Kacchi, as also melons, dates, grapes, and possibly cotton; and at Tarakai Qila further north, lentils and peas have been identified.

Most Harappan sites occur on or below the winter isohyet distinguishing zones that receive adequate and deficient winter rainfall for *rabi* cultivation. This isohyet is marked by Frazer (1958: 33) for Pakistan, and falls just south of the 25 cm annual rainfall isohyet. To continue the winter rainfall isohyet into India, the available winter rainfall figures for Hissar, Ganganagar, and Rohtak have been analysed, and the line falls just south of Hissar and Rohtak, but well above Ganganagar. Thus on Map I we find that Kalibangan, Sothi, Siswal, and Mitathal fall in the zone receiving a rainfall deficit in winter, whereas Gumla, Harappa, Banawali, and Rakhi Garhi lie near the critical interface.

As we know of the existence of several settlements of earlier periods in the zone receiving adequate winter rainfall, it is not easy to explain the occurrence of most Harappan sites within the deficit zone, especially when the cereal staples were winter crops. Perhaps political factors or mineral resources were involved in the location of sites. However, we should note that our isohyet is based on modern rainfall figures. Southward fluctuations of low pressure belts in the third millennium B.C. may have brought sufficient winter rain to sites like Kalibangan and Mitathal, although not so

far south as the Fort Derawar region (where the densest cluster of Harappan sites lies), much less to the latitude of Mohenjo-daro. Sind, for example, gets only 2.5 to 3 cm of winter rain today, and no fluctuations of low pressure belts would account for a three-fold fall since Harappan times.

I have argued elsewhere that neither canal irrigation nor flood overspills could have ensured the growth of winter staples in the greater Indus valley or in Gujarat; farmers would have needed to fall back on lift irrigation to a greater or lesser extent, depending on the incidence of winter rain and the extent of summer inundations, in any region in any particular year. This in turn points to labour intensive agriculture, and limits the area a farmer could put under crops in any one *rabi* season.

A final remark on the map as a whole is that there are pronounced 'gaps' between settled regions. Outside the Hakra or Cholistan heartland there are no concentric rings of progressively less dense settlement, so we are not dealing with some inexorable process whereby successful subsistence production and population increase made for systematic outward budding off of daughter settlements from a nuclear region.

A detailed study (Map II) indicates that the 'Indus civilization' tends to avoid the Indus itself: the Indus is a destructive river in flood, throwing out major distributaries, and its floods vary from year to year in timing, intensity and actual location; not surprisingly, we find only a few sites on the actual alluvium: Mohenjo-daro, Kot Diji, Amri, Chanhudaro, Kotasur, Jhukar, and Lohumjo-daro. Near the western edge of the alluvium, also a marked geographic and ethnic frontier between Sind and Baluchistan, lie Judeirjo-daro and Therri Bahadur Shah. The Sind plains were covered with thorn forest, shrubs and grass, with thicker growth along the river banks (babul, prosopis, tamarisk, neem and white poplar), and also narrow strips of dense growth along saturated areas where elephant and rhinoceros may have lived in the third millennium, while till recently the wild ass, wild pig, antelope, jackal, and fox were observed.

Few of the sites on the alluvium lie on the banks of the present Indus. The Eastern Nara probably carried an appreciable discharge in the third millennium, but Chanhudaro and Kot Diji, on the eastern alluvium, do not lie near its channel. Only further south do we have Garho Bhiro on the course of the Eastern Nara, and Kot Kori near its tail in the vicinity of Ali Bandar. But the British-period 'Rohri canal', in two main branches, passes by Kot Diji and Chanhudaro: this canal may mark an old overspill depression.

Similarly, on the Indus right bank the Western Nara was a major overflow channel in the past, navigable between May and September, but dwindling to a series of pools in winter. Jhukar lies on the bank of an old channel of this distributary. In the Larkhana and Dadu areas several slack water deposits, sometimes stretching over 2 km, may have been the source of

irrigation water for the Harappan settlements, some holding water up to December, and others till much later. In Larkhana district probably lie the richest soils of the Indus valley, and Mohenjo-daro, the largest Harappan site, is located here.

There are several sites in the Kirthar piedmont plain, near its low-lying junction with the Indus alluvium, as well as in Sind Kohistan, a comparatively unproductive region comprising the Bhit, Badhra, Laki, Kambu and Laid hill ranges.

Eastward flowing rivers cross the Kirthar piedmont to deposit alluvial fans. Most of these are intermittent streams, flooding in summer, and intensive cropping is not possible here. But the Kolachi-Gaj, spring-fed in the Khuzdar region, is a perennial river, braiding into several channels on reaching the piedmont. Here flood water can be channelled into embanked fields, allowed to remain for some days, and then drawn off into further fields. At this juncture are located the sites of Rajo-dero and Paijo-kotiro. Below the Phusi Pass, where the seasonal Nari enters the plain, lies Pandi Wahi.

We have mentioned a depression between the Kirthar piedmont and the Indus alluvium. The Kirthar torrents terminate in this depression (at about 45 m altitude), as do the Indus overspills from the Western Nara. This depression itself slopes southward to terminate above Lake Mancchar. Receiving drainage from all directions, this lake, surrounded by tall grass and abounding in water fowl and fish, expands more than ten-fold when in flood and then shrinks, leaving hundreds of hectares of rich and saturated soil ready for *rabi* sowing; further irrigation is not required. Near the northern margins of the lake lies Lohri, and to its northeast, at the tail end of the Western Nara, is Lakhioyo.

The highly fractured limestones of the lower Kirthars and Kohistan, with their large fissures, make for numerous springs rising to the surface. The Angai, Naig, Pirari Wahi, and Bandhni issue from such springs and provide a steady water-supply to sites like Ghazi Shah, Ali Murad, Gorandi, Dhal, Pokhran Landi, Karchat, and Shahjo-kotiro. In Sind Kohistan, then, sites were located on limited patches of cultivable soil with assured ground water. Kohistan on the whole has poor soils and only thorn forest. But after the rains there is abundant grass and large herds are brought here to pasture from the Indus villages. The forest and undergrowth provide a habitat for the panther, fox, and ibex.

The Mol-Malir system feeding Karachi is seasonal, but flows over a low plateau with rich aquifers. At the site of Allahdino, a well, 4.3 m deep, was found with an exceptionally narrow mouth (60×90 cm). It has been suggested by Fairervis that this narrow mouth induced the upward flow of water through hydrostatic pressure, and brick channels apparently carried

this water down the slopes of the habitation.

The Hakra valley, with the largest concentration of sites and the third largest site (Ganweriwala), receives poor rainfall (12.5 to 20 cm per annum), and that mainly in summer. At some time in the past, several rivers such as the Ghaggar, Sarasvati, Chautang, Wah and the three Naiwals, must have contributed to its wide bed. While it is not relevant here to go into the reasons for the drying of the river system, it would be useful to know when the process occurred. It is not impossible that flows had diminished as early as the third millennium, with endorheic drainage downstream of Fort Derawar, as suggested by Mughal. Most Harappan sites fall on the north bank of the Hakra, and it has been suggested that some drainage from the Sutlej could also have reached this region.

When active, the Hakra, like the Sutlej, would have been an aggrading river, but low in winter. The Sutlej in its lower course meanders and shifts course repeatedly. The tract between the two courses is a very level plain, and would have received pre-sowing inundations and recharged aquifers in summer. Even today, many pockets in this tract have useful subsoil water. Substantial though shallow depressions scattered over the plain could have held flood water till December, and occasionally all the year. Wild date palms, acacia, tamarisk, as also shisham, thorn shrubs, and grasses comprise the vegetation, while the fauna at the turn of the century included the wild ass, wild pig, nilgai, hog deer, and fox.

We had said that Harappa, the second largest Harappan site, lies on the southern frontier of the zone receiving adequate winter precipitation. The Ravi is the smallest of the Indus tributaries, and its flood plain is comparatively narrow, about 11 km wide near Harappa. Here well water is used to irrigate the *rabi*, or else flood waters are captured in *budhs*, which are tilled after the subsidence of water. The latter comprised about seven per cent of the cultivated area in recent times. Strips of riverine forest with hardy and quick-growing tamarisk, acacia, and zizyphus provided in the recent past a habitat for tigers, wild pigs, nilgai and black buck, and afforded grazing for cattle. Many nomadic camps were scattered over Montgomery district early in the twentieth century. It has been argued that the size of Harappa owes less to an agricultural hinterland than to its location on the Harappan frontier at the junction of several river and land routes.

When we move into Indian territory, the northernmost zone with appreciable Harappan settlement comprises the middle stretches of the Ghaggar-Sarasvati-Chautang system. Along this stretch dry thorn forest with acacia, prosopis and tamarisk afford grazing for sheep and goat and shelter for nilgai, black buck, chinkara, and wild pig. Further upstream towards Hissar this vegetation yields to dry deciduous forest as we move into Haryana with its heavier and harder soils. Rakhi Garhi, one of the five largest

sites, lies in the transitional zone, northeast of Hissar, while many other settlements occur further downstream of the Chautang up to its confluence with the Ghaggar and Naiwals near Kalibangan.

We do not know of any village cultures in Kutch before the Harappan period. As for Saurashtra, slender evidence from Lothal, Prabhas Patan, and Rojdi indicates that there existed local ceramic traditions at the onset of the Harappan occupation. It would therefore be a challenge to explore how and why the Harappans chose the locations of their particular settlements. Only a few general remarks can be offered here in the absence of detailed data.

With less than 40 cm annual rainfall, of which only about 0.1 cm occurs in winter, the arid peninsula of Kutch has no large or perennial river, and by 1900 at least, no forests to speak of. But at some fault zones in this seismic area, well water is available. Thus Dholavira, the largest Harappan site in Kutch, is located on one of the three places in Khadir Island where sweet well water is available. There is adequate evidence to indicate that in the third millennium the Ranns contained more and sweeter water, so that the aquifers would have been higher and less brackish, and the rivers not so markedly down-cutting, as today. There are stretches of bare rock in Kutch, and the black or sandy loam soils are not deep anywhere except in patches in the south and east. The sandy soils are easy to till but require more frequent manuring and fallowing than do the soils of the Indus plains. Much land is given to grazing rather than farming, especially on Khadir Island and in the Banni. It is likely, however, that 'pristine' conditions were better, and that environmental processes and overgrazing have contributed to soil deterioration. Up to the beginning of this century the wild ass, the antelope, panther, wild boar, and black buck were seen in Kutch. Wild date palms are common and tamarisk trees grow near river beds. Coarse grass and thorny bush are widespread, while neem, pipal, and babul trees are found mainly at villages.

Saurashtra receives a higher monsoon rainfall (60 – 80 cm total, and 0.6 cm in winter) than Kutch or Sind, and must have had a thicker shrub and forest cover than today. But there are comparatively few Harappan sites here. And there are fewer sites on the stretches of fertile black soil in the central peninsula than on the eastern margins, abutting the lower Sabarmati, a tract of well drained sand and loam soils. This latter region is the only region of Saurashtra where wheat comprised up to a quarter of the sown area in the late nineteenth century. The Sabarmati, Omkar, and Bhogavo are low in winter, and lift irrigation must have watered the *rabi*. Southwest of Ahmedabad the shallow Nal depression holds water all through the year; today its water is sweet only till October, but the Nal received its water from the southern tip of the Little Rann, and for reasons stated above, we may assume that in the third millennium the Nal was a major sweet-water

reserve. In fact it has been suggested that in the past there was a continuous stretch of standing water between the Little Rann and the Gulf of Cambay, as during the rains the overflows enter the Bhogavo via its Omkar tributary. In the nineteenth century *dbenklis* for lifting water were very much in evidence in the Lothal-Rangpur region. In recent times the vegetation is largely confined to acacia, ber, and mahua, with groves of neem and mango. But teak wood has been identified at Lothal: about ninety years ago an inferior variety of teak was to be found on the Modasa hills northeast of Ahmedabad. Fauna which survived till the twentieth century included tigers, nilgai, chinkara, lions, and panthers.

Attesting to sea routes or the importance of coastal resources are the locations of Lothal, Kanjetar, Nageshwar, and Kuntasi. Nageshwar in the northwestern tip of Kathiawad is equidistant from two small and shallow bays and was a shell processing station. We know little about Kanjetar, discovered by Rao, but its location makes it likely to have been a sea station, if not a port. The site lies near a cove which is protected by a spit, and has a good landing place in its centre. The cove would have been easy to navigate to, because of the 15 m high cliffs which border its northwestern shore.

The controversy over the dockyard of Lothal aside, we ought to make sense of the location of a Harappan port here. We have referred to the wheat-growing and ground water resources of Lothal's hinterland. Boats could have reached Lothal from Dholera creek, but the Gulf of Cambay itself is not particularly safe for boats. The sea is treacherous during the monsoon, and there are shifting shoals and wide sandbanks. In any case, a port does not only require easy access to the outside world. It must be easily fed, at least cost, by a producing and import-consuming hinterland. Certain materials could have been brought to Lothal from not too distant regions for manufacture and subsequent export to the Gulf and Mesopotamia. But Lothal is a small settlement, with few other Harappan sites in its vicinity; and there is no direct or obvious land route from the Sabarmati valley into Sind and the Harappan heartland. So Lothal does not appear to be the ideal point for the Harappans to have received their imports. Perhaps more active ports lay at the mouths of the Indus, or farther in, near the location of Kot Kori.

Two sites in Makran would have been all-weather ports, unlike Lothal where shipping would have ceased during the monsoon months. Dangerous monsoon winds and currents cease to extend west of Ormara, and Sutkagen-dor and Sotka-koh would have experienced only light breezes and occasional swells in the monsoon. Both sites lie at the mouths of rivers (the Dasht and the Bhari respectively). At Sotka-koh there is a protective headland, and Sutkagen-dor lies near a sheltered bay. But their hinterland is

arid, producing little more than fish and dates. Land routes from these ports into the Indus valley would have had to cross arid and rugged terrain over which wheeled carts would not be suitable. Alternately, consignments arriving in the monsoon months may have halted here until the fair weather season, before proceeding to Sind or the Gujarat coast.

Among other outlier sites are Ropar and Kotla Nihang Khan near the navigation head of the Sutlej, and Manda near the navigation head of the Chenab. The upper hill slopes beyond these sites are rich in timber and occasionally metal, but their main significance appears to lie in that they point to the importance of river transport in the handling of bulk goods.

The shell industries at Balakot, Nageshwar, and Kot Kori were located close to sources of marine or estuarine shells. But we do not know of any Harappan quarrying towns or mining towns, viz., habitations at the sources of chert, carnelian, copper or gold. Stone-working debris of the Harappan period does occur at the Rohri chert outcrop, but the nearest habitation site is Kot Diji, 40 km south as the crow flies. Lothal and Chanhudaro, manufacturing sites, used raw materials from diverse sources. The only exception is the location of Shortughai : if the Harappans did use lapis lazuli from Badakhshan, as I still believe, then this site was conveniently located for summer quarrying of lapis. Why lapis lazuli should have been of special importance is the subject of an old controversy and another story.

We may accept as a general principle that prehistoric site location and land use was not based on calculations of average rainfall or average harvest yields. The major considerations would rather be the minimization of risk and the maximization of overall output. Where winter rainfall occurs in Harappan territory it fluctuates greatly from year to year (in Sind variability can be 65 per cent). Thus ground water resources would have been the more reliable resource, in the form of aquifers (Kutch) or remnants of summer inundations (Larkhana), or the courses of small, spring-fed rivers (Sind Kohistan). If, as has been argued elsewhere, Harappan agriculture, in total contrast to ancient Egyptian and Mesopotamian agriculture, on the whole relied on lift irrigation, the implications are two-fold.

In the first place, it means that Harappan agriculture was labour intensive; that the extent of the sown area in any one season would be determined by the extent to which it was possible to irrigate by lifting water and channelling it into fields. In consequence one infers that labour in winter would have been the most crucial resource for Harappan subsistence. On the other hand, in tracts where spring-fed streams provide water, cultivable soils are very limited in extent.

The second implication is the importance of animal power for irrigation. Along the eastern margin of Saurashtra, sites have recently been discovered which could have been pastoral camps of the Harappan period. In the Hakra

valley, Mughal (1980) found about ten sites consisting of scatters of sherds, which he interprets as pastoral camps. Whatever the precise nature of these sites, we may be justified in assuming nomadic or transhumant herding in the interstices of the Harappan settled area. But we do not know if this would have been the herding of cattle or of small stock; neither do we know whether herding was specialized at the community level, whether the specialization was only of some sections of village communities, or whether herds were only moved out of villages to forage in the dry season. As in traditional practice, oxen working on fields or at wells may have been fed at the villages or wells, whereas the rest of the herd was pastured away from the villages. But the important point, first made by Fairservis, is that the greater the area under crops, the greater would be the requirements for oxen, and therefore of fodder. As working animals usually comprise only a part of viable herds, animal power itself would have provided brakes on the extension of cultivation.

Thus we are faced with something of a paradox. On the one hand we have a settlement map which challenges the imagination in its sheer geographic spread. On the other, it appears that at the local level – on the ground – only small could have been, if not beautiful, reliable.*

In this study we will use two terms, 'Mature Harappan' (henceforth MH) and 'Early Indus' (henceforth EI) as chronological labels. MH refers to sites which correlate with Mohenjo-daro and Harappa (except their lowest levels). It excludes Rangpur IIB – C related sites, 'Late Harappan' sites like Bhagwanpura and Daulatpur, and the Kulli sites, although the latter are not irrelevant to Harappan political organization.

The term EI refers to horizons stratified, at several sites, below MH remains, and archaeologically related sites. EI would incorporate the archaeological cultures called Amrian, Kot Dijian and Sothian or Siswal. The term EI is used without any cultural or historical connotations, in contrast to Rafique Mughal's use of the term 'Early Harappan'.

By what criteria does a site qualify to be MH? In the main there is the very characteristic, thick red Harappan pottery; large bricks in shapes 4:2:1; long chert blades; weights of a particular range of materials, shapes and values; stamp seals with script and usually animal motifs; triangular and round terracotta 'cakes'; clay carts and wheel models; steatite disc beads and micro-beads; long barrel-shaped carnelian beads; copper or bronze

* This part of the introductory chapter is based on a paper read by the author at Bangalore in February 1988 at the Indian Institute of Science Seminar on the Ecological History of India.

razors (with two curved blades), barbed fish hooks, rectangular flat axes, and so on.

Needless to say, items could be added to this list (e.g., shell bangles and inlay pieces and ladles), or removed from it. All the items do not occur at every excavated MH site. At some sites there is stone and not brick architecture. At Rojdi, most of the items are absent and only some characteristic Harappan pottery shapes occur. Is Rojdi, then, a MH site? Should it be included in our study? We will try to come to terms with this in a later section, but the problem has been raised here because it is a problem of starting assumptions.

Archaeological classification necessarily involves polythetic entities, and each of the artefact types we have listed has its own distribution on the map, indicating a particular kind of function or network of interaction. If a site has only pottery of MH type, we would hesitate to call it MH, because culture is not reducible to ceramic tradition alone. On the other hand, the traits listed above reveal many different kinds of activity: cooking, storage, house-building, mensuration, transportation, exchange, personal ornamentation, and so on. More important, these traits occur repeatedly in association with one another, even though MH assemblages are polythetic. In association, then, they can be treated as markers of an archaeological culture. Unfortunately, actual associations and correlations cannot be worked out as quantifications of artefacts are not available for most excavated sites, and correlations between sites based on mere absence or presence of artefact types can give a very false impression of homogeneity.

It is also worth noting that MH assemblages are on the whole distinct from EI ones, as also settlement locations. So the spread of MH assemblages on the map cannot be ascribed to a common trajectory of cultural development.

But if we use the term MH as the label of an archaeological culture, this label has no ethnic or linguistic connotations. In fact, we will argue that ethnic diversity must be assumed for the MH region.

Nevertheless, for the purposes of our study, a fundamental problem still remains. MH may be an archaeologically valid category, but does it have any political correlations? Can we take the whole region, and only that region, represented by MH assemblages to have been a coherent, leave alone finite, political entity in the third millennium? In other words, is our unit of study a valid one in *political* terms?

In the first place we must acknowledge that anthropologists rarely speak in terms of bounded social entities. They realize that lineages, for example, do not always constitute residential groups or the only groupings of social and economic significance; that often it was a colonial administration which designated a certain people as members of such and such a tribe even when

those people were not culturally distinct from their neighbours or lacked precise social boundaries. So it is not easy to assume that a particular prehistoric culture represents one of the anthropologist's categories ('tribe' or 'lineage' or 'society'). Categories such as chiefdoms and states are of perennial interest in archaeological research, but we cannot escape the primary problem of defining the unit of study on the ground. This remains a fundamental problem in archaeological research.

All we can say is that in the context of state societies we are on relatively surer ground, for state organization is based on territory, and an ancient state will have recognized, albeit changing, frontiers. State frontiers may not be total barriers to interaction: peoples in a border zone may be subjected to military threat, or unequal exchange; but in early states social and political boundaries may be 'more strictly marked than in non-centralized societies', and there is a chance that material culture is coterminous with political organization (see Hodder 1978: 244; 1979). But it still remains to be said that in future the problem of Harappan political organization may need to be studied with an altered perspective. And in the course of the following discussion we will see that we cannot confine our discussion to the MH sites alone.

2 *The problem*

Although Harappan archaeology began some seventy years ago, few attempts have so far been made to ask what kind of economic and political linkages ordered the relations between communities to form what is described as the Harappan civilization. Most suggestions about the nature of MH polity and economy have been offered as passing observations rather than the end-product of sustained research. A notable exception is the systematic argument of Malik (1968) for interpreting the MH stage as not a full-fledged state organization, but as an organization transitional to the state.

Many archaeologists have commented on the absence of clearly identifiable temples, palaces, and royal burials at Harappan sites. An absence of palace-type structures has been taken to mean an absence of kingship, but the lack of identifiable temples has not debarred discussions of a priesthood; instead, a constant refrain has been the 'theocratic' character of Harappan society.

In our context the term 'theocracy' appears to be used in the sense of rule by priests, not in the sense of the deification of kingship. Mackay (1938: 10) guessed that a large building in the Mohenjo-daro Citadel was a 'residence of a very high official, possibly the high priest himself.' Piggott (1952) considered the uniformity of Harappan material culture through time to reflect the unimpaired survival of a tradition 'enforced by religious sanctions'. He wrote of an administration of a 'strongly theocratic type'. Wheeler (1966:18; 1968:47) speculated on 'combined kingly and priestly rule' and on a 'priest-king', and Lal (1984:58-59) on a 'priest-dominated society'. Fairservis (1971:299-301) went so far as to identify 'religion' not

only as the leit-motif of the civilization, but also the basis of the class structure. The orientalist, colonial, or nationalist intellectual origins of such conceptions need not be spelt out in detail.

To be acceptable, theories of 'priest-kings' and 'theocracies' should make sense in anthropological terms. In chiefdoms and early states, institutions or offices at the apex of the political structure may indeed be termed theocratic. The secular state is a very late phenomenon in the world, but as Webster (1976) has pointed out, no obvious structural difference can be ascribed to theocratic and secular states.

Societies at the chiefdom level see the beginning of specialized political office, the beginnings of craft specialization, and labour mobilization. The organization of production and the mechanisms of distribution and exchange are, in such societies, determined largely by relations of alliance and descent. The chief is, in the ultimate analysis, pre-eminent kinsman of all his people. By definition he does not enjoy special privileges as regards basic resources, although he may exercise special rights over the acquisition and circulation of prestige goods. What the chief does enjoy, however, is exclusive ritual rights, or as Friedman and Rowlands (1977: 211) put it, the 'monopolization of the imaginary conditions of production'.

Chiefships, then, are inherently theocratic roles in that the chief is the senior-most descendant of the tribe's ancestors or ancestor-gods. Being in the best position to influence the latter, he is the manager of the cult, and responsible for his people's well-being and prosperity. This ritual status enables the chief to transcend his immediate kinship obligations, and gives him authority to settle disputes, receive tribute, or command labour. Netting (1972) suggests that ritual modes of focusing power are crucial to overcome the structural weaknesses of stateless societies.

Theocratic roles are also found in early states. In Sumer the king was, by the Early Dynastic III period, *de facto* owner and manager of temple properties, the link between men and gods, a builder of temples, sometimes appointing close kin to high ritual office, and participant in the Sacred Marriage fertility ritual at the beginning of each year. In Old Kingdom Egypt the Pharaoh, whilst not strictly a god, was the Descendant of Re, guarantor of the cosmic order, and the high priest of every temple in the land. In the Inca territories the ruler was the Son of the Sun, manager of the state cult, and an inherently sacral figure. Similar instances could be cited *ad infinitum*. In fact, Claessen (1978: 557-559) states that in all early states 'the basic character of the sovereign is his sacral status'.

It is important, however, that such theocratic roles in early states in no way pre-empt the existence of military, administrative or managerial functions (Webster 1976; Abélès 1981). For example, at no stage in Old Kingdom Egypt was there political rule by priests, and the highest political

offices were never primarily priestly titles (Trigger *et al.* 1983: 109). Early Dynastic Mesopotamian kings most often took the title *lú. gal* meaning originally 'big man', they called themselves *en* (a sacral, priestly office) only in the city of Uruk; and in the city of Lagash the ruling dynasty took the temple title of *ensi* (also a temple office) only when they were powerful enough to lay claims to temple wealth. The royal title reverted to *lú. gal* when the dynasty was overthrown by Urukagina, who attempted to reinstate temple functionaries in their previous roles and privileges.

What we are trying to argue is that the political and the religious were combined in the office of the rulers of early states. In fact it is pointless to attempt a functional distinction between the sacred and the secular in bronze age contexts. (The still sceptical reader is reminded of the case of the Assyrian kings. Unlike the earlier ruling dynasties of Mesopotamia, the Assyrian kings explicitly took the title of 'high priest' and temples were made an integral part of palace complexes; yet the might of the Assyrian military machine is legendary.)

While ceremonial and religious functions are an aspect of kingship, they are not the basis of power (Webster 1976). Sacral functions serve to create a social distance between the rulers and the ruled, to legitimize power and privilege. Where the power of the political leadership is not fully developed, ritual functions are especially important. According to Ekhholm-Friedman (1985), the African 'divine kingships' of the nineteenth and twentieth centuries represent a stage when colonial rule had deprived kings of their power and made them helpless and highly ritualized figure-heads, 'used by [their] people as a fetish in their struggle against social disintegration and against the real threats to survival that they experienced in a crisis-ridden world.'

To return to the Harappan situation, we can assert that, if there were some form of chiefdoms in existence, then certainly leadership would have been primarily theocratic. But if political development had advanced beyond this stage, a 'priest-dominated' society is a fallacy, and we must accept the paramountcy of economic and military power. More important, an uninformed insistence on 'religion' blocks enquiry into the bases of wealth, the degree of centralization, or the economic networks possible in Harappan times.

Mohenjo-daro and Harappa were long known as the two settlements substantially larger than the rest, and they have been called the twin capitals of the Harappans. The recently discovered sites in Cholistan, with the large settlement of Ganweriwala, now add a further dimension to the

picture. Did the larger sites control distinct territories? Few archaeologists believe in the existence of political frontiers across the Harappan region, except for S.P. Gupta (1974), who favours the existence of city-states. Most archaeologists emphasize the unity of material culture across the Harappan sites, and while they do not draw a simple equation between political boundaries and material culture, it has been suggested that the administration was strongly centralized, so that Mohenjo-daro and Harappa were the 'twin capitals' of 'one united kingdom' (Piggott 1952: 136).

Piggott does not ascribe the 'absolute uniformity' of Harappan artefacts [the degree of uniformity is now being questioned, though no detailed analyses have yet been offered] to political centralization alone, but also to 'a strongly established commercial code' and a standardized technology. Lambrick (1973: 32-34) also suggests that craft work was regulated, but in the sense that trained artisans were dispersed to required centres. He wonders whether the wide spread and uniformity of artefacts indicate that the Harappans, unlike their Sumerian contemporaries, faced little political or military opposition, and whether competing Harappan dynasties 'separated to find individual fulfilment far apart, yet [to] retain all the original attributes of their common culture unchanged' (*ibid.* 19-20). Similarly, Fairservis (1971: 293) believes that the Harappa culture spread to distant regions because the Harappans were vastly superior in organization and technology to their neighbours.

On the other hand, Malik (1968: 87 ff, 104-105) argued that Harappan cultural uniformity was the result of a process of voluntary 'incorporation of indigenous non-Harappan societies into the Harappan peasant-urban system', through means other than conquest or the exercise of physical force, i.e., through the spread of an ideology which became traditionalized, and through the perpetuation of the legitimate authority of rulers to enforce their decisions. In contrast stands Wheeler's opinion (1968: 72) that Harappan territorial expansion was 'something more forcible than peaceful penetration', that in layout Mound F at Harappa 'is marshalled like a military cantonment and bespeaks authority [sic]' (1947: 74-77).

Closely linked is the question of the citadels. Wheeler (1947) exposed the fortifications of the citadel at Harappa and, though he interpreted the western gateway system as a non-defence element, he later (1966: 15) established the military character of fortifications around the Mohenjo-daro citadel. Subsequently he wrote, 'the high-built citadels seem to be frowning upon their cities with a hint of alien domination' (1968: 135). Chitalwala (1984) also sees the citadels as indicators of a 'distinct and segregated' elite, anxious about its security. But Lal (1984) stresses the social and ritual functions of the citadels over the military, and Kesarwani (1984) argues that few Harappan citadel gateways seem to have been planned with

military defence in mind.

Observations on Harappan social structure have also been either vague or in the nature of passing remarks. Piggott (1952: 169 ff) and Wheeler (1968: 33-34) both commented on the barrack-like structures at Mohenjo-daro and Harappa, and the possible existence of a servile class. Chitalwala (1984) specifically addresses himself to class structure, but is not fully conversant with the concept of class. More valuable is Lal's suggestion (1984) that settlement layout in Kalibangan can point to a spatial distinction in the activities of the rulers, farmers and traders, and craftsmen. There is also the point made by Shaffer (1982: 48-49) that Harappan wealth objects do not occur in significant clusters or in limited contexts, that perhaps 'a relatively broad segment of Harappan society had access to ... such objects'. He thus remarks that if there was marked stratification in Harappan society, its manifestation must lie elsewhere.

There has been little discussion on the character of Harappan urbanization. Repeated applause of its planned settlement layouts and drainage systems perhaps reveal more about the modern Indian urban environment and condescending attitudes to prehistoric peoples, than about past urban land ownership or administrative mechanisms. Even less acceptable are the views of Fairservis (1971: 217) and Shaffer (1982: 49), that Mohenjo-daro was mainly a ceremonial centre, 'more villagelike than citylike', and that an 'urban, literate culture' was achieved without political forms like states or empires.

This is the background of some of the ideas against which the present study has been undertaken. We will first try to establish that full-fledged urbanism is evident; and that, therefore, we are dealing with political organization at the level of the early state, not with chiefdoms. But before we proceed, we must explain the use of the terms chiefdom and state, why we do not refer to categories other than these, and the mode of enquiry employed in this study.

Categories of reference

The terms chiefdom and state are often used in different ways. It may be explained at the outset how these terms are used in this study.

Chiefdoms represent the first level of political organization in which specialized political office comes into being. Status differentials in society are ascriptive, ensuing from birth and genealogy, rather than economic power. Descent groups are graded in rank, or else differentiate into aristocratic versus commoner groups. Incumbents of the chiefship are

members of the seniormost or aristocratic descent groups. But political office is not based on private property or exclusive rights to basic resources, and for a large part political relationships, exchanges of goods, access to land, and the composition of work teams are determined by descent and alliance. Chiefs receive tribute rather than tax or rent; following Goldman (1970) we shall distinguish tribute from tax as being token, irregular and voluntary.

Administratively, chiefdoms are segmented into smaller units ruled by lower-level chiefs with weaker powers, these units on the whole corresponding to levels of kin group segmentation. There is thus little organic unity, except at the ritual level. Economic specialization, usually in the context of prestige crafts, is inchoate.

As noted earlier, chiefdom societies are marked by differential access to the supernatural. Chiefs are required to demonstrate their genealogical eminence as mediators with the supernatural, in terms of wealth and personal qualities. But there are opposing pulls on the office of the chief, for chiefs are also kinsmen and must be generous to their kin, and are obliged to dispatch wealth back to their people through feasts, succour, or aid with marriage payments. Thus chiefdoms are inherently unstable polities in which rebellion or repudiation of loyalty arise as soon as chiefs become overly ambitious and flout the morality of kinship, fragmenting into their constituent descent groups.

Such societies are limited in the scope for the development of power or economic complexity. To take a random example, in a pastoral chiefdom the digging of wells would benefit all members, but no tribal segment is prepared to dig wells, i.e. to put in labour on a project from which other segments would also gain advantage, a project which would necessitate diverting their attention from their flocks, and a project which the chief is not capable of imposing on a particular tribal section. To take another example, a chief may be entitled to the labour of commoners on his fields; but there are limits to this imposition and the chief has to move repeatedly from place to place to spread the burden, even if this becomes an inefficient way of acquiring wealth. Labour mobilization on projects which would directly benefit the workers, e.g., local irrigation works, is of course, much easier to impose, as also on the building of ancestral shrines, temples, or defence works – in such cases chiefs co-ordinate rather than impose labour.

The state has a qualitatively different social structure. Kin communities continue to have joint tenure in basic resources, individuals may continue to identify with their clan or lineage, but the political structure is no longer reducible to the kinship structure. Political institutions and offices are imposed above, and irrespective of, descent group structure. The jurisdiction of political office is delimited in terms of territory and not in

terms of lineage boundaries. When it comes to economic resources or political matters, a ruler does not act as a member of his own (royal) lineage, but his terms of reference extend over his entire kingdom. Rulers may still function as managers of ancestral cults in their capacity as closest descendants of the nation's apical ancestor, but we can see that the rulers of early states are distinct from the rulers of chiefdoms.

This distinction arises mainly from the ability of the rulers of early states to enforce their decisions. In turn, this power ensues from their monopoly over the legitimate use of force, and from economic privileges, e.g., to pre-empt hitherto communal resources such as temple estates for their own benefit, or dispossess farmers in the course of carving out their own landed estates, and, most important, to impose labour dues on the population. The mobilization of labour, or rent on state lands, or tax on produce, is different from tribute in being impersonal, regular, and obligatory. In other words, early states are class societies in that rulers and ruled are distinguished in their access to basic resources, in their contribution to labour, and in their rights in the social product, if not in their personal property in land, irrigation works, or animal flocks.

State societies are therefore complex structures, not reducible to 'n' number of replicable communities or roles. Given this kind of institutional starting point, early states have the wherewithal for increasing differentiation of economic and political roles; the greater the specialization/the more dependant are the specialized subsystems on the superordinate, regulating state machinery, and more mechanisms develop for relationships between persons not related by kinship.

It is unnecessary to dwell at greater length on the distinction between a chiefdom and state; at any given moment in history a fledgling state may not be very different from a chiefdom. Even so, this distinction briefly outlined indicates that urbanism, which we will attempt to define and describe subsequently, can only exist in the context of a fairly well developed state organization, and that urbanism is not viable in the context of chiefdoms.

It may be asked why the Harappan socio-political structure should be studied only with chiefdoms or early states as reference categories. Could not a caste structure be a valid alternative category? After all, the stability and continuity of MH material culture is striking, and it may be said that a caste organization was conducive to social stability (in the sense of avoidance of overt clashes of interests), to the handing down of technology within hereditary occupational groups, and to the spread of techniques through marriages within endogamous caste units (see Malik 1968; S.P. Gupta 1974).

The question, however, is whether a situation of regional political systems and economic networks can ever be reduced to caste organization, and whether we can simply assume the caste system to have existed, since times immemorial, in the form known today.

Some scholars have interpreted the Indian caste system as a stage of development succeeding the tribal stage, and caste society as representing one kind of socially stratified society, differing from a class society in that the component units of the various strata are not individuals but endogamous sub-castes (see Klass 1980), and in that a caste hierarchy does not accurately mirror the distribution of power and wealth. The traditional village structure is an organic entity, with crucial labour, redistributive and exchange relationships between sub-caste members giving the village economy its coherence. Sub-castes function and survive only in relationship to each other in a network of ritual, economic and political relationships.

But economic specialization and sub-caste/caste groupings are not coterminous. There are hundreds of agricultural sub-castes. Two different sub-castes may follow the same profession and retain their exclusiveness; and members of the same sub-caste may follow different professions even under the traditional system.

Does caste rule out class ? Consider the formulations of Romila Thapar (1984) on the development of the first states in the Ganges valley : Thapar shows that the ritual ranking of *varnas*, notions of purity and pollution, and occupational divisions did not coincide exactly with economic status. She conceives of the *varna* system emerging as an aspect of stratification, but predating class divisions in society. The territorial rights of the Kshatriyas, their leadership in war, their ability to give feasts and distribute wealth – i.e., their increasing political and economic power – are clear.

There may have been a caste system in Harappan times, as in later times. But even if this were detectable from archaeological remains, it would leave unanswered the question of political structure and economic system. After all, historians of later periods do not explain town and country linkages, or the rise of regional states, or the ability of rulers to tax the produce of various groups, by invoking caste. We will therefore devote no further attention to caste but raise more immediate questions such as why there are Citadels at some MH sites but not at others, or why the storage facility at a small centre like Lothal appears to be larger than its counterpart at Mohenjo-daro.

The mode of enquiry

There is no coherent field of research which elucidates the methods for linking aspects of material culture such as settlement patterns, building

types, or inter-site variation of artefacts, to aspects of political organization such as surplus mobilization or the state sector of administrative organization. Archaeology cannot produce check-lists of material culture criteria for aspects of political organization: the range of societies we call chiefdoms and early states is far too diverse. Hitherto archaeologists concerned with levels of political development have concentrated heavily on settlement size hierarchies, burials, and prestige items.

What, then, can we hope to achieve in this study? Not a total picture of political structure showing how individual elements articulate, but rather to work out the range of possibilities: to suggest, for example, that surplus mobilization, land tenure, the mode of political expansion, could have taken some particular forms, but not certain other forms.

In attempting this, we must study other early state societies known from ethnographic, historical or archaeological sources. The aim is to proceed from the principles of state organization derived from several documented cases, to the hitherto unexplored problem of Harappan state structure. The reader will find references in our study to the Mesopotamian, Egyptian, Chinese and Minoan societies, to the Inca state, to several African states for which there may be historical records, or only oral traditions and anthropological data. It does not matter particularly that these societies are distinct from each other in geographic setting, in time, and in cultural tradition. For we have limited the comparative material to those cases where states function with vestigial tribal structures, relatively simple technologies, non-market economies,* and generalized administrative

* Market economies are those with which we are familiar, but they evolved slowly and relatively late in history. In such economies all kinds of things can function as commodities – items with exchange value – including food, labour, and land, and can be exchanged against money. Their value in money is determined by demand and supply. This price-regulation mechanism affects not only produce but also inputs (labour, raw metal, or land) and therefore determines the allocation of these inputs towards alternate ends.

The contrast that tribal economies present to the above emanates primarily from the lack of private property in basic resources. Lands are ancestral resources, held by descent groups as groups, therefore inalienable, and accessible to all members born into the group. Given simple technologies within the control of all members, the household is the unit of production and domestic units within a group are economically similar. When households pool their labour this is amongst kin and largely determined by the morality of kinship. The produce of the land inherited from the ancestors is likewise subject to the morality of sharing according to a prescribed set of norms. Exchanges between close kin take the form of gifts, there are also prestations to or amongst chiefs or elders, and marriages between members of two groups are also in a sense exchanges of rights to future generations of labour and marked by the exchange of goods. Gifts are, in contrast to commodity exchange, underscored by the need to create/strengthen social relationships. Commodity exchange as barter may take place at fairs or periodic markets or at the borders between groups, but equivalencies established there do not have a feedback effect into the subsistence economy.

structures. They may be viewed as diverse forms or methods of achieving very similar ends.

This is the only workable frame of reference at the present stage of research. It can perhaps rescue us from the situation of the blind men and the elephant, with one scholar rejecting Harappan urbanism, and another scholar, not feeling obliged to refute the former, rejecting true villages. It is preferable to falling back on our own experience of the world, or referring to the later Indian tradition. True, ethno-archaeology can be of help in understanding site debris, or techniques, or the functions of particular kinds of artefacts. And the later Indian tradition is relevant when we refer, later on, to the regalia of ruling dynasties, for example. But it cannot give us leads on Harappan political forms, for the earliest well documented states of the historical period (Mauryas, Pallavas), with coinage and wage labour, professional armies and complex administration, reflect a level of complexity we cannot possibly assume for the bronze age.

The comparative approach followed here is not free of methodological difficulties. In the first place, anthropological studies of states in Africa throw much light on early state societies ('early' here refers not to historical time but to the first stage of state development). But we must cross into another discipline and use anthropological texts as sources of data, when the texts themselves reflect diverse approaches. Some represent the functionalist view, in which societies were studied as organic and harmonious wholes, and political life as an aspect of total social organization, contributing to the integration of the whole. Of course, it would be unfair to suggest that the anthropologists we will quote adopted a narrowly synchronistic view. Nadel gave attention to both Nupe state development and the historical consciousness of the Nupe. Evans-Pritchard, an advocate of the importance of history to anthropology, explored the origins of Zande clans, crops, crafts, and funerary practices. And Vansina's contribution of a methodology for the study of oral history is well known.

Even so, it is possible that the anthropological texts used conceive of societies as unrealistically stable social structures, that they unjustifiably emphasize balance, consensus, equilibrium, and social cohesion. Such idealistic models cannot incorporate social change. It is now realized that social realities are caught up with conflict, divergent conceptions, and

Wealth goods in such economies may change hands repeatedly, but it is their giving rather than their accumulation from which high status accrues. And prestige goods and subsistence items will often have separate spheres of exchange. It is this kind of economy which the earliest states inherit from their recent tribal past.

working arrangements which only approximate to the ideal. The emphasis has thus shifted from societal entities as integrated wholes, to political processes such as decision-making, competition, modes of legitimization, patronage, and so on.

Moreover, the texts we will use were written after colonial rule was well entrenched and had made its impact on traditional social systems. Colonial rule re-established political frontiers, introduced 'rationality' in administration, or provided buffers to political office. Anthropologists working in the context of colonial administration did attempt to sift pre-colonial elements from those engendered by colonial rule. But what they conceived as the 'traditional' was itself only what they were able to observe in their time, and what was expressed then as the traditional. Tradition itself is amenable to distortion. Some anthropologists tended to ignore its unsavory aspects (e.g., violence), and traditions were used and misinterpreted by colonial rulers to combat the aspirations of those they ruled (see Balandier 1970). Or traditions were manipulated by subject peoples as a form of resistance to domination. (We have referred earlier to Ekholm-Friedman's interpretation of the African 'divine kingships'.)

There are other problems. Questions of scale, for example, do count. Can the process of political expansion of an African state of relatively recent times suggest the method of Harappan political expansion if that state covers an area of say one-tenth the MH area? Second, if the process of expansion takes a certain form, does this mean that administrative organization, e.g., will correspondingly take only certain forms? Some features of early states may determine other features, or some elements may together reflect a single underlying principle.

The most serious difficulty lies in the fact that we will be using material remains as proxies to reveal what political forms may have existed in MH. In doing so, we will search for clues in the data from other states which are often literary or anthropological. But data on similar states do not tell us what MH conditions were: they only suggest what questions we can ask. If in the course of using analogies we find that a state sector of production is of fundamental importance and therefore assume its existence in MH, we should be able to predict the correlates of the state sector in MH material culture. This is why we will not proceed with a theory of the early state, but allow the archaeological evidence to lead the discussion, leaving generalizations and structural connexions to later pages.

3 *Urbanism*

In a cultural landscape a city is a node where population chooses to concentrate, to create a settlement larger and more dense than most other contemporary settlements, not in order to make food production more efficient, but because of an engagement in non-subsistence activities such as crafts or trade, administration or ritual services. (Such population aggregations make defence easier than in situations where people live in dispersed villages.) Urban households do not replicate one another in function. It is emphasized today that urbanism is a dependant variable: the emergence of cities reflects economic change towards specialization or the division of labour in society. As specialization proceeds, the spatial character of an economy will change, with certain types of production becoming concentrated at particular settlements. Increasing division of labour and specialization are explained by several socio-economic factors, such as the organization of production and the required level of output. Thus 'from a socio-ecological standpoint, city growth is simply the concentration of differentiated but functionally-integrated specialisms in rational locales' (Lampard 1955: 92).

When diverse activities concentrate in particular settlements social life itself undergoes marked changes. Social interactions among city dwellers proliferate as diversity entails a concomitant interdependence between individuals or households for their day-to-day needs. As Wirth pointed out, city dwellers depend on more people for their basic needs than do rural people, but are less dependant on particular people. 'The contacts of the city may indeed be face to face, but they are nevertheless impersonal, superficial, transitory, and segmental' (Wirth 1938: 12). In the

non-industrialized world Wirth's emphasis on anomie, personal insecurity, and mutual exploitation may not be relevant, but his point about social heterogeneity and highly segmental roles as typical of city life is especially important. Kinship identities are known to have survived in bronze age cities, but kin relationships cannot possibly order the interactions amongst residents of a city of several thousand inhabitants. Worship at the major temple of a city, or common reliance on an urban drainage system, or the requirements of traders and administrators of seals from the city's seal makers, would bring people into repeated and fleeting contact, irrespective of ethnic or descent group identities.

The archaeologist's problems

How does the archaeologist identify urban centres? The first clue would come from a settlement size hierarchy. MH settlements (we know the dimensions of about 117 MH sites) range in size from 0.4 ha to 125 ha, with the largest site, Mohenjo-daro, some sixteen to seventeen times the size of the mean. At the top of the hierarchy there are pronounced breaks in size: the fifth largest site, Rakhi Garhi, is roughly a quarter the size of Mohenjo-daro, and the tenth largest site, Banawali, about one-eighth. If the ratio of people to built-up area was similar in large and small settlements, about 24 per cent of the Harappan population (the total settled area amounts to about 871 ha) was concentrated in the two largest centres, Mohenjo-daro and Harappa (125 + 85 ha). We can reasonably infer that such a pronounced hierarchy is a pointer to political, economic, or cultural domination by some centres over others.

Size alone, even relative size, is not however a sufficient criterion of urbanism. The Mesopotamian settlement of Uruk, around 3200 B.C., was 100 ha in extent, and has been called 'urban'. In this period there was an upsurge in temple building, and the beginnings of writing and monumental art, and it is assumed that Uruk was a centre of temple-mediated exchanges. But are these sufficient criteria for the supposedly urban status of Uruk in this period? The Yoruba settlements in Nigeria provide the classic instance of this problem of characterization.

Founded in the sixteenth century, Yoruba towns in the nineteenth century became very large in size. Oyo, one of the largest settlements, had a large fortified palace-enclosure with a market place and temples. About 50 per cent of the Yoruba lived in centres with populations exceeding 50,000 in the nineteenth century (Lloyd 1967: 280; Kochakova 1978: 493, 496). The Yoruba had a developed state organization which survived for centuries in the form of multiple kingdoms, each ruled by a sacral king with the help of a particular form of military organization and secret societies. Towns

were founded by kings, and for the Yoruba 'without the king there would be no town', for several descent groups could not co-exist without a central government (Lloyd 1973: 117). Because of decades of warfare with Dahomey and internecine struggles for power, many towns 'grew as collecting-places for refugees, and became militarily strong' (Gleave 1963). But agriculture remained the main pursuit of the city dwellers. Farms within a radius of about 8 km of Oyo were visited daily by some townsfolk. Further away were farmlands on which people from Oyo lived for long periods. Many built and kept houses at Oyo, but visited the town only for ceremonial occasions or for the communal building of a house. Even until recently, the permanent residential population of Oyo was thus about 40 per cent of the total (Goddard 1965: 21-28). And there were very few full time craft specialists – about 10 per cent of the city populations (Lloyd 1965: 555) – most craftsmen visiting their farms every few days or during the slack season (Lloyd 1973: 109). This is why, for some scholars, the Yoruba settlements can at most be termed 'quasi urban'.

If, therefore, food production activities and defence functions are not decisive indicators of the urban status of an ancient settlement, we must begin with a search for occupational diversity. Mohenjo-daro is the obvious MH site for analysis, being the largest and one of the most extensively excavated of MH sites.

Craft production at Mohenjo-daro

We cannot quantify the proportion of the population of Mohenjo-daro which engaged in activities other than farming, herding or fishing. We can only list the craft-production activities represented here by the occurrence of production facilities (kilns, tools) and manufacturing debitage. Discarded tools and manufacturing waste may not, however, give adequate indications of craft activities, for at Mohenjo-daro there appear to have been ordered arrangements for garbage disposal. There were bins against the outer walls of some houses, with or without rubbish shutes running down the thickness of the outer wall (Marshall 1931: 16); at one street junction there was a brick-enclosed public dustbin (*ibid.* 179); and in the Intermediate period, on the northern periphery of the residential mound, an area some 60 × 52 m appears to have been a large dump, containing a depth of more than 4 m of discarded sherds, seals, ornaments, ash and humus (Mackay 1938: 1). Nevertheless there is sufficient evidence in the form of facilities, debitage, and raw material collections, to indicate that diverse crafts were practised at Mohenjo-daro, in the Citadel as well as the residential area.

A general survey of this evidence brings one feature immediately into focus: it is difficult to isolate distinct manufacturing areas in the city, or large workshops, or any habitation area exclusive to craftsmen as a distinct

segment of the urban population.

For example, a few unfinished seals have been found (Marshall 1931: 378; Mackay 1938: 345-346), either unperforated, or with incomplete boss, or with saw marks. These pieces, however, do not

Seals cluster in any particular locale: they were found individually in various houses of the DK and HR areas, or outside houses. In the HR area, section B, house X, sawn or partially worked pieces of steatite were found in one room (Marshall 1931: 184), but no seal-making workshop with raw material, tools, unfinished pieces, and debitage, has yet been reported.

Hoards containing objects of gold and silver, wrapped in cloth and probably awaiting remelting or reworking by smiths, also come from different houses, e.g., in DK area block 10 (Mackay 1938: 453, 501) and HR area block 2 (Marshall 1931: 522).

Copper/bronze ingots, rectangular or bun-shaped, and irregular masses of the same metal, as also faulty castings, have been found in several houses, especially in the DK-G area (block 2, house IV; block 12 house V; block 12A house I; etc.), but these finds were rarely associated with kilns. For example, in house IV of block 2, there

Copper/Bronze were four melts, but no kiln; in house I of block 12A, five ingots and melts, but again no kiln (Mackay 1938: 41; 124-126, 141). In the HR area, section B, a small five-room house (LXI) on Third Street produced crucible fragments, ash and several lumps of ore (Marshall 1931: 212). No smelting facility is reported and the associated small finds comprise ornaments, a weight, a copper tablet, and a faience cone. On the other hand, in DK-G block I, called a 'palace' in the Intermediate II phase were found two kilns but no ingot hoards.

More substantial evidence for craft work at Mohenjo-daro is represented by *shankh* (*Turbinella pyrum*) and *Fasciola trapezium* shell flakes, columella, cores and clusters of inlay pieces of various shapes, from Late levels in the L area of the Citadel; from HR-B area block 2 house IX; and HR-A area block 2 house III, as well as from house XIII in block 2 of the VS area

Shankh (Marshall 1931: 170-173, 195, 219, 563-565). The occurrence of mainly *F. trapezium* shells, debitage and inlay pieces in the L area is of interest as there are four clusters which come from different rooms of what was either a large building or two adjoining buildings (section D, blocks 1 and 2) in the southwestern portion of the Citadel mound (Marshall 1931: 171-173, pl. XXX). It is likely that a workshop for inlays was located here, but the associated small finds include pieces of crystal, pot sherds, a bead, a limestone marble, and 'vase-like jars'. No saws, knives or other shell-working

tools have been found, except for a sandstone hone (Kenoyer 1983: 186-187).

In the HR-A area, house III in block 2, room 29 yielded several unfinished shell bangles, all stored in a pot (Marshall 1931: 181). The plan of house III is incomplete on the east and there is no clear indication of the precise function of this house with its southern courtyard, well and drain. In the VS area block 2, house XIII, 41 shell cores in one locus were found.

Surveys of the unexcavated areas of the site have revealed shell-work debris in three other parts of the site (Kenoyer 1983: 190 ff): north of the L area (inlay work); eastern HR area (bangles, ladles, and inlays); and also about 500 m to the east of the main residential area (preliminary preparation of *shankh* shells for bangle-making). The last may have been located outside the habitation because of the stench raised by stacks of uncleaved shells.

Beads Evidence for bead making at Mohenjo-daro is slender. Mackay (1938: 501-503) reported only 10 unfinished beads, mainly of agate, from Intermediate levels. But debitage from the manufacture of small steatite disc-beads was noticed at the western edge of the DK-G area (Bondioli *et al.* 1984). In the hitherto unpublished Moneer area, a relatively crowded zone of Mohenjo-daro, one room produced several small weights, weighing scales, and a number of beads (Jansen 1981: 78), but this could have been an outlet for finished beads rather than a manufacturing locale.

Pottery When in the Late period a large part of the DK area was used for manufacturing activities, several kilns were located here, including one on Central Street. Most of the kilns had associated pottery debris. They appear to have been cylindrical, closed kilns with domed roofs (Mackay 1938: 6, 177), and it is not proved that they were used for baking pots. Hegde (1977-78) points out that kilns are expensive facilities for pottery-making (as opposed to open fires) in terms of labour needs and smoke-free fuels.

Thus he suggests that kiln baking would have been done only when exceptionally large quantities of pots were required at a time, and that most Harappan pottery would have been baked in open fires. Bondioli *et al.* (1984) suggest that single kilns in courtyards represent individual manufacture of particular kinds of pots (e.g., scored goblets), whereas more centralized production would have favoured the outskirts of the site.

Cotton Cloth Numerous fragments of cotton cloth have been found at MH sites and fabric must also have been made of wool. Spindle whorls are plentiful at Mohenjo-daro. Most are light, with rounded tops and flat bases, and are of clay or else shell or faience. They vary in size, thickness and direction of perforation and show no

standardization (Marshall 1931 : 468-470). According to Mackay, most of these were 'too small and light to spin an elastic fibre like wool' (1935 : 138). Few spindle whorls occur in large numbers together. The spinning of cotton thread may have been a household activity rather than the work of specialists. Occasionally, stone statuary indicates that embroidered garments were worn; but the recovered metal needles are usually too thick to have been used for fine work or on fabric with a close weave (*ibid* 172-173). The only other evidence for textile production comes from house X in block 2 of HR-B area, where three large troughs were found, about 80 cm deep and wide, two in one room. The troughs were embedded in the floor and lined with brick around their mouths. Marshall (1931: 196-197) suggested that these were dyeing troughs.

Faience miniature pots, beads, buttons, pendants, bangles and other objects occur in profusion in Mohenjo-daro. One assumes that faience production was among the most skilled and most labour-intensive of Harappan crafts; the vessels are often too small for even a finger to have been inserted in the mouth, and their capacity is negligible, so that Mackay (1938:

Faience 318) suggested they were either votive objects or containers for precious materials such as cosmetics. But little attention has hitherto been paid to the technology or production of such valuable items; we lack evidence for moulds, and no kiln with high temperature and efficient draught facility has been explicitly diagnosed as a faience-production kiln. The only certain indication of faience work comes from slag found on the surface about 25 m to the north of the edge of the DK-G mound (Bondioli *et.al* 1984:30).

Stoneware bangles, made in moulds from very fine clay and fired extremely hard, were baked in vertically stacked and clay coated saggars in *Stoneware bangles* the Moneer area. Here also other kiln debris occurs (bricks, kiln linings, vitrified melts) in association with chaff-temper coated jars used in the firing of some non-metallic substance (Halim and Vidale 1983).

The last items we will mention here are surface evidence for the paring of *lapis lazuli* blocks in the eastern portion of the Moneer area, and *chert* cores, debitage, *blades and drills* in the Moneer area and in the area east of the excavations in HR (Bondioli *et.al* 1984).

First observations on the organization of craft production

What emerges from this outline survey is that at Mohenjo-daro there was a range of non-subsistence production activities. In fact, surface surveys show only a few unexcavated areas, such as the north and northeast end of the Citadel mound, to be devoid of craft indicators (Bondioli *et.al* 1984: fig. 9).

Yet only in rare cases (e.g. the L area and the eastern outlier area of shell work) do we find a concentration in one place of large quantities of debitage, raw material, tools, facilities and unfinished items, which would point to the existence of workshops. Each craft seems to be dispersed, in small loci, over the site. We saw that in house XIII, block 2 in the VS area, only 41 shell cores occurred, and this was a large house. In contrast at Altyn-depe in the bronze age (Namazga V period) single loci could yield a kiln and hundreds of unbaked figurines, or else a kiln with ore fragments, an ore crusher, crucible fragments, and slag (Masson 1988: 32 ff).

If 'craft quarters' are conceptually distinct from workshops (Tosi 1984: 24) as areas of a settlement where several crafts converge and perhaps share facilities, then the Mohenjo-daro survey (Bondioli *et al.* 1984: 30) seems to have located craft quarters in an east-west strip in the HR east mound; in a small north-south stretch between the VS and Moneer areas; and in a zone along the eastern edge of the Moneer area.

Does the lack of substantial evidence for workshops argue against the division of labour or specialization, and hence against the urban character of Mohenjo-daro? I don't think so. Workshops cannot be the only index of specialization. While at Mohenjo-daro workshops are few and the output at any one locus does not appear to have been very high – Kenoyer (1983: 241) states that the quantity of shell debitage in just one pit at MH Nageshwar, a small site indeed, exceeds the entire amount recovered from all Mohenjo-daro excavations – there are other indicators for specialization at Mohenjo-daro. For one thing, craft indicators do not occur in all houses, and where they do, the houses are by no means replicable in small finds or nature of craft. More important, items such as gold jewellery, faience containers, or seals indicate highly skilled workmanship. On the other hand, items like pottery or copper/bronze tools indicate very standardized – possibly 'mass produced' – output. Finally, it is also important that El antecedents are not known for all MiI crafts – in some spheres at least there could have been a relatively sudden implosion of new techniques. We cannot then infer that the people of Mohenjo-daro were making their own tools and ornaments at home for their own needs, in their spare time!

A remarkable feature of craft loci at Mohenjo-daro is that they can occur in houses which are large and well-equipped. If there was a Harappan elite, it surely lived in these houses.

Mackay (1938: 46) called the building with two kilns in Block 1 of DK-G area a 'palace' as it is a large complex of courtyards, corridors, and rooms, and larger than the 'College of Priests' in the Citadel (if in Intermediate II block 4 was integral to it). This building has at least four entrances, two wells, and several drains.

In house IX on street 2 of HR-B, where a mass of shell inlay pieces were

found, also occur six unicorn and two other seals, many metal tools, and an ivory pin. House X of block 2 in HR-B, with the 'dyeing troughs', was a twelve-room house with three staircases. Among small finds it yielded a seal and faience ornaments.

House XIII in block 2 of the VS area with the 41 shell cores is an even more impressive structure with three courtyards, three staircases, twenty-five rooms, a well, a bath, and a drain. In a room with clerestory windows and double-reveal niches two rectangular steatite boxes of possibly Kulli origin have been found, probably a unique occurrence at MH sites. Also found were ivory and faience objects, stone vessels, a weight, and three seals.

In House VI of block 15 in DK-G north, two hoards of copper/bronze objects, and also the unique Harappan fuchsite cup were found.

What are dyeing vats or shell cores doing in the houses of the elite? The only explanation seems to be that they indicate the presence of craftsmen, attached permanently or temporarily, to elite households as clients or, just possibly, slaves, craftsmen who produced certain items on demand.

But let us at this stage also consider Mohenjo-daro in the context of what is known about MH craft production in general.

Excursus : craft work at other MH sites

Below is a rough and ready list of the crafts that might be indicated at MH sites other than Mohenjo-daro, compiled from excavation reports as well as preliminary notices and surveys. It should not be used for analysis without further investigations, but gives us a sketch of the possible picture of the spread of craft production over the Harappan map.

Harappa	copper/bronze smelting and casting; shell bangles and ladles; stoneware bangles; stone beads; faience; bone and ivory; flaking of stone tools; pottery; seals.
Rakhi Garhi	spindle whorls.
Dholavira	<i>shankh</i> bangles; beads.
Amri	pottery; shell ladles and bangles.
Chanhudaro	
Mound I	maceheads; faience
Mound II	weights; seals; steatite beads; carnelian beads; copper/bronze; beads in various semi-precious stones.
Mound III	shell bangles (see Majumdar 1934: 38)
Lothal	shell bangles; shell ladles; ivory; carnelian and other beads; copper/bronze; spinning; seals.

Mitathal	stone beads (?)
Kalibangan	pottery
Rangpur	shell bangles
Shortughai	copper/bronze; lapis paring; gold; carnelian beads.
Balakot	shell bangles; pottery
Surkotada	agate-chalcedony blades; shell bangles
Kotla Nihang Khan	four small oval kilns
Allahdino	shell bangles; copper/bronze
Nageshwar	shell bangles and ladles; pottery (?)

At Chanhudaro, a fair proportion of Mound II was trenched by Mackay, and in MH levels he found production facilities, craft tools, and manufacturing debris all over this area. On Mound III Majumdar had located shell bangle manufacture, while on Mound I Mackay found evidence for the making of stone mace-heads and faience objects. That such a large proportion of the built-up area was used for craft work at a settlement of average size suggests that craft output exceeded the needs of the local inhabitants.

The distribution of various indicators of craft work over Mound II in the middle levels of MH occupation is of interest. This area does not seem to have been a craft quarter distinct from a residential area. As at Mohenjo-daro, domestic artefacts such as clay figurines, toy carts, rattles, whistles, and so on come from the same architectural units which yielded evidence of manufacture. But to the west of the mound, in squares 8/F, 7/E and 7/F, Mackay (1943: 49) reports the remains of several brick columns which he took to represent the loci of workshops with light roofs.

At Chanhudaro we rarely detect in one house or locality all the stages of manufacture of a particular product, from start to finish. For example, cut blocks of steatite stone or paste, representing the first stage of seal manufacture, occur frequently 'in various parts of Mound II' (*ibid.* 209). Seals with incomplete engraving or drilling or inscription, or incomplete boss, some ten in all, occur singly or in groups of three or four in room 121 (7/E – 3 occur with a stone drill fragment), in locus 157 (7/E), 459 (7/C) and 223 (8/D). If these pieces are contemporary, cutting and engraving was done in various locales but not where the blocks were first cut. So far the only evidence for glazing work comes from the heat installation 215-286-287-262 in locus 9/D.

Beads were made of various kinds of stone. Blocks of agate, carnelian, crystal, and amethyst have been found at 125 (9/E), 443 (7/F), 215 (9/D), 139 (9/D), 237 (7/C), and 306 (7/E), some in association with metal or chert drill heads. However, pared stone blocks were found at different

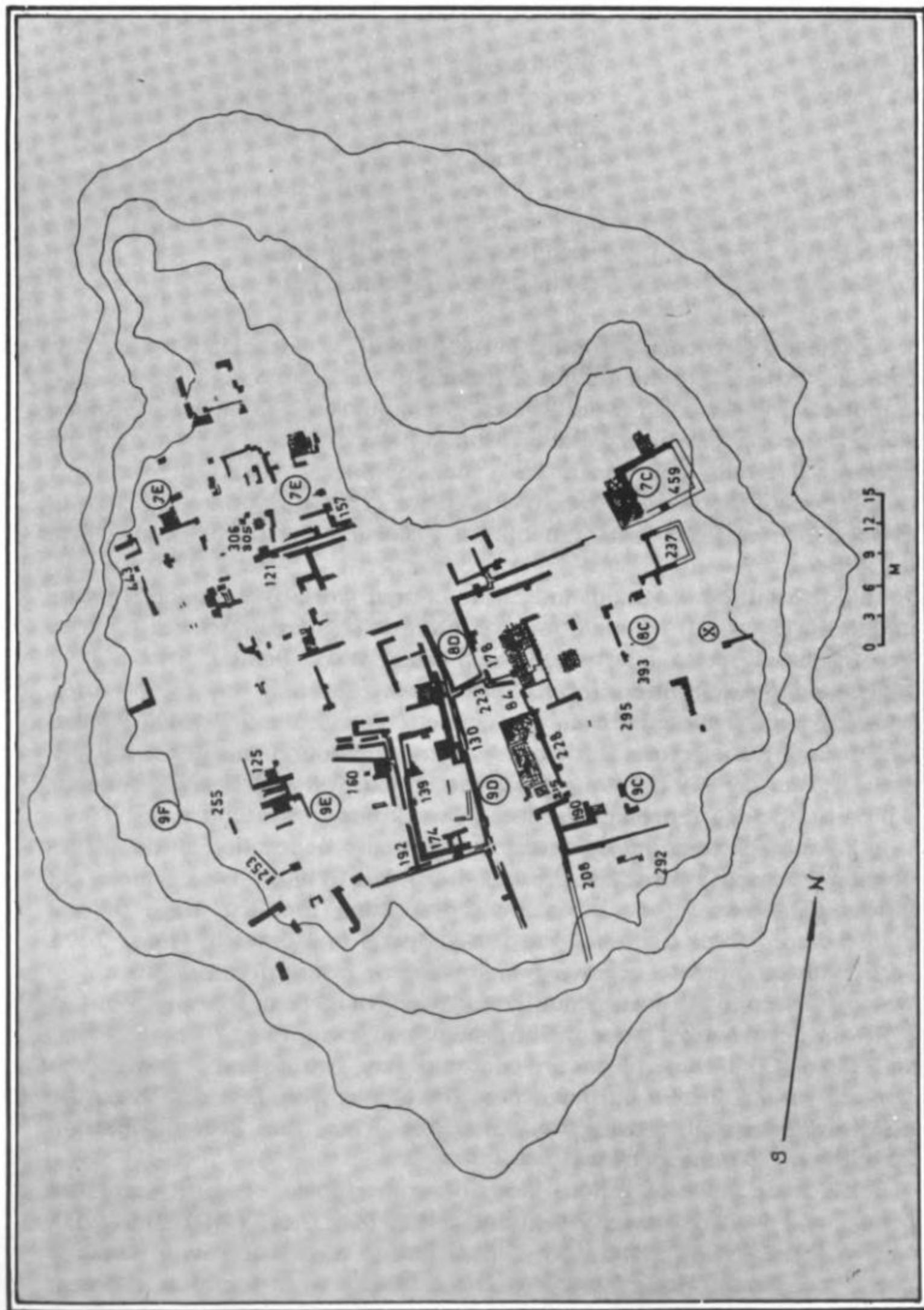


Fig. 1 : Chanhu-daro Mound II (after Mackay 1943).

places: 150 (9/E), 184 (9/F), and 160 (9/E). Grooved sandstone hones, on which flaked pieces would be ground, occur in yet another scatter, in 130 (9/D), 178 (8/D), 184 (9/F), 393 (8/C), 145 (8/F), 208 (9/C), and 295 (8/C). Metal or chert drills representing the next stage of production, in their turn, occur in 85 (9/E), 215 (9/D), 228 (9/C), 292 (9/C), 297 (8/C), and 253 (9/E) and 255 (9/F). Beads with incomplete perforation were found in 450 (8/C), 174 (9/D), 190 and 293 (9/C). Thus we can conclude that, if discard locus was the same as manufacturing locus, different stages in the manufacture of stone beads were located in adjacent areas, but no single location testifies to all the stages of manufacture.

Mention must also be made of the possible heat installation with horizontal flues on Mound II, 215-286-287-262 (Mackay 1943: pl.VIII). Among other objects, steatite disc beads, carnelian nodules, copper/bronze tools, and an unglazed steatite seal were found here. In the courtyard to the east of the structure were found two hoards of copper/bronze objects and fragments. If indeed this was a firing installation, it must have served the needs of several crafts. (But it is not clear why 22 stones weights and a scale pan were also located here).

It thus seems that at Chanhudaro several households were engaged in one craft and the various stages of manufacture were subdivided among different individuals. This inference, of course, rests on the assumption that Mackay's stratification of the 'Harappa II' levels is correct.

Let us now consider bead-making at Lothal. House 164 here has been called a 'bead factory' (Rao 1979: 118-20). Containing an open courtyard and eleven rooms, it is said to be the largest structure of phase IV at Lothal, outside the Citadel. Wall 167 perhaps enclosed the entire structure. Agate-carnelian nodules, rejects, waste flakes, and a flanged stone drill (but no hones) were found all over the building. In the courtyard was a mud brick platform with two jars embedded in it and containing between them about 600 complete and some unfinished carnelian beads. To the north of the courtyard were two rows of rooms, interpreted as workmen's quarters, whereas two rooms in the northeast corner could have been storerooms.

Immediately to the east of 164 was feature 165-166, a small kiln with four flues connected horizontally to each other and opening to the mouth. Apparently very high temperatures were attained in the kiln, as its bricks were vitrified. A large ash dump (cow dung ash) was found near the kiln, with raw nodules, baked nodules, and flakes of agate-carnelian strewn about.

Unlike at Mohenjo-daro or Chanhudaro then, two clearly defined and adjacent structures at Lothal seem to have seen all the stages of bead making, several people working in the same place, perhaps at different processes.

The manufacture of shell bangles at Balakot appears to have been

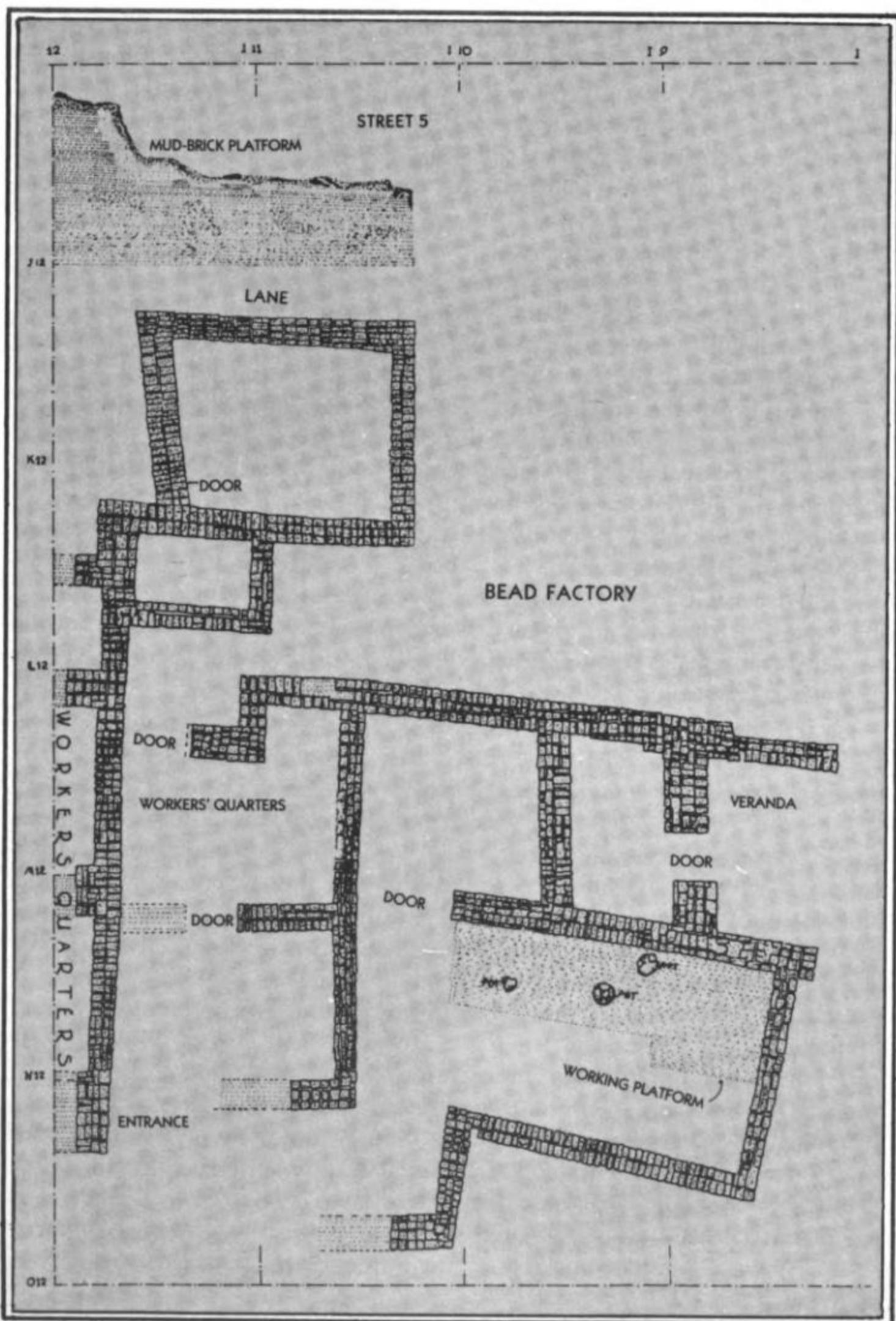


Fig. 2 : "Bead factory" at Lothal (after Rao 1979).

organized more on the Lothal than the Chanhudaro pattern. All the stages of manufacture, debitage, plus 157 complete bangles were found at one locus (B9-C9) of the site, although at another locus (Z5-A5) the first few stages of work were alone represented by a quern, unworked shells, and waste material from grinding (Dales and Kenoyer 1977: 18).

On Mound F at Harappa, sixteen heat facilities were located within an area some 60 m square. These structures belong to Vats' strata I to IV, and thirteen of them conform to the same design (Vats 1940: 470-4). While their specific use is not known, it is possible that these furnaces represent a kind of workshop situation, provided that several of them, if not all sixteen, were in contemporary use, dependent on a common fuel, or used to heat the same kind of material.

The small site of Nageshwar near Dwarka has very easy access to the coasts of the Poshetra and Pindar bays, 8 km north and 6 km east, respectively. Despite extensive latter-day damage to the site, there is evidence for distinct shell-working loci in the north, west, and south of the site. These three loci comprise almost a quarter of the area of the existing mound. In the north locus, surface debris indicates that only the preliminary stages of *shankh* cutting and inlay piece preparation was done. About 48 m to the south, in an area of about 130 m square, bangles were cut out and completed. In the west locus, ladles and bangles of another shell, *Chicoreus ramosus*, were made. Hegde *et.al* (1984-85) believe that different stages of production were located in different areas, although the northern workshop area at Nageshwar dates to an earlier phase than the southern. It is also reported (Kuldeep Bhan and Kenoyer 1984: 73) that waste material exceeds complete bangles in quantity at the site.

Finally, in the Fort Derawar area there are separate manufacturing sites, small and large, distinct from settlements, for the production of either bricks or pottery or metal. (Mughal 1982: 92).

MH craft production in general

If we can make a few generalizations on the basis of this survey, the first is that craft activities are dispersed over the MH map. This may be linked with the fact that most crafts, except perhaps textile production and dyeing, are of the 'weight-reducing type', where the final product is lower in volume or weight than the raw material and/or fuel input.

It is also important to note that craft work is attested at a 125 ha settlement, Mohenjo-daro, but also at a 1.2 ha settlement like Nageshwar. Nageshwar and Balakot (Balakot is 2.8 ha) were, of course, ideally located for their respective marine shell industries. While raw shells were also moved to Mohenjo-daro and we cannot generalize that all crafts were

located near the sources of their raw materials, settlements as small as Balakot and Nageshwar may well have concentrated on single industries. Settlements like Lothal and Chanhudaro, however, which reveal a wide spectrum of crafts, are of the mean size of MH settlements. They would have acquired their raw materials from different and dispersed regions. At the same time, at Chanhudaro bead and weight manufacture, or seal and disc-bead manufacture, were dependent on common raw materials, agate-carnelian, and steatite, respectively. We do not know whether craftsmen at the modest-sized settlements of Lothal and Chanhudaro would have had the means to independently procure their own raw materials, but this is unlikely. More important, the convergence of several crafts at these places may have been to facilitate the movement of diverse materials from different routes to a convenient node. This in turn would imply that craft production at such centres was sustained rather than sporadic.

Where substantial architectural remains occur at excavated sites, we have seen that, except for stray cases, residence and craft-work area are combined. Concerning 'craft quarters' as one kind of organizational category, Tosi (1984: 24, 31) states that these have few residential or domestic facilities, that in fact they are formally to be distinguished from residential quarters. At Shahr-i Sokhta and Altyn-depe pottery production took place on the outskirts of habitation areas (so also some metallurgical production at Lothal), but this does not apply to all crafts. At Altyn-depe (Masson 1988: 32 ff) the craftsmen's quarters in excavations 1, 8, and 10 are small residence-cum-work structures, with hearths, domestic tools, and intramural burials. At Bida, the capital of the state of Nupe in Nigeria, much craft production was highly organized, by individual guilds. But except in the case of iron and silver work, in recent times guild members worked not in separate workshops, but in their own family compounds (Vernon-Jackson 1960). Therefore, production within the precincts of the household does not by itself indicate that production is within the control of the household and for its own domestic needs.

We have seen, however, that there are some cases of production in workshop-like conditions at MH sites. In what way is this significant? Co-operation between producers of a particular item may be necessary if they use tools or facilities which are costly or difficult to produce, in terms of materials, labour, and skills; because the item is required on a large scale and cannot possibly be produced in the domestic courtyard (e.g., bricks); because each stage of manufacture may require different kinds of dexterity (e.g., beads, seals); because supporting facilities like kilns need constant inputs of charcoal and must be kept working continuously, which cannot be done in the household without interrupting the rest of the work; or because many stages of production are involved and the quantity of output must be

so high that an internal subdivision of work facilitates speedy production. We have thus returned to 'specialization', which, we had stated, is an intrinsic feature of urbanism.

The concept of specialization

We have explored the evidence for specialization at Mohenjo-daro in order to establish that it was not just a huge settlement, but an urban centre. We have said that it is not workshops and quantum of output alone which indicate specialization, but also the rapid appearance of new techniques, degrees of skill and experience required, and standardized output. Yet we cannot dismiss as irrelevant the dispersal of craft loci at very small MH settlements, or the problem of distinguishing urban from rural settlements on the criterion of non-subsistence production.

[These patterns may not in fact be unique to the MH culture. Adams (1981: 137, 249) finds that in third millennium Mesopotamia, small sites defined as 'villages' on the basis of size, can have substantial artefactual material attesting to craft production. An archive from the chief temple of Ur in the last centuries of the third millennium, which deals with the interest of the palace in the temple estates, shows that very large quantities of raw wool were received by the city temple, accounted for, and then dispersed to villages around Ur for production into cloth. Finished cloth was in turn accounted for in the city (Jacobsen 1953: 127).]

So what exactly do we mean by specialization? (Here we are not referring to ritual specialists, or healers, or genealogists.) In one sense, we may call a seal engraver a specialist because he has a rare skill. In another sense, we may call him a specialist because he makes his living by engraving seals. Implicit in the second meaning is that the seal maker's access to food, clothes, cooking pots, and other necessities, is assured. At the societal level, this meaning of specialization implies interdependence; it would imply that the Mohenjo-daro household itself produced few of the things it used in daily life, public life, or on ritual occasions.

Scholars have usually emphasized the second meaning of specialization and have assumed that it is a response to the level of demand. Xenophon, the Greek historical and political theorist of the early fourth century B.C., wrote about the carpenter of the small town making couches, doors, and ploughs, as well as tables, and yet being uncertain of finding enough work to support himself. He contrasts this with the large city where shoe makers specialize, some in repairs, others in men's shoes, yet others in shoes for women. In cities, there may also be an internal division of labour with one man cutting out leather, another sewing the uppers together, and so on. The context of this famous passage is the excellence of food cooked by

specialists in the Persian palace ! For Xenophon, 'he who pursues a very specialized task will do it best'. Finley (1981: 186 ff) emphasizes that Xenophon and other classical writers were interested in the quality of output, in standards of craftsmanship, rather than in productivity. (In ancient Europe neither the division of labour nor investment in crafts and manufactures were particularly impressive.)

When Adam Smith wrote in 1776 on the division of labour, his interest, however, was in the quantum of output per labour input. If a single workman on his own could make twenty pins a day, with specialization of pin-making into eighteen distinct operations conducted by ten men under one roof, 48,000 pins could be produced in a day. This was because men confining themselves to a limited set of tasks acquired increasing dexterity; because time was saved in moving from one operation to another; and because concentration on particular tasks encourages the mind to focus on ways of improving efficiency.

For Smith increased productivity makes sense only in the context of a large market. The extent of the division of labour is limited by the extent of the market, he says. It would make little sense for people to produce a thousand nails a day in the sparsely settled highlands of Scotland, where they could not sell a thousand nails in an entire year.

Smith therefore suggested that the origins of the division of labour lay in the human 'propensity to truck, barter, and exchange one thing for another'. In the simplest societies, for example, individuals skilled at making bows and arrows would begin to make these for others, in return for meat or cattle. Marx wrote on the division of labour more than a century after Smith, when the industrial revolution had set in; but for him too the appearance of the social division of labour was concomitant with the creation of commodities. Given the manufacturing division of labour, 'the productivity of labour is enhanced', but even when in ancient societies workmen came together to perform identical tasks under one roof, and in systems other than wage labour, the effects were truly astounding (for example, the pyramids of Egypt).

It has since been assumed that the division of labour (specialization) is a phenomenon which makes for efficiency of production and therefore that the question of scale of production is inevitably involved. This in turn meant that specialization was understood to be a response to a rise in demand, therefore an outcome of economic growth, or improved transport and expanding markets, or of increasing population densities. In other words, specialization was explained by the need to meet new levels of output. Given such an interpretation, certainly we will be worried by the small area of each craft locus at Mohenjo-daro, and by the much larger volume of shell debitage at the very small site of Nageshwar than at

Mohenjo-daro. We would also wonder how many gold ornaments or miniature faience pots were annually required at Mohenjo-daro : enough to keep their producers in work all through the year ? Moreover, we would have to ask what precisely the level of demand can mean in a bronze age economy, newly emerged from tribal self-sufficiency, and devoid of money and the market principle. We could not reduce demand simply to the aggregation of populations in large cities, for in theory 'demand' means effective demand, the ability of people to acquire commodities in exchange. We cannot simply link together clustered populations with burgeoning commodity production, as cause and effect. More important would be the question whether economies of scale are at all relevant in contexts where there was no wage labour.

If we were to revert to the first meaning of specialization (i.e., a person possessing a special skill), however, we could suggest that raw materials like marine shell or gold or fuchsite came to Mohenjo-daro from long distances, and thus that few people could experiment on these materials and, further, gain expertise in working with them. Or we could guess that newly developed metal saws and drills had to be used in making seals, so that only a few would have the know-how.

Lampard (1955: 87-88) argued that theories of economic growth which focus on increases in productive efficiency ignore social-institutional factors, and that the emergence of the division of labour cannot be mechanically attributed to the extent of the market. He suggested the latter may have been a conditioning factor rather than a cause. And he stressed that specialization must be understood as a cultural process.

Consider, then, the view that specialization emerges as a response to political development (Chang 1983: 15 ff; Vansina 1978: 184-196; Brumfiel and Earle 1987 and other contributions to this volume). It can be argued that, given the role of primitive valuables in ancient societies (their use in marriage payments, for blood compensation, and as payment for ritual services; the role of prestations in establishing relative status or obligations or interpersonal or inter-community bonds), emerging elites of chiefdoms or states will not only demand aesthetically pleasing items, but will also desire to control the production and circulation of items with significant meanings. In such a case it is not the level of market demand, but demand emanating from those wishing to control a range of social interactions, which will be the causative factor in the emergence of individuals with special skills producing particular kinds of crafts for specific consumption spheres. Political institutions foster the growth of craft specialization in the sense that '... elites consciously and strategically employ specialization and exchange to create and maintain social inequality, strengthen political coalitions, and fund new institutions of control.... Mobilization, the transfer

of goods from producers to elites, [lies] at the heart of political development' (Brumfiel and Earle 1987: 3).

Consider also the reasoning that, if in the bronze age there were neither market forces nor entrepreneurs, to bring craftsmen together in one workshop at Lothal or Nageshwar, then some other agency must have been involved – and this could only have been the ruling elite. And if people produced some craft goods under state auspices, we can understand that such production need not have been exclusive, year-round, activity.

If we understand specialization in this sense, the quantum of output is not the key factor. We will not need to establish the existence of 'n' number of workshops at Mohenjo-daro, or that faience producers made enough miniature vessels to keep them in production all the year. And the greater volume of shell manufacturing debris at Nageshwar than at Mohenjo-daro will be better understood. In sum, the argument states that in bronze age contexts specialization cannot be viewed in terms of economies of scale and exclusive and full-time activities.*

Production on elite demand or under elite direction will foster institutional interdependence, in the sense that the day-to-day needs of craftsmen must be provided by some administrative mechanism. The produce may in some cases have been so important that the craftsmen received sustenance all through the year even if their production was seasonal. We must thus come to terms with the idea that in bronze age societies a clear separation of subsistence from non-subsistence activities may not be marked. In fact, many city dwellers in the third millennium may have engaged in agriculture. But it is not subsistence production which works towards convergence of people into dense and large settlements – food production is more efficient when people disperse over the landscape. A range of other factors must have been involved, among them the political factor, the factor of specialization *sui generis*, and interdependence. We shall come to these subsequently.

Mohenjo-daro as an urban centre

We have dwelt at length on crafts and specialization, but at the outset we

*In any case, we must also consider the practicalities of craft production in societies with simple technologies. In South Asia the production of traditional iron workers ceases in the monsoon months, so also pottery production. Shell diving off the coasts of Kutch and Kathiawad in MH times as today must surely have had to coincide with the few breeding months of the particular gastropods, and may in turn have dictated the rhythm of shell bangle production. In the thirteenth century state of Great Zimbabwe gold was of crucial importance as an export, but its mining, washing, and milling were done by agriculturists in the dry season when fields required less attention and the water table was low and washing easier (Beach 1980: 25-34).

had also, following Wirth, described the transitory and impersonal dealings of urban people as an important feature of city life.

The excavations of Marshall and Mackay uncovered some 1245 seals at Mohenjo-daro. In addition, there were about 90 message sealings, casts of seals in faience or terracotta, presumably dispatched with goods or information when the sender could not travel or communicate himself, and obviously could not dispatch his own seal. If the excavated strata represent some 600 years of the life of Mohenjo-daro, and if the number of excavated houses is about 250, then the number of seals recovered is large and may stand as evidence for frequent impersonal dealings; for if people had to identify themselves in their dealings through their inscribed and carved seals, they were obviously not engaging only in spontaneous interactions with those known to them.

Wirth has been criticized for an ethnocentric view of city life, and Weber's distinction between Occidental and Oriental cities has often been quoted. Weber described Oriental cities as lacking a corporate identity and the concept of urban citizenry, and suggested that clan organization supported by totemic, ancestor cult, or caste-like systems obstructed the development of civic identities. The continued importance of kin ties in cities outside the western world, past and present, has recently been emphasized. The residential blocks of Mohenjo-daro may well have housed distinct kin groups. Sometimes large groups of structures were elevated on artificial platforms of mud and mudbrick, so that the space occupied by each block was not extendable. The individual houses themselves appear to be exceptionally large. At Altyn-depe houses of 90 m² housed multiple families of craftsmen, and the elite residential area had single-family houses 80 to 100 m² in area (Masson 1988: 103). At Shahr-i Sokhta house sizes ranged between 97 and 200 m² (Tosi 1984: 35). In Early Dynastic Mesopotamia, in the Diyala Valley the majority of private houses were much smaller than 100 m² (Adams 1966: 98). On the basis of land sale texts Gelb (1979: 77) calculates that Mesopotamian house plots sold by single families were on average about 40 m² whereas those sold by fraternal (or joint) families were about 93 m². In contrast, there are several houses at Mohenjo-daro well over 100 m² in area, and some are even 300 m² and more (see Table 1). Was this contrast in size simply a cultural factor, or can we suggest that the large Mohenjo-daro houses provided accommodation for units larger than nuclear families – say extended families or lineage segments? One does not know the answer, except to point out that the larger houses rarely contain multiple bathing places or querns or cooking facilities – the latter are in any case rare in Mohenjo-daro.

While there is therefore a distinct theoretical and empirical possibility for the survival of kin identities and groupings, one cannot take this too far and

suggest that urban relationships are reducible to kinship relationships. In an urban setting kin relationships would in any case have been shorn of sustained reciprocity, conflict resolution mechanisms, the authority of the lineage as lineage, and, most important, the central role of the ancestral lands (see Basham 1978: 88-138, 210-218). Consider for example the sanitation provisions at Mohenjo-daro. Street drains carrying the refuse of several houses, and meeting other drains at street corners, as we shall see later, are not arrangements individual families or individual urban neighbourhoods can make for themselves. The drainage system and plan of Mohenjo-daro (discussed later) testify conclusively to an administrative organization providing an infrastructure of basic civic amenities and order for the inhabitants of Mohenjo-daro.

The built-up area of Mohenjo-daro was divided into two distinct parts, a smaller and deliberately raised Citadel, and a larger and lower residential area divided into a series of subrectangular blocks. Between the two there lay a 150 m wide zone either watered by a channel or else covered by a green belt. This clear dichotomy of settlement, with the high and fortified Citadel obviously forming the focus, is significant in many ways, as we shall see in subsequent pages. Individual buildings do not vary only in size and the layout of rooms around courtyards. Some buildings have unique features and may have served special functions. Information on these buildings is given in summary form in Table 1. Their plans vary from a cluster of courtyards and rooms, to a fenestrated court around a tank, to rows of pillars, or a series of platforms, or rows of cells.

The table reveals that the largest excavated buildings lie not on the Citadel but in the northwestern part of the lower city (area DK). The structure with the widest enclosure wall, on the other hand, is the Bath. Of course, size alone does not point to the function of a building – the largest complex, 18-19 in DK-G, lacks special or monumental features such as exceptionally wide entrances or pillars or fenestration; and as stated above, Mackay called block 1 in DK-G a palace, in spite of its two kilns, oven, and so on. Streets in the Citadel were not wider than those in the lower residential area, and ordinary structures as known in the lower area were not absent in the Citadel. Yet it does appear that structures used for elite residence, storage, meetings or exchange, and ceremonial activities, cluster preferentially on the Citadel.

We now turn to a different kind of structure in the lower area, which I suggest was a facility for visitors. In HR-B area, block 5 (Marshall 1931: 204 ff, pl. XXXIX), stands a large structure, XXX, with thick walls laid on deep

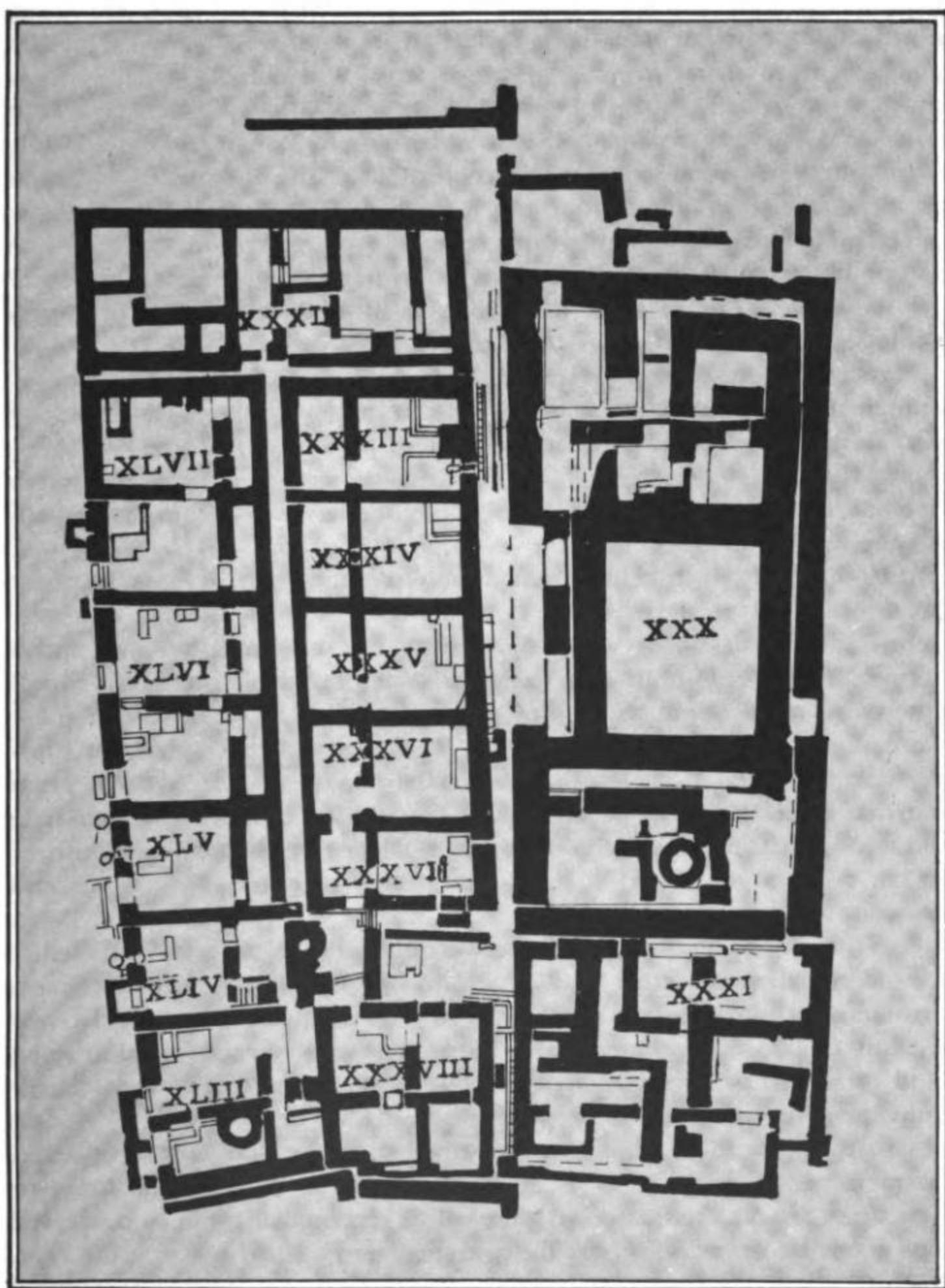


Fig. 3 : Mohenjo-daro – HR-B area, Block 5, Hostel ?

foundations. The structure consists of a courtyard with five rooms to its north and a corridor and three rooms to its south. To the west of this complex runs a narrow (1.2 m wide) lane. West of this lane, running north-south, are two rows of small quarters, XXXIII to XXXVII and XLIII and XLVII and also perhaps XXXVIII. According to Marshall, these quarters were functionally connected with structure XXX. The quarters each consist of a rectangular room in front and a small cell at the back. Rectangular paved patches usually occur in one corner of the larger room, together with escape holes for waste water (bathing floors). In two of the quarters, there are wells. Near one of these the floor was littered with sherds of scored goblets, and was indented by the bases of large jars.

Marshall suggested that these small units were either shops or residences of menial workers attached to house XXX. If they were shops we would ask why shopkeepers had to bathe in their place of business, and why two shops would have wells. Even though a copper/bronze weighing pan was found in one of the units, there are no brick benches or shelves or niches in the walls for the laying out of goods.

It is equally hard to believe that these were domestic servants' quarters. XXX is not a typical residence as it has very little identifiable domestic debris, the small finds consisting of clay figurines and a cone, and a copper/bronze chisel. In any case, XXX did not have so many rooms (therefore residents?) to require twelve or more servants. And if these were domestic servants' quarters, we would expect to find similar units adjacent to several of the larger Mohenjo-daro houses. Finally, we may point out that the double row of small units has yielded richer small finds than did house XXX: five seals, a copper tablet, faience beads, a faience figurine, and a tubular gold bead – hardly the kinds of possessions we would associate with 'servants'.

It is therefore suggested that these were a standardized residential facility for individuals rather than families, a kind of hostel for visiting merchants or officials. The small finds would accord with the possessions of relatively wealthy individuals, moreover with individuals who were involved in some kind of official or trading activity which required the use of seals. These individuals may have had to report at house XXX.*

An analogy to these units may be provided by the double row of seven 'barracks' each on mound F at Harappa. These too, except for two structures, are on a standardized plan, with a rectangular room or courtyard plus a small corner room near the entrance, and a small room at the rear.

* Note that Mackay (1938: 118-120) called block 11 in DK-G a *khan* or hostel because of its location in the north, its 3 wells, and its provision for immediate access from a wide entrance to the upper storey. Elsewhere (*ibid* 105) he suggests house VIII in block 9-A farther east in DK-G was also a *khan* with a public kitchen. See Table 2.

Table 1 : Some buildings at Mohenjo-daro which are not ordinary residential houses

Approx. area	Width of peripheral wall	Location	Essential features
block 9A house VIII		residential area	Bank of 3 rows of brick platforms, with intervening passages. 64 in NW corner is a public kitchen—brick runnels 1.6 m long and 25 cm high cover part of floor of this room. But no ash or soot marks to prove that cooking vessels were placed on runnels. Mackay (1938:105) : Structure was a Khan
DK, G section, Block II ('Khan')	?	1.2 m (plan incomplete)	irregular plan around open courtyard, wide southeast entrance. 3 wells. 2 possible guard rooms. northwest periphery of residential mound.

Mackey (1938:14) suggested that the Pillared Hall was a great market place, although he also suggested (*ibid* 118-119) that the unbuilt area to the north or northwest of the DK area could have been the location of an open air market. The use of rows of pillars would indicate that the object of the building was to obtain a larger than usual roofed-over area. The structure being some 700 m² in area, however, is not particularly large: could it have served the exchange needs of the entire populace of Mohenjo-daro? In contrast with the unusually narrow enclosure wall, the 20 rectangular pillars in 4 rows of 5 each, are substantially thick, 1.5 × 1 m approximately. Each row rests on a wide and continuous foundation wall, over 30 cm high, and the hall was paved. In spite of the tree guards north of the

building, it is difficult to believe this hall was used for religious purposes, for in the Late period the structure was altered with the addition of internal walls, and used for shell working. It is not impossible that the Pillared Hall was a centre for feasting, or hearing disputes, or public audience, or for discussions. But even for such purposes, it would have been small in size. For we may point out that one assembly hall of a ruler of a Zande state in central Africa was described in 1870 as a structure with mud walls and wooden posts supporting a wood and thatch roof, its walls decorated with drawings, and, in size, 65 × 25 yards or 1,334 m² in area. And this, in the centre of a kingdom which may not have been more than a hundred miles in any direction (Evans Pritchard 1971:137,174).

The main room/courtyard is paved. 'In the courtyard of one house was found a large collection of jewellery including several gold ornaments, faience and silver objects, and stone beads' (Vats 1940: 63). There is no indication that this hoard belonged to a pit dug into the courtyard from later levels. The anachronism of wealth objects occurring in so-called 'barracks' is ignored by Vats and Wheeler. Here, too, we may have a standardized residential – non-family – facility for visiting state functionaries or merchants. [Probably the first clearly identified barracks in early India were those excavated in Kushana levels at Vaishali (Sinha and Roy 1969: 26-28, fig. 11). They consist of about a dozen rectangular rooms in a row near the peripheral defence wall of the settlement, are separated from the wall by a passage, and yielded a spear and some arrowheads.]

A settlement of 125 ha would have had a population of 15,000 at the least, and surely the entire population could not have been homogeneous in wealth or social status. The findspots of certain kinds of objects were therefore explored, to see whether they cluster to indicate different social statuses in different parts of Mohenjo-daro. I began with the location of fish hooks, which might point to a lower stratum engaged in subsistence activities; heavy weights of 5 kg or more, which would not have been moved around frequently and might point to a restricted set of activities; and miniature faience pots, gold objects, lapis, turquoise and jade, all of which we would assume to have been the most valued items. But no pattern emerges. All we can say is that fish hooks and heavy weights are not reported on the Citadel. Perhaps Mackay was right when he suggested (1935: 45) that 'the very poor did not live in the city at all, but dwelt outside in daub-and-wattle huts of which no trace remains'. [Interestingly, occasional traces of simple mud huts do occur at Harappa, but on mound F rather than the lower environs of the site. For example, in the third stratum from the top, three mud huts lay in an east-west row near the centre of mound F, each separated from the next by a 1 m wide space. They were about 4 × 2.5 m in dimension (Vats 1940: 84 ff, pl.XIX).]

Thus we have seen that while small finds do not indicate the residences of distinct social classes, the architecture does reveal that Mohenjo-daro was not simply a dense agglomeration of replicable domestic units, that the varying activities of the settlement relied on infrastructural sanitation facilities, and that we can assume prolific dealings between non-kin.

'It is a serious error to regard the economic functions as exclusive criteria of the character of a city, important as these may be in our time' (Dickinson 1964: 21). Pointing out that self-regulating market forces developed comparatively late in history and that ancient economies were embedded

in a matrix of political and cultural factors, Wheatley (1971: 281-283) challenges the assumption that urban histories should focus exclusively on the economy. One aspect which requires attention is the military implication of dense population clusters in early times. This comes through especially in the history of Early Dynastic Mesopotamia. As populations became concentrated in large cities like Uruk, recruitment for warfare would have become easier, and military leadership more efficient. Large cities, with their several temples and wealth, would in turn be bigger targets for raids and attacks. The more frequent warfare was, the more people would be motivated to seek security in the larger walled cities. Mackay (1938: 4-5) reports that northeast of the SD Citadel area of Mohenjo-daro were the remains of the possible city wall, with a small gateway. The wall was some 9 m wide, and entirely of baked brick. Site 3 may be the locus of a fort with a 12 m wide buttress wall, angular buttresses, and baked brick platform on the wall. Wheeler's excavations (1966: 15, ill. 5,6) revealed the presence of Citadel fortifications: in the southeast corner of the Citadel he found two towers between which, in one phase, ran a chest high parapet. Hoards of clay sling stones, large and small, were found behind this parapet. To my mind, the parapet and missiles are conclusive indicators of the defence function of the Citadel wall.

Closely allied to the military function is the political. When it was discovered that many early urban hierarchies were of the primate type, with one city disproportionately larger than the rest, it was pointed out that the reason was not so much the lack of interaction and competition between towns (i.e., that primacy is the logical opposite end of central place systems) but that the primate city was the pre-eminent political and administrative centre with enormous cultural influence, the epitome of civilization (Carter 1975: 41 ff). At the same time, the population of the largest city may not be an accurate measure of the economic, political and cultural influence it exercises over its region (Wirth 1938: 2-3). According to Smith (1982: 80), 'the economic, political and cultural dominance of a single city in a premodern economy is not always enough to produce urban primacy'.

It is clear that Mohenjo-daro has produced the widest range of exotic metals and minerals of all MH sites. Besides copper, carnelian, steatite, *shankh* shell and ivory, other materials found at the site include mother-of-pearl, cowries, lapis, gold, silver, amethyst, coral, jade, onyx, turquoise, crystal, amazonite, and fuchsite. Mohenjo-daro is of course not the only MH site where these materials have been found: mother-of-pearl occurs also at Kot Diji and Chanhudaro, coral at Harappa and Ali Murad, crystal at Lothal and Chanhudaro, and so on. But the full list, with the sole absence of dentalium shell, occurs only at Mohenjo-daro, and it may be

inferred that the widest network of routes converged on this centre.

Often it is assumed that the key characteristic of an urban centre is that it feeds a hinterland with craft goods and services, and in turn is fed by a hinterland with the produce of agriculture, herding, and forests. This is the true meaning of urban centres as Central Places. Does the convergence of raw materials on Mohenjo-daro mean that it was a Central Place? In the first instance, we should note that all materials did not come to the centre from a compact hinterland around it. Gold, silver, turquoise, fuchsite, and lapis would have come from exceptionally far regions.

The reader will ask, does not the 'granary' of Mohenjo-daro also indicate that the city was drawing foodgrains from the countryside? We will discuss this structure in a later chapter. Here let it be said that this storage facility is smaller in floor space than the one at Lothal. Central Place theory predicts a hierarchy of site sizes, the largest sites having the largest supporting and servicing regions. That a 7 ha town like Lothal had a larger storage facility than Mohenjo-daro, would contradict the notion of Central Places. Carter (1975: 48-49; 1983:96) reminds us that Christaller, who propounded the Central Place theory, was careful to distinguish size (population) from centrality: the former was not the measure of the latter. And all urban economic functions are not Central Place functions, e.g. craft production located near a raw material source, or break-of-bulk functions, or special services to a distant, non-contiguous, region. Carter therefore criticizes analyses of past urban settlement systems which rely on size as the sole variable. We do not know if the craft items produced at Mohenjo-daro were in large measure consumed in the city or dispersed to its surrounding countryside. We do not even know of a cluster of smaller settlements in the immediate region of Mohenjo-daro. It is possible that small villages of Harappan times have since been eroded or silted over by alluvial deposits. Jansen (1987: 9-10) reports that traces of MH type brick structures can be found in the vicinity of the ancient city, for example, 2 km north of the Citadel. But for the rest, Mohenjo-daro's neighbours are Kot Diji, 55 km east across the Indus as the crow flies, Lohumjo-daro lying 52 km to its southwest, and Jhukar, 25 km north of Mohenjo-daro.

If the paucity of feeder villages is not wholly a function of archaeological accident, then we must come to terms with the possibility that many people at Mohenjo-daro were engaged in farming. If so, we would expect urban location to favour not only nodes well served by routes, but also the most productive agricultural tracts. Mohenjo-daro is obviously located in the most fertile zone of Harappan territory. A study of the Survey of India topographical map of the Mohenjo-daro region, dated 1901-1902, is instructive. The whole area is crisscrossed with canals and their distributaries, and dotted with wells. It is a thickly populated area: within

a radius of five miles from Mohenjo-daro one can count at least 30 villages.

Conclusion

We have found that craft specialization in a particular sense is evident at Mohenjo-daro; that the settlement appears to have been a focus of ritual and political activities, involving its inhabitants in fleeting and impersonal transactions; that it had a storage structure and provisions for accommodating visitors; that all but one of the known exotic materials used in MH times occur at Mohenjo-daro; that it was militarily defended; and that the settlement functioned on an infrastructure of civic or 'municipal' amenities. The urban status of Mohenjo-daro cannot be questioned, especially as there are at least seven occupation levels of the site, indicating a duration of several centuries, with continuous occupation except perhaps at one juncture, at the end of the Intermediate III period. The inherently unstable political organizations of the chiefdom level cannot sustain or support repeated, impersonal, and segmentary interactions, or a wide spectrum of occupational diversity, or labour on a scale required to raise the Citadel platforms and defences, much less the continued domination of a large region by one centre for several centuries.*

Only a polity at the state level would enable various specializations to function within a coherent system. Only states have the organizational ability to regulate and promote production on a regional scale, and to control the distribution of goods on that scale: for it is with the emergence of the state that elites appear who have the power to pre-empt access to basic resources. In fact, the more developed the political institutions and administration, the greater will be the potential for regulation and integration of diversity, and therefore the greater will be the scope for the

* One might cite the case of the Somali coastal towns and argue that urban centres do not necessarily develop in state societies alone. The pastoral Somali lived in tribal groups lacking stable territories. Yet external trade and urban centres had a long history on the Somali coast. But these were peculiar towns. The coastal towns handled overseas trade only in the northeast monsoon months, so that in the 19th century the population of Berbera, for example, was 40,000 in the trade season but only 8,000 in summer. The towns had little civic identity; lineages occupied distinct quarters of the towns, and townsmen had stronger political ties with their parent lineage in the hinterland than with others in the urban centre. Urban professions depended on custom from lineage members: the few craftsmen were non-Somali clients of particular lineages, producing goods for their patrons in return for aid with bride-wealth and blood compensation. And the urban populations were only partly Somali: Arab and Indian merchants handled most of the trade in the towns. Moreover, these foreigners could trade only by attaching themselves to senior members of the powerful lineages, giving a regular commission in return for protection. In any case, these urban centres were often set up by foreign trading powers such as Egypt or Oman and in this sense were intrusive in Somaliland (Lewis 1961; 1962; 1965).

social division of labour. A complex socio-economic system of this sort survives or grows only as a system.

4

Unity and heterogeneity

Sites have been identified as MH on the occurrence of a combination of artefactual traits such as a particular brick size and shape, weights of a particular range of shapes and values, seals of distinctive form, a thick, black-painted, red pottery in a range of characteristic shapes, long chert blades, terracotta cakes, clay cart models, steatite disc and micro-beads, long barrel-shaped carnelian beads, etched carnelian beads, barbed fish hooks, double-bladed copper razors, and so on. As pointed out earlier, the entire list of such elements does not occur at every MH site. If in the Indus plains brick was the medium of house construction, in Kutch and Makran much stone was used. At Allahdino the full range of MH artefacts was found, but of the total excavated sherds less than one per cent represented the diagnostic MH ware (Shaffer 1982: 44), the majority being sherds of painted buff, basket marked, brown-slipped, and burnished grey wares in a restricted range of shapes.

In upper levels at MH Ropar, Kotla Nihang Khan, Mitathal, and Banawali, we find Bara red wares together with MH and Siswal ceramics. In western Sind and Baluchistan, ceramics at Balakot, Ghazi Shah, Pandi Wahi, and Sutkagen-dor show the influence, or actual imports, of ceramic traditions of Baluch origin, such as Kulli ceramics.

In Gujarat MH pottery appears invariably to co-exist with several distinct wares. At Lothal a micaceous red ware with distinctive forms such as the *lota*, convex-side bowl, bowl with vertical stud handle, lamp with flat or oblique rim and pinched lip, and large jar with wide mouth, occurs from the earliest levels right through to the end of the occupation of the site. Micaceous red ware is known at Rojdi in MH levels where it is called 'Rojdi Smooth Red Ware' and occurs as convex side bowls with horizontal painted

bands (Possehl and Raval 1989: 56, 119, fig. 62) and stud handle bowls (*ibid* 59, 75). Micaceous red ware also occurs at Desalpur, Rangpur, and Surkotada, with one sherd at Nageshwar. The vessel shapes and painting style mark this ware as a distinct regional ceramic tradition, according to Rao (1985: 339).

At Rojdi A, black-and-red ware occurs only in a very coarse variety (Possehl and Raval 1989:69). But in fine fabric the black-and-red ware is known at Lothal, Rangpur, and Surkotada. Srivastava (1979: 50-69, 132-139) has pointed out that black-and-red ware is rarely a cultural label, that it usually marks only a method of firing, imitating the shapes of pots in other wares. At Lothal, however, Rao (1985: 403-407) sees the fine, occasionally white-painted black-and-red ware as part of the indigenous ceramic tradition, as it appears to follow forms of the micaceous red ware rather than Harappan vessel shapes.

We must also mention coarse red ware, unslipped and badly fired, in which large jars were made at Lothal. This also Rao (1985: 398-400) sees as a ceramic unique to its region. The jar forms are not particularly distinctive, except perhaps for type 195 (*ibid* fig.70) with a marked carination and raised ribbing at the shoulder. This shape is not illustrated for any ware at Rojdi A, but may be a general parallel to Mohenjo-daro type F (Marshall 1931: 300, pl. LXXX) where, however, the carination occurs not at the ribbed shoulder, but further down the profile, and where the form is rare, and the few vessels are exceptionally thin and well made. Coarse red channel spouted bowls and deep basins with incurved rims occur at Surkotada and Desalpur. Coarse ware in buff and grey, hand made, occurs at Rojdi A.

We must further note the occurrence of cream-slipped ware at Surkotada and Desalpur, and of Prabhas Ware (convex side bowls among the forms) at Rojdi A, the latter perhaps marking a ceramic tradition of southern and central Kathiawad. Finally, there is the question of ceramic painting styles in Gujarat. At Lothal, Rao (1985: 345 ff, see fig. 41.9, 42.9a) detects a MH style as well as a local style and repertoire. Therefore, as far as ceramics go Kutch and Kathiawad seem to represent a distinct province within the MH region.

In upper levels at Mohenjo-daro, Lohumjo-daro, Jhukar, and Amri, the chaff-tempered, red-slipped, and dark painted 'Jhukar' ware occurs, usually in low frequencies. It remains to be investigated whether Dales and Kenoyer (1986: 57 ff) and Mughal (1990: 192, 194-195) are correct in their suggestion that this is not a post-Harappan phenomenon but a late sub-horizon in the MH.

More important, there is evidence to identify the Sothi/Siswal culture as constituting a fairly distinct province within the MH area. At Mitathal, for

example (though not at Kalibangan), together with MH artefact types occur Late Siswal ceramics, saddle querns, multiple-join clay bangles, and biconical truncated beads (Suraj Bhan 1973: 257). A similar situation occurs at Banawali (Bisht 1982: 89). At the same time there are also sites like Siswal, Paoli, and Farmana where the Late Siswal tradition shows only some MH contact (Suraj Bhan 1973; Shaffer 1981). Upstream of Kalibangan in the Sutlej-Jumna Divide, then, we have an interstitial zone within the larger MH region, differing in some culture traits from the sites in Sind, Kutch, or Kathiawad.

The above summary of known ceramic finds no doubt provides a somewhat scrappy picture; and there has been little quantification of the relative proportions of various ceramics co-existing at the different MH sites. It is therefore difficult to map the ceramic sub-horizons with any accuracy. Yet we ought to suggest what such ceramic diversity might mean in social terms.

The first question which comes to mind is the function of the various pots, MH and local. Can we say that it was eating and serving vessels, for example, which could have been used on social occasions (rather than in the privacy of the domestic hearth), which became rapidly Harappanized in Gujarat or in the Divide? Can we suggest that it was mainly local elders and chiefs, co-opted into the Harappan social network, who took to using pots of MH style? Perhaps it reflects on standards of excavation and field recording in South Asia that we have no data regarding the actual contexts in which pottery of two styles occurred at a site; we do not know if they could occur together on the same house floor or courtyard, for example.

But one way we can answer the question is to compare the MH pottery forms at Mohenjo-daro and Lothal. On a rapid comparison, it was found that out of 25 general pot forms pulled out of Dales and Kenoyer's (1986) catalogue of Mohenjo-daro pottery (omitting some rare canisters, miniature vessels, etc., and conflating together some groups), 17 clearly occur at Lothal also. Four Mohenjo-daro shapes are either totally absent or rare at Lothal: the scored goblet; a heavy-footed variant of it; the very squat pot with sides bulging far out and narrow mouth and base; and the large bowl with rim projecting internally or bilaterally, and narrow channel-rim base.

Among the MH ceramic forms occurring at both sites are not only the finest of the MH types, for example the S-profile vase and the dish or bowl on stand (the latter used for serving food, or during feasts, or for ritual offerings?) but also the very tall, carrot-shape based storage vessel; the perforated jar (a sieve or colander? or used for heating aromatic substances?); the round-based pot with ledge at shoulder and a thick sand or mud coating below the ledge (a cooking vessel); the large basin for water storage (though these are generally of smaller size at Lothal); and the very

coarse, straight-sided and wide dish, unslipped, which Rao suggests was a dough plate. The sharply carinated *bandi*, which Dales and Kenoyer say is very rare at Mohenjo-daro and may not be MH in date (*ibid.* 190-191), does in fact occur at Lothal in coarse grey ware (Rao 1985: type 213) and red ware (type 23b).

So we can infer that ceramic forms of the MH type common to both sites include forms with elite or 'visible social functions', as well as humdrum, day to day functions. We need to investigate the functions of the micaceous red ware *lotas* and stud-handle bowls also, so that we can ask why these forms persist through the MH sequence at Lothal. Were there no MH functional counterparts to these forms?

Other kinds of differences in material culture between MH sites are also known. Flaked stone tool kits can vary somewhat between sites: e.g., arrowheads occur at some sites but not at others. A large number of crude bone tools (scrapers, points, etc.) were found at Surkotada (Joshi 1974: 34), but are not reported for other MH sites. Surkotada is possibly the only MH site where grooved shell bangles are common (Kenoyer 1983: 243-244). Clay figurines of women in distinctive style, on the whole different from EI figurines, occur at several sites in Sind but are not reported at Lothal, Kalibangan, Rangpur, Mitathal, or Sutkagen-dor.

If we see substantial diversity between MH assemblages, we also know from studies of other early states that political unification under a state structure can engender an economic system of regional interdependence. Two examples may be cited.

The first is the case of the well developed state of Nupe on the Niger-Kaduna rivers in central Nigeria (Nadel 1935; 1942). The Nupe state may not in all aspects be an apposite case to cite in our context. It had a long history, going back to the fifteenth century, but was soon involved (albeit indirectly) in the Portuguese trade; moreover, we have little detailed information about the structure of the state until about 1800 when the throne was seized by the Fulani, and Nupe became a southern outpost of the Hausa Fulani 'empire'. By then the political structure was 'feudal', decentralized, and based on regular taxation. Yet the case of Nupe is mentioned here because this small state showed much ethnic and cultural heterogeneity. Ethnic groups, political frontiers, and the Nupe language coincided only approximately in distribution. Diverse dialects were spoken, and there were differences in dress and ritual. Autochthonous groups and later immigrants lived in close proximity, and there were few public rituals engaged in by all inhabitants. True, all Nupe shared a basic similarity of

technology, pre-Islamic religious practices, age-grade systems, and traditions of origin, but these elements were also to be found beyond Nupe's political frontiers (Nadel 1942: 12-19).

Nadel therefore asks how integration in the Nupe kingdom was derived. In the first place, unification under a state brought about exclusive political allegiance to the king. With this came about a gradual spiritual authority of the rulers, and identification on the part of the populace with the cultural values of the elite. This made for increasing cultural homogeneity (*ibid.* 17-18, 69-76, 135 ff). More important for us by being 'tangible', although not explicitly emphasized by Nadel as an integrating factor, was another kind of unification: the system of economic exchanges.

Some sub-tribes in Nupe were mainly boatmen, others fishermen, and yet others, kola nut cultivators. The state brought about a traffic in their specialized products which cut across kinship lines. Exchange networks no longer coincided with kinship boundaries. Sumptuary goods such as textiles, brass, and silver ware flowed to the court. Periodic markets were held in different localities, and there was a mutual reinforcement between traffic in goods and local specialization. If people in one place did only fishing, because of the establishment of the state they had access to sugarcane and onions produced by others, and could afford to be increasingly specialized. Originally pottery production was a household craft in the village of Leaba. But with the establishment of regular canoe traffic, the villagers bought pots made in Jebba or Gbajibo, as these were of better quality, being made of better clays. Thus Nadel (1935: 309) : '... the area of economic communication does not coincide with the area of the sub-tribe... we see the economic traffic creating its own provinces, cutting across, or stretching far beyond, the area of the sub-tribe'. 'In the wake of political unification follows necessarily an expansion of economic co-operation. The larger territorial unit, with its new centre of gravity, the populous capital, brings new forces into play, remoulding or absorbing the various existing economic provinces' (*ibid.* 322).

The Kuba state (Vansina 1964; 1978) between the Sankuru and Kasai rivers in Zaire, incorporated diverse savannah and forest zones. After a period of autonomous chiefdoms in the late sixteenth century, the Kuba state gradually developed, with a sacral king. The kingdom saw the apogee of administrative development and political control in the mid-eighteenth century. Travellers in Kuba territory were impressed by the court ceremonial and the intricate judicial system. In the late nineteenth century, colonial aggression and internecine warfare heralded the disintegration of the traditional Kuba polity. In the Kuba state hoe agriculture produced mainly root crops and maize. Along the rivers some people specialized in fishing, others in pottery production. Some groups excelled in salt

extraction, some in fine basketry, and some were hunters. Vansina points out that such diversity could be exploited to the full – *despite the absence of specialized retailers or merchants* – because of political unification. The kingdom gave security and the administration organized and regulated periodic local and intertribal market places. A growing elite of non-food producers made demands for higher production, including food production, and food though perishable could be converted into prestige items for which the need was constant.

The examples of Nupe and Kuba illustrate that an economy of regional interdependence occurs with the establishment of a state even in societies without money (Nupe had no coinage until the arrival of the British in the late nineteenth century), market systems, or a high degree of craft specialization, and where the administrative organization was not particularly complex. But the Nupe and Kuba were small states, covering a fraction of the area we know as MH. In the Harappan state, the logistical problems of moving materials and produce would have been of much greater magnitude.

Yet we do see signs that subregions favoured different craft production activities in the MH period. We may note that there was a standardized system of weights. Weights conforming to one system of values have been found at about 22 MH sites, large and small.* This spread indicates a network of supervised and controlled exchanges over the Harappan area. Prolific intercommunity exchanges, even specialist traders, would not necessarily require uniform weighing systems: for example, in Early Dynastic Sumer weight systems differed from one city-state to another. But after political unification and administrative centralization under the IIIrd Dynasty of Ur, a uniform system of weights was imposed throughout the realm.

Several other scraps of data also point to the establishment of regional interactions and interdependence. At Balakot the exploitation of local *Tivela damaoides* estuarine shells and *shankh* shells begins only in the MH period: it appears that the inhabitants in the earlier period did not have a shell industry. Moreover, bangle production in the MH period was probably not confined to the needs of the local inhabitants. *T. damaoides* bangles appear to have been sent also to Sutkagen-dor, Sotka-koh, and Allahdino (Kenoyer 1983: 223) and *shankh* shell bangles could have moved even farther afield.

At the same time the manufacture of bangles from *shankh* was not

* Mohenjo-daro, Harappa, Chanhu-daro, Gumla, Amri, Lakhio, Lohumjo-daro, Thano Bula Khan, Balakot, Sandhanwala, Banawali, Kalibangan, Mitathal, Ropar, Shortughai, Kotla Nihang Khan, Rangpur, Rojdi, Lothal, Surkotada, Nageshwar and Desalpur.

confined to coastal settlements like Balakot, Lothal, and Nageshwar, but also occurred at Mohenjo-daro, Harappa, and Amri, far inland, with the finished products occurring as far as Ropar, Kalibangan, and Shortughai. Similarly, ladles were made from the *Chicoreus ramosus* sea shell (from the Gulf of Kutch) at Lothal, Nageshwar, and also Mohenjo-daro and Amri, and were in use at the Hakra sites, Allahdino, Balakot, Rangpur, and Chanhudaro (Kenoyer 1983: 171 ff).

At Kalibangan, in the Sothi/Siswal levels, were found small chalcedony/agate blades, whereas long blades of (presumably Rohri) chert were used only in the MH levels. The same situation occurs at Banawali. In fact, long chert blades made from stone quarried in western, southern or northern Sind are almost ubiquitous at MH sites, absent only at Kotla Nihang Khan, Chak Purbane Syal, Shortughai, Nageshwar, and Rojdi. Between the EI and MH periods there appears to be an impoverishment of flaked stone tool kits (Lechevallier 1979; Cleland 1986). B. Allchin (1979) points to the low proportion of reworked blades at the Sind MH sites, to evidence that the chert for these came from the Rohri area, and argues that there was a standardization of tool types and form, indeed a 'professionalism and mass production' of chert blades in MH.

At Lothal, steatite and chert were plentiful in MH levels, but later in period V (Rangpur II B-C) they ceased to be used. Short blades were now made of local jasper or agate. The weight system also changed. Faience, ivory, onyx, and amazonite, recovered from MH levels, were scarce in period V (Rao 1985: 587). In MH levels at Rangpur, there occur thousands of steatite micro beads and a large number of faience beads, but in later levels only a handful of these were found. The long chert blades of the MH period were replaced by short jasper flakes in later levels.

Finally, additional evidence for a regional economic network comes from Mughal's discovery of separate industrial sites, without domestic architecture, in Cholistan. Such distinct craft work sites (Nageshwar may perhaps be included in this category) are not known in the EI period (Mughal 1981: 36-37), except for flint-knapping sites.

Some preliminary inferences are justifiable at this stage. Given the existence of older culture traditions and of diversity in ceramics, clay figurines, or bone tools between MH sites, it is probable that a number of diverse groups, diverse in cultural heritage and/or ethnic identity, formed the constituent units of the Harappan state (or states). Jarrige (1973: 274 ff), while discussing the little known Jhukar culture, remarks that after the MH period, semi-industrial ceramic production appears to be reverting to

village production. Also, he points out that the tradition of bichrome painting on pottery, well established before MH but not favoured within the MH assemblages, re-emerges subsequently. It is as if an old tradition had never been totally eclipsed and was now re-emerging. We are reminded of Clarke's observation (1978: 251) that when subcultures within a larger tradition lose their local identity and coherence as they become engulfed in a larger and more powerful system, they can re-emerge subsequently; that '...long after any visible material culture trace of an ethnic subculture has disappeared, there may continue to remain vestigial social alignments and orientations which may later fracture along the original lines of cleavage'.

At the same time we have a spread of artefact types, even elementary artefacts such as flaked stone blades, across the MH area, not to speak of craft tools of metal, shell bangles, specific ceramic forms (and therefore functions), weights, and house construction techniques. More on this later, but for the moment we may infer economic interactions on a regional scale encompassing several MH towns and villages, in spite of the fact that life at each MH settlement or in each MH subregion probably had its own local peculiarities. In subsequent pages, we will try to interpret this duality in political terms.

Within the rubric 'MH', then, we are dealing with different kinds of assemblages. In the first place, we have Mohenjo-daro, probably the pre-eminent political centre, and its artefact types, which we consider to be the core elements of what we call MH. Material from Chanhudaro and probably other sites would be fairly close to this core cluster. In the second instance we have sites in Kutch and Kathiawad and sites in the Sutlej-Jumna Divide, which reveal interstitial culture traditions.

Perhaps distinct from these sites would be a site like Rojdi, with MH weights and some characteristic pottery forms, but no seals or long chert blades or terracotta cakes or steatite micro-beads or metal double-blade razors, etc. For Possehl and Raval (1989: 15) Lothal, Surkotada, and Desalpur represent the 'Sindhi Harappans', whereas the people at Rojdi may be called 'Sorath Harappans'. While we cannot assume that Harappan Gujarat is testimony to migrations of people from the Indus region, the distinction does stand. Rojdi has far fewer artefact types in common with Mohenjo-daro than does Lothal. I would hesitate to call Rojdi a MH site, and for the moment would suggest that this settlement was not incorporated in the Harappan state(s). [The same may apply to Dher Majra, in the hills above the Sutlej navigation head (Y.D. Sharma 1982: 141-143), a site rich

in beads but producing no MH pottery or seals or TC cakes].

Even farther removed from any Harappan state would be the people living at Kayatha and Burzahom. At Kayatha, northeast of Ujjain on the Malwa plateau, were found two necklaces of crystal and carnelian beads, long barrel, short bicone, and oblate in shape. The necklaces, each in a pot, contained 173 and 160 beads respectively. They 'at once recall to mind the [beads] from Mohenjo-daro' (Dhavalikar 1979: 233). Moreover, a third pot at the site contained some 40,000 steatite micro-beads. At Burzahom in the Jhelum valley near Srinagar, upper neolithic levels produced a red wheel-turned pot (the Burzahom pottery is a blotchy greyish brown fabric) containing over 900 carnelian beads of MH type. In the case of both these sites, the beads occur in restricted contexts, in hoard situations, rather than being evenly distributed over the settlement areas. Moreover Dhavalikar points out that the three pots containing MH type beads at Kayatha may all have come from the same house. These villages then may have seen the visits of Harappan prospectors or traders or foresters, who made gifts to local elders in order to establish social relations or to acquire safe conduct in their localities.

We cannot be so explicit about the Kulli settlements in Makran and southern Jhalawan, in the hill area to the west of the Indus plains. Kulli assemblages contain distinctive architecture, ceramics such as canisters painted with animal motifs, animal figurines, and burial practices. The MH sites of Balakot and Nowsharo show some Kulli elements. Sites like Mehi and Nindowari and Kanneru-damb have been called 'Kulli-Harappan' (de Cardi 1983: 38-40) because of the occurrence of pots 'seemingly Harappan in fabric and form, with obviously non-Harappan designs' (*ibid.* 11). At such sites, MH dishes-on-stand can be painted with Kulli motifs, and MH seals, weights, or cart models can also occur. At the same time, there are sites of the Kulli culture which demonstrate only MH contacts. For example, at Kulli, Stein found lapis lazuli and carnelian beads and MH type perforated jars, together with typical Kulli grey ware canisters and clay figurines. Possehl (1986: especially 57-58) stresses that there is much in common between MH and Kulli assemblages and infers a very close symbiotic relationship between the peoples of the two areas. For him Kulli is not a MH province, but 'the highland form of the Indus Civilization' (*ibid.* 61). However, it appears that there is evidence for only a one-way flow of goods. At various Kulli sites we have MH seals, a weight, and MH pottery (including the perforated jar) as also lapis and carnelian beads and clay models of carts and wheels. But other than sites near Kulli territory, no MH sites have Kulli canisters. And only two steatite boxes of possible Kulli workmanship occur at Mohenjo-daro (Ratnagar 1981: 42-51, 116-128). If Sotka-koh and Sutkagen-dor were Harappan fair weather ports, the

Harappans would have had more than a casual interest in Makran and land routes leading to Makran, and especially the immediate hinterlands of the ports. Let us recall that Sutkagen-dor and Sotka-koh were settlements provided with substantial defences.

Consider, therefore, the character of Nindowari, near Ornach in the southern Baluchistan hills, on a perennial tributary of the Porali. This is the largest known site with Kulli artefacts, about 40 ha in extent (Casal 1966), compared with Edith Shahr at 32 ha, Kulli at 12 ha, and Niai Buthi at 1.5 ha (Possehl 1986: 51-56). The central portion of this habitation was built on a quadrangular stone platform and consists of structures of complex plan with some paved rooms. Small finds include Kulli bull figurines and Kulli-Harappan pots. To the east of this core area is a structure which may well have been a granary, with a wide eastern periphery wall, several rectangular pits, lined with stones, and many saddle querns. It yielded two MH seals with the unicorn symbol plus a round seal with circle motifs. At the eastern edge of the site, near the river, were found a stone rampart and two buttresses.

For Casal (1966: 18-19) Nindowari 'does not look like a town, nor... a dwelling place', and he suggested a specialized military or ceremonial function for the site. For me, there could be no better evidence that this was the centre of a chiefdom – a defended settlement with community storage, elite residence, and possibly ritual facilities – and it is not insignificant that MH seals should have been found here.

Let us summarise the context of frontier movements and developments in the centuries preceding the Harappan period. It may be inferred that the Baluchistan hill ranges and mountain-enclosed valleys saw an early development of pastoralism and agriculture, and that the needs of winter grazing caused much movement of people and flocks (and goods) between Baluchistan and the Indus plains. The neolithic site of Mehrgarh bears testimony to such contacts, which probably explain the presence of lapis lazuli and turquoise at the site (Ratnagar 1987). Contacts with Turkmenia, and with the Kandahar region of Afghanistan, are clearly evident in later periods. Mehrgarh, at the foot of the Bolan Pass, grew to be the pre-eminent centre, with craft production, storage buildings, and many exotic shell and mineral items. There was also a wide distribution of certain ceramic types produced at Mehrgarh or in Baluchistan or at Mundigak near Kandahar. In periods III-IV Mundigak, as also Shahr-i Sokhta II-III in the Seistan basin, had flourishing lapis and turquoise industries, for local consumption and export. The maximum inter-regional contacts, and the maximum extent of settlement in Baluchistan occurred in the late fourth and early third millennium B.C.

Towards the onset of the MH period, however, there is a desertion of

almost all sites in the Quetta and Zhob Valleys, in the Loralai uplands (except for Dabarkot), and in the Kalat to Surab region (de Cardi 1983: 11). Also, we find few interactions along the Bolan Pass, between the MH culture and Mundigak V. Most intriguing, lapis and turquoise ornament production ceased at Shahr-i Sokhta and Mundigak, whereas a MH settlement was founded near the lapis mines of Badakhshan.

In the MH period, we have a string of sites at the bases of several passes connecting the plains with Baluchistan. There is Gumla at the foot of the Gomal Pass, Nowsharo at the foot of the Bolan Pass (significantly, Mehrgarh, probably the seat of an agriculturist-pastoralist chiefdom, would soon be deserted), Pathani Damb at the foot of the Mula Pass with Kotra near by, Bamba-damb at the foot of the Harbab Pass, Pandi Wahi at the foot of a track following the Nari River, and Ali Murad near the Angai river which also affords a route into the hills. Ali Murad has stone architecture and is 10 ha in extent, Nowsharo is 12 ha, and according to de Cardi (1983: 35) Pathani Damb is a vast 'Harappan metropolis'.

Few of these settlements were newly established in the MH period, and scatters of MH pottery at the surface at Mishk, Jahan, and one other site up the Mula river show that movements between hills and plains did not cease altogether. Yet the evidence together points the question whether a Harappan frontier had consciously been created along the Kirthar foothills. As argued many years ago by Dales (1977), around the middle of the third millennium overland connexions with Central Asia, Kandahar, and Seistan gave way to contacts across the seas with the Makran coast, the Arabian Gulf, and Mesopotamia.

One can only guess about what happened. States have varying policies toward frontier pastoral populations. They can wage war against them and take captives for labour or for military service, as in ancient China, or they may not be particularly aggressive towards them. But it is doubtful if any newly established state would allow uncontrolled movement across or into its territory, even if this had been the traditional practice in past periods, for its prosperous settlements would then be easy targets for pastoralist attacks. One can guess that the Harappan state asserted its frontier along the Kirthars in the sense of closely controlling the winter ingress of pastoralists into the plains. The desertion of sites in north and central Baluchistan – sites representing only the agricultural sector of an economy we presume to have rested on a judicious flexibility between farming and mobile herding – indicates that frontier controls made the old Baluchi economy unviable or else that the Harappan state actively encouraged the sedentarization of the western pastoralists in other regions. The closure of the frontier makes sense if we take into account the comparative rhythms of agriculture and pastoral movements. In the Euphrates valley the pattern

was for sheep and goat herders to enter the irrigated areas in March or April; soon after the harvest they would be able to graze their animals on the stubble. Or else they could lead their flocks on to fallow fields. Once the rains had begun, around October, the flocks would be moved out to the desert. Thus pastoralists would be present at the right time to give the critical manure input for agriculture; and at least theoretically their labour would be available in the agricultural zone for several months. But in the Kacchi and Sind in the third millennium, *jowar* was not yet known as a crop. Pastoralists leaving the snowbound Kalat hills would arrive for a comparatively short sojourn in the plains in November, when the staples, wheat and barley, were already in the ground (although barley can sometimes be sown as late as December). They would begin to leave with the onset of warmer weather, in late February or early March, when the staple had not yet been harvested. Lambing would have taken place during this sojourn, and milk and livestock would have been available for farmers, but not extra labour for the late irrigations, nor natural fertilizer except on fields which were to lie fallow for another seven months. If folding were not possible between harvest and sowing, it seems Harappan agriculture had little to gain from the ingress of pastoralists from Baluchistan.

What kind of relationships can we then envisage between the Harappan state and the people of the Kulli region across the western frontier? The Harappans could have assigned the handling of goods bound for the Makran ports to Kulli people; or they could have demanded safe passage through their territory. In all likelihood, the Harappans asserted their hegemony and in return made gifts to those Kulli chiefs or elders whom they recognized as representatives of their people.

Southern Baluchistan and Makran are poor in natural resources except dates, fishing, and grazing resources. Tracts of arable land occur in isolated and limited stretches. Herds present a form of wealth which increases only very slowly, after years of careful husbandry. But clientship to the Harappans, or acquisition of Harappan prestige goods, would give the ambitious a means of rapidly increasing their wealth and power. Harappan prestige items, not being the produce of the local tribe on its ancestral lands, would be amenable to disposal for personal advantage; to acquire such goods the Kulli in turn would have to give compliance or else produce increasing numbers of goods for exchange, for example by increasing the periodicity of raids within their own area, as happened among the German tribes along the eastern frontier of the Roman Empire. Whatever the precise situation, we may be fairly certain that the establishment of the influence of the Harappan state in southern Baluchistan and Makran would have stimulated the local growth of chiefships, and the cultural emulation of Harappan ways. This is a pattern attested among innumerable states, and we

have not made a particularly original point. The matter for further investigation, rather, is that we do not have signs of more such client chiefships along other Harappan frontiers (unless we were to view Rahman Dheri as the seat of a client chiefship).

5

Rulers and palaces

When we characterize a society as being of the early state type, we imply that it is stratified, with at least two basic divisions, ranked hierarchically, and distinguished from each other in their control or ownership of productive resources such as land, in their participation in productive labour, and in their share of the social product. They will also be distinguished in their ability to direct political processes: the rulers make decisions which are incumbent on the ruled. In such a situation we expect that there will also be differences between rulers and ruled in aspects of daily life, such as dress, or food consumption, or the use of precious metals or minerals. We should, therefore, be able to point to items of MH material culture which are associated with a ruling elite.

The first item would be the residences of rulers. As Mohenjo-daro is the largest known MH settlement and has been extensively excavated, the obvious exercise would be to identify at this site what we would call a 'palace' in the numerous remains of buildings.

If we take size to be the starting criterion, the candidates among excavated buildings would be SD 9 in the northwest of the Citadel, SD 10 underlying the stupa, SD 1 or the 'College of Priests' in the centre of the Citadel, the DK-G block 1 'palace', and the DK-G section complex 18-19. As the first two buildings have not been fully excavated, we have omitted them from Table 2. If building size is not the criterion, we might investigate other buildings such as house V in HR-B area, block 2. It is only about 700 m² in total area, but has certain unusual features like an exceptionally large courtyard, with five screen walls of progressively diminishing lengths along its west end, two large niches in the north wall of one room, a corbelled

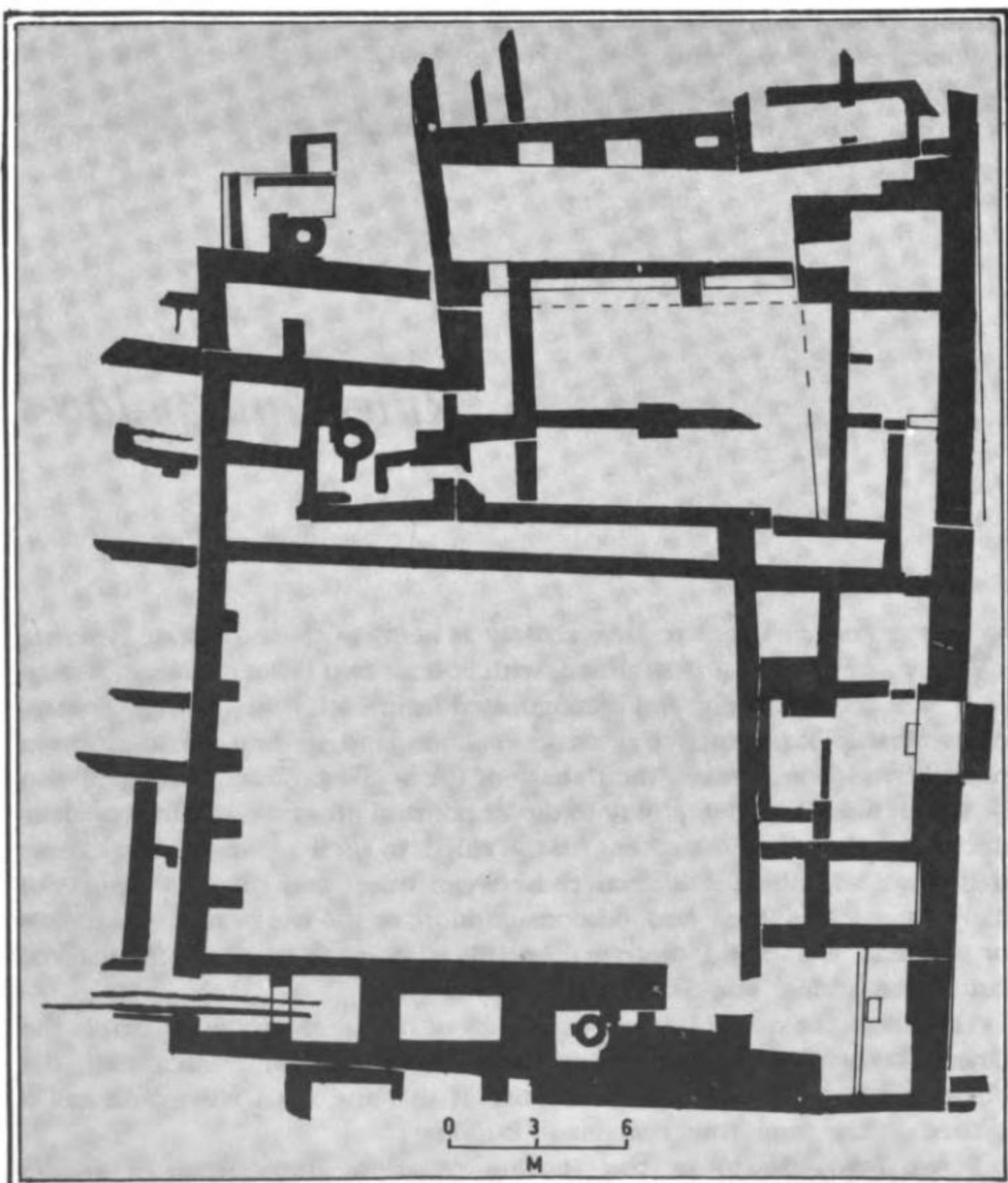


Fig. 4 : Mohenjo-daro – HR-B, Block 2, House V.

arch over the doorway connecting this room with an adjacent one, and, in the room with niches, four square limestone capitals 'with spiral volutes resembling Ionic capitals' (Marshall 1931: 190 ff). There is also house XXX in block 5 of the HR-B area, which has been described in Chapter 3.

What criteria other than size would we use to identify a palace? Unless an elite residence were hurriedly deserted and never again occupied, or

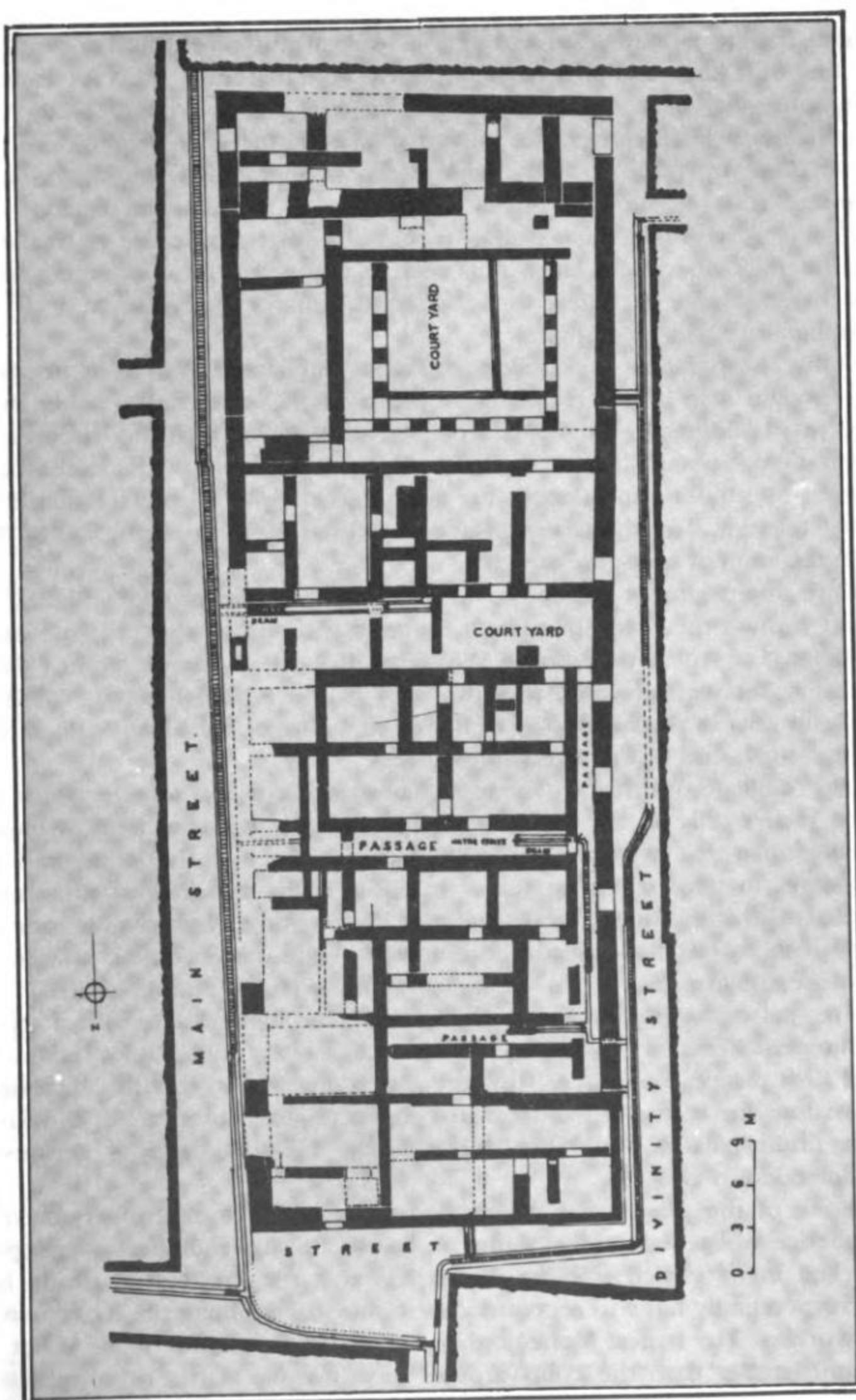


Fig. 5 : Mohenjo-daro – "College of Priests".

unless it were rapidly destroyed by a natural calamity, we would not expect to find in it large amounts of metal or valuable materials. Thus we cannot rely on small finds as distinguishing criteria. But we could study the architectural features of other known palaces in the ancient world, as we have done in Table 2, and check if any Mohenjo-daro buildings have unusual features such as pillars or arches, or monumental facades, or defence provisions such as guard rooms or restricted entry or massive peripheral walls, as also large units such as courtyards for conducting state business, storage facilities, or accommodation for bodyguards or large numbers of service personnel.

Table 2 shows that the 'College of Priests', so named by Mackay because he thought it to be the residence of priest rulers, is not only smaller than the two buildings in the DK-G area, but also smaller than the three Early Dynastic palaces in Mesopotamia, the palace of Knossos, and the later Sirkap palace. Mesopotamian palaces were enormous complexes, much larger than most temples. And the Sirkap palace was about nine times the size of the average affluent house in the city.

One might expect palaces to be fairly isolated structures, with much space around them, but this is not the case with any of the Mohenjo-daro buildings, of which only house V in HR-B lies on an arterial street ('First Street'). Yet we may note that the Mari palace is also located within a built-up area in the north part of the town, and that the Sirkap palace lies at the north end of the arterial city street.

The 'College of Priests' contains a fenestrated court, a feature which to date recurs only in the Great Bath, but in area this courtyard is much smaller than that of house V in HR-B area. For the rest, the Mohenjo-daro buildings in table 2, except for V in HR-B (with its screen walls, stone capitals and stone rings), lack distinctive architectural elements. In none of them can an elaborate facade be detected. Again, however, we may note that the Sirkap palace did not have any unique architectural features.

The palace at Kish was heavily fortified and buttressed, with a truly monumental entrance; massive enclosure walls, often double, give the Eridu and Kish palaces a markedly military character. Add to this the elaborate provisions for restricting and controlling access into the heart of the Kish and Eridu palaces, and the Mohenjo-daro buildings appear curiously undefended in contrast.

None of the plans we have studied show an obvious quarter for the residence of menials, or servants, or guards. If large numbers of people worked in or visited palaces, we expect that the courtyards would be correspondingly large to accommodate visitors or facilitate the movements of workers. The largest Mohenjo-daro courtyard is in HR-B house V but it is still smaller than the courtyards of the Knossos, Mari, Eridu and Kish

Table 2 : Comparative Dynastic III period c 2600 to 2350 B.C.)

	Mohenjo-Daro 'C' site	Sirkap (1st century A.D.)	Knossos (c. 1900 B.C.)
approximate size	171 000 m ²	13375 m ² or nine times the size of an average affluent house	At maximum, 12000 m ²
location	northern part of Città Vecchia; other parts of the city were built later	on a main street	on a low mound surrounded by affluent residences and paved roads
unique features of plan	unexcavated quarter built of sun-baked brick		Columned portico leads to a pillared hall and processional way
monumental entrance	no		
peripheral walls	1.2 m wide; double	side entrance for public to reach reception area	
restricted entry	4 entrances, one on each side of the street, leading to central gate	guard rooms	
guardrooms	one		
storage rooms			several storerooms with large pithoi; workshops also.
workshops			
open space for conducting state business or receiving public.	unit 26-27 is enclosed by a fence above ground level	courtyard for public audience is 255 m ²	Central courtyard (place of bull games?) is 1250 m ² ; throne room is to its west.
miscellaneous	drainage system 74. Includes 60 ha in this and 10 ha stone	Marshall 1951 [Sirkap was 70 to 75 ha]	Graham 1962 [Palace plan not rectangular, no palace enclosure walls; structure grew piecemeal around the central court]

Note the comparative sizes

Khafaje : Temple Oval : 8,000 m²

Agrab : Shana Temple : 3,000 m²

Nippur : Inanna Temple : 1,000 m²

Mari : Ishtar Temple e.g. 600 m²

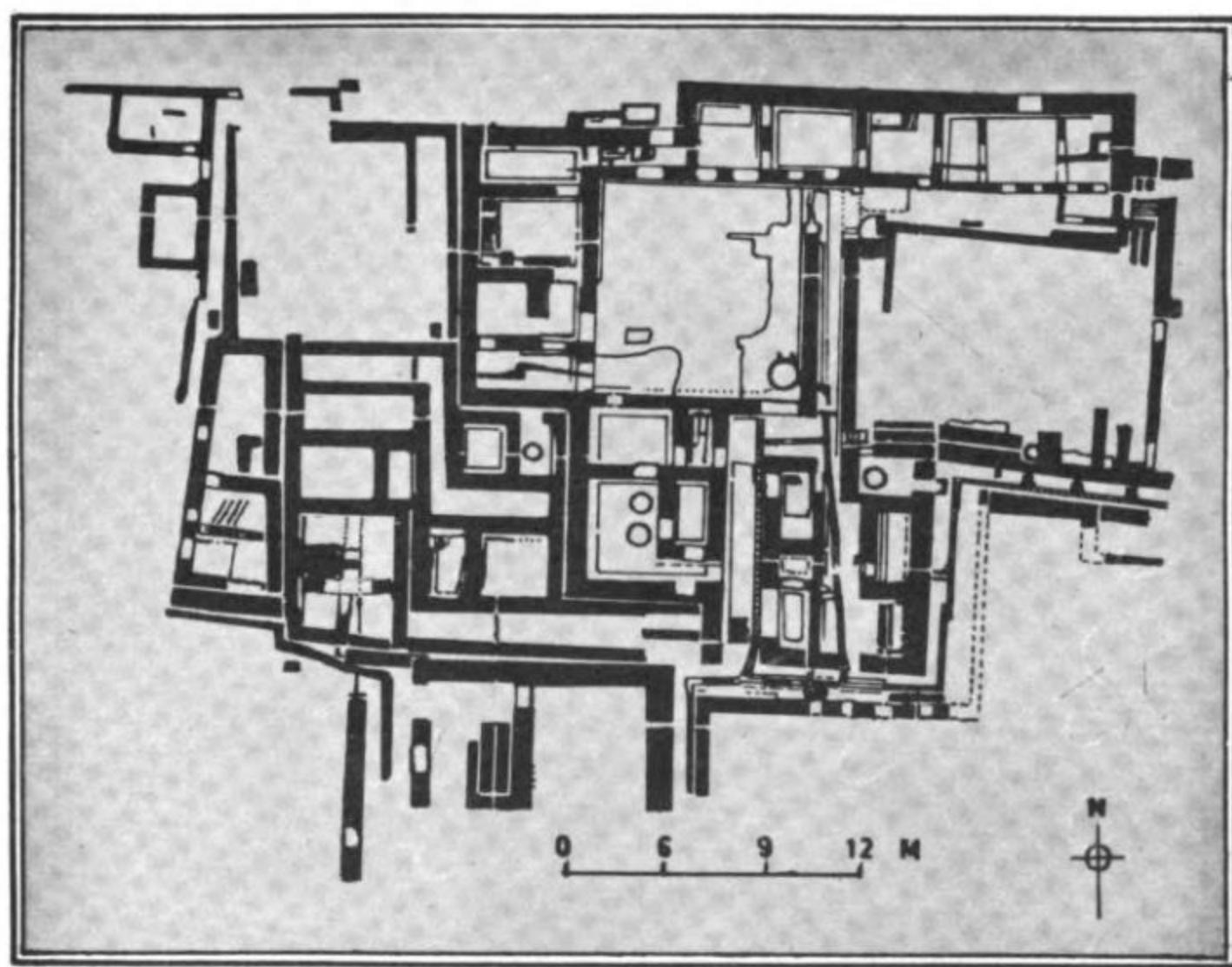


Fig. 6 : Mohenjo-daro – DK-G, building 1 ("palace").

palaces.

Thus it is difficult to locate any single structure at Mohenjo-daro which is a palace. But this does not mean that there were no palaces. For one thing, the citadel buildings have not been fully excavated.

And there is another possibility. The Mohenjo-daro Citadel as a whole is a fortified unit which contains architectural provisions for residence, ceremonial activities, craft work, and storage. Also, there is Atre's suggestion (1987: 123 ff) for a close relationship between the Pillared Hall, block 5 to its northeast, and block D to its southwest. It is hard to accept her suggestion that block D contained a communal cooking and feasting area — there are *shankh* shells in rooms 44 and 45, and no ash is reported in the five bricklined pits of room 45 — but her basic principle, of seeking functional interconnexions between adjacent structures, is a sound one. Let us recall the fact that, if there was a grid plan at Mohenjo-daro, it is confined to the lower city (there is not even one arterial street which runs all down the north-south axis of the Citadel), and that the Citadel streets are narrower than the main streets of the lower city.

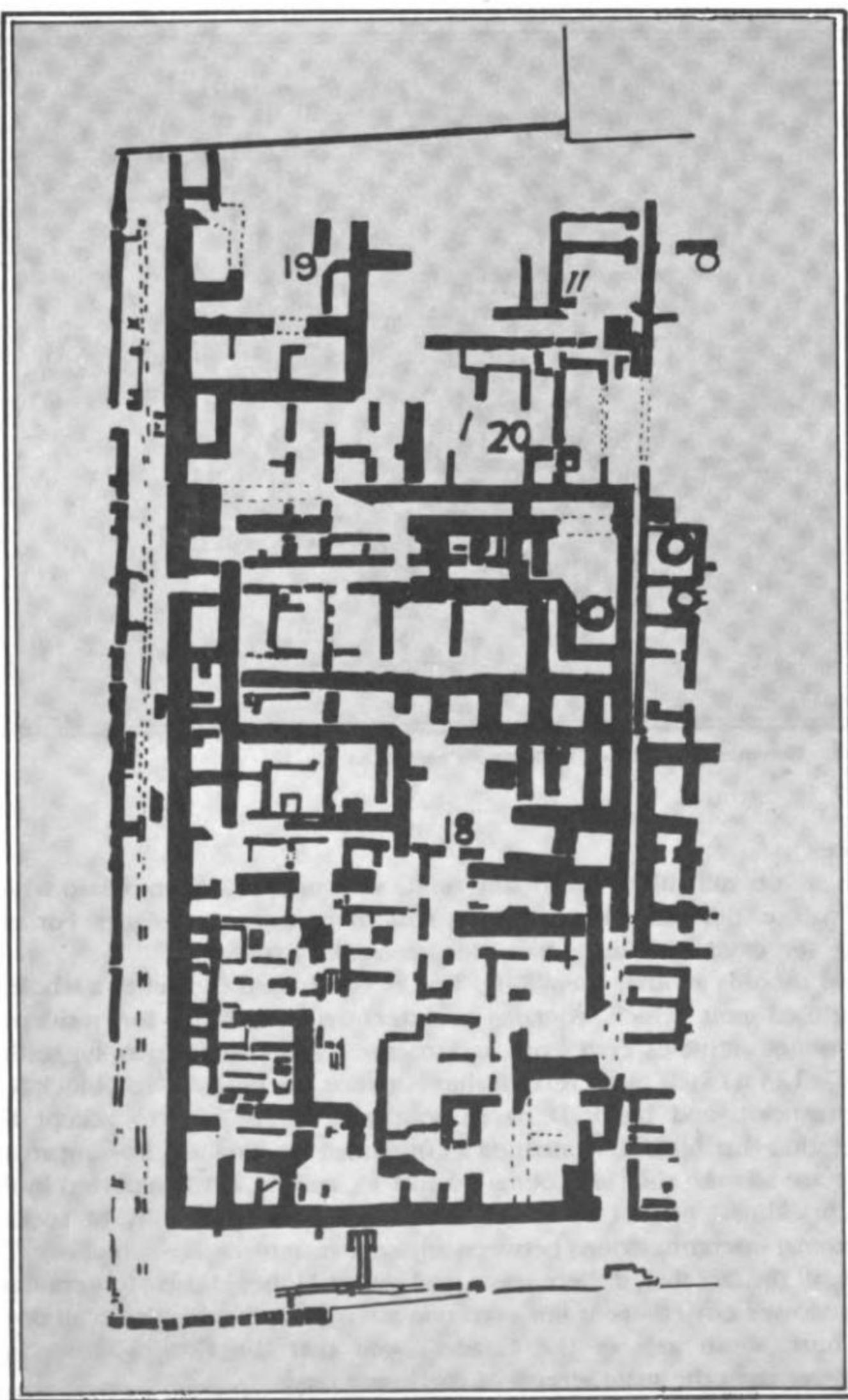


Fig. 7 : Mohenjo-daro – DK-G, building 18-19.

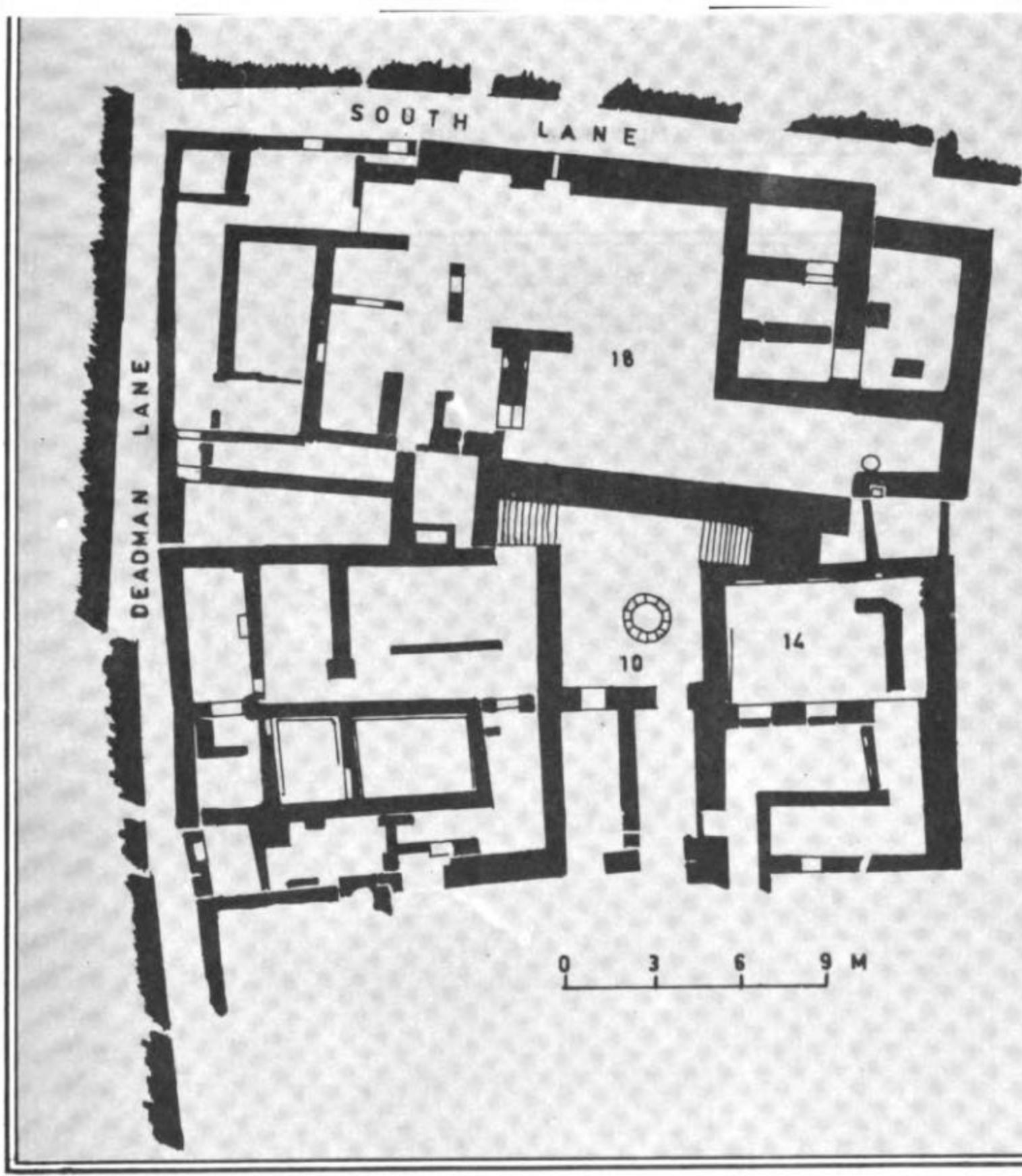


Fig. 8 : Mohenjo-daro – HR-A, Block 1, house I.

Comparative work has indicated very clearly that bronze age palaces were never residential units alone. Third-millennium texts indicate that the Mesopotamian palace employed large numbers of ration workers, owned agricultural lands and herds, employed some kinds of craftsmen, engaged in long distance trade, and was a large consumer of food and wealth items. In the Kish and Eridu palaces store rooms are identifiable. The large unfortified Middle Minoan palace at Knossos (c. 2000 B.C.) contains magazines, a shrine, ceremonial passageways, and perhaps a courtyard for bull games, together with residential rooms. Minoan palaces organized an economy centred on vine and olive cultivation and herding, and a flourishing sea trade, and also employed craftsmen to produce stone and metal items. Perhaps the fortified

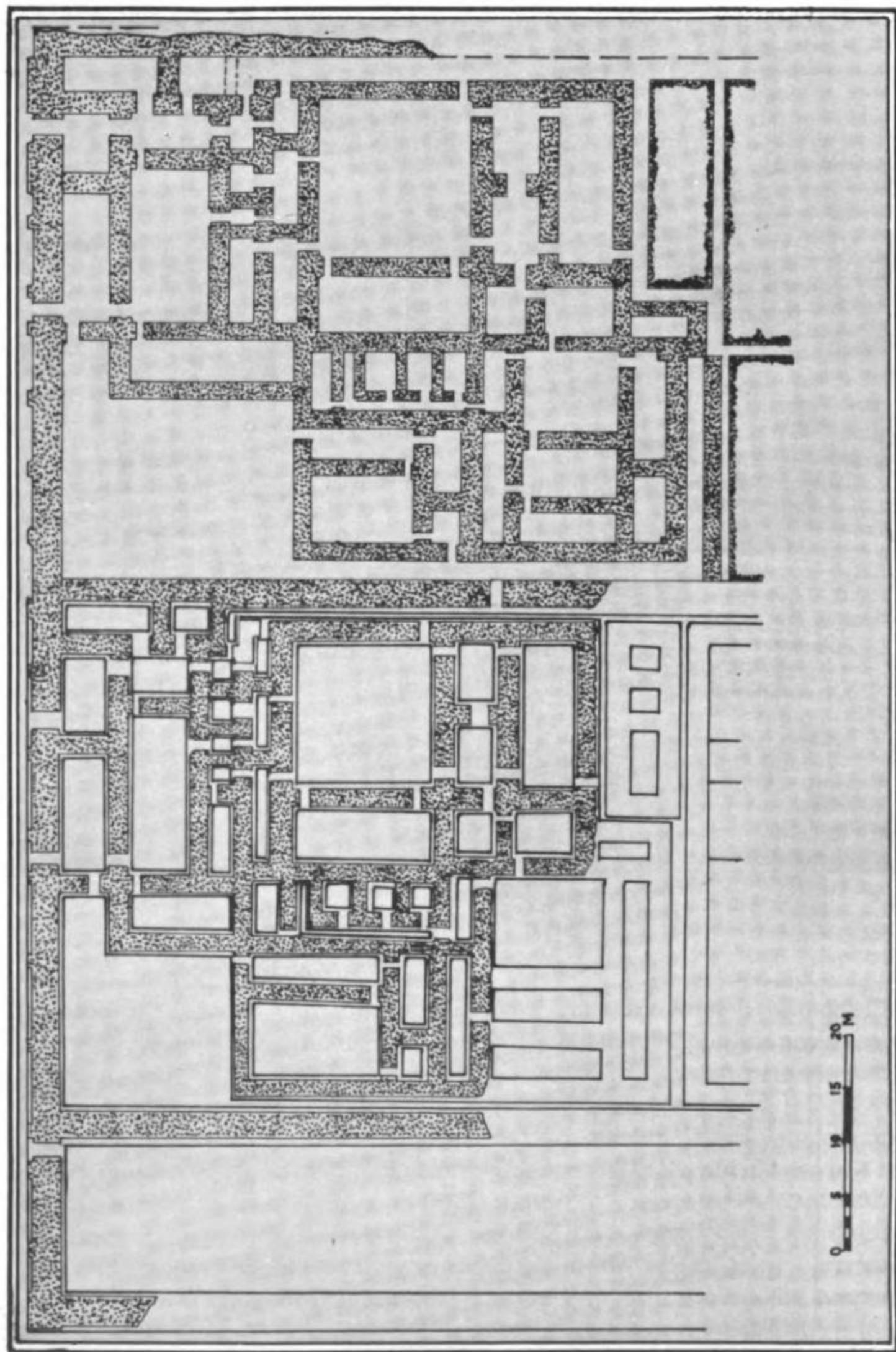


Fig. 9 : Palace at Eridu (after Lloyd and Safar 1948).

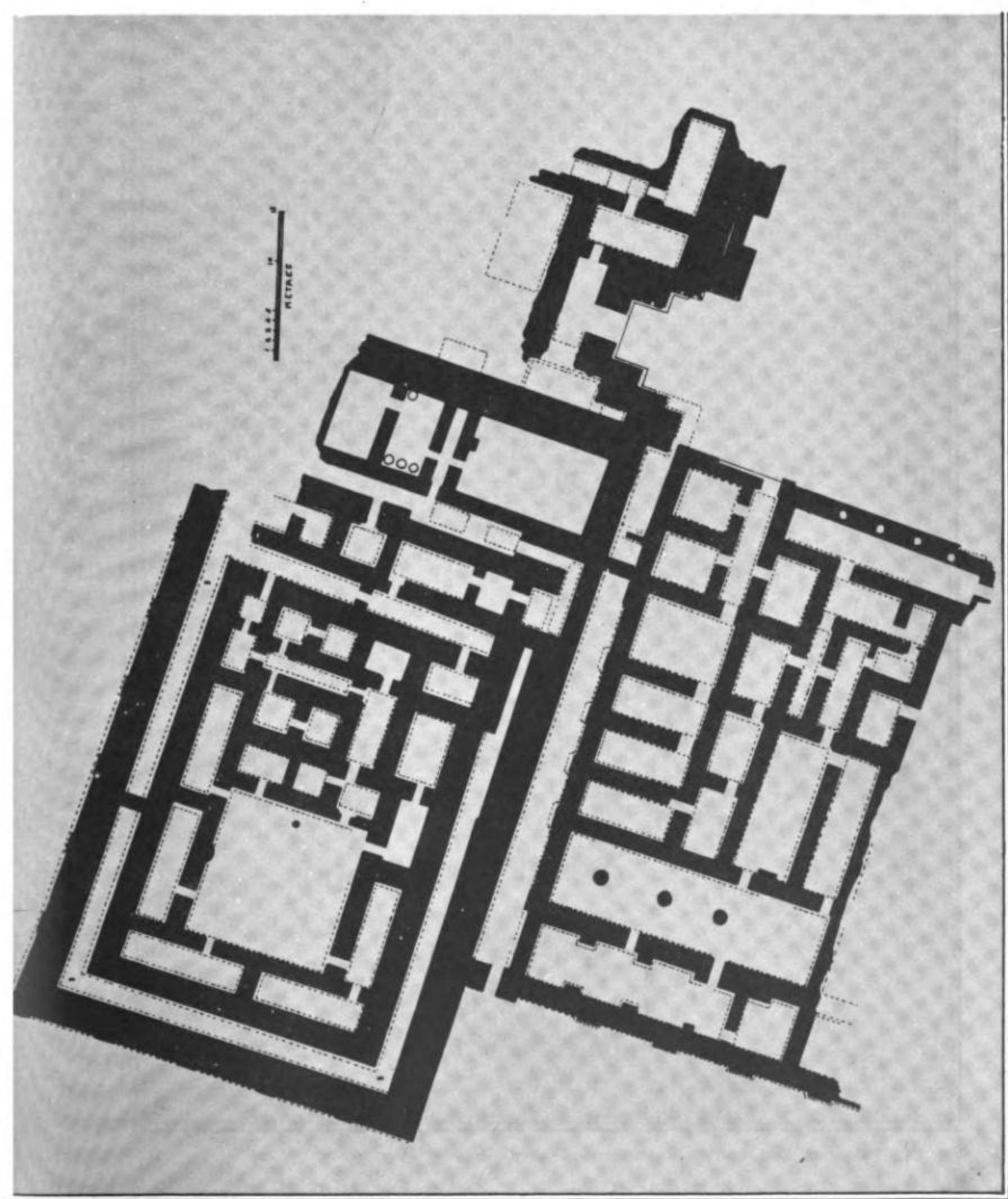


Fig. 10 : Palace at Kish (after Langdon 1924)

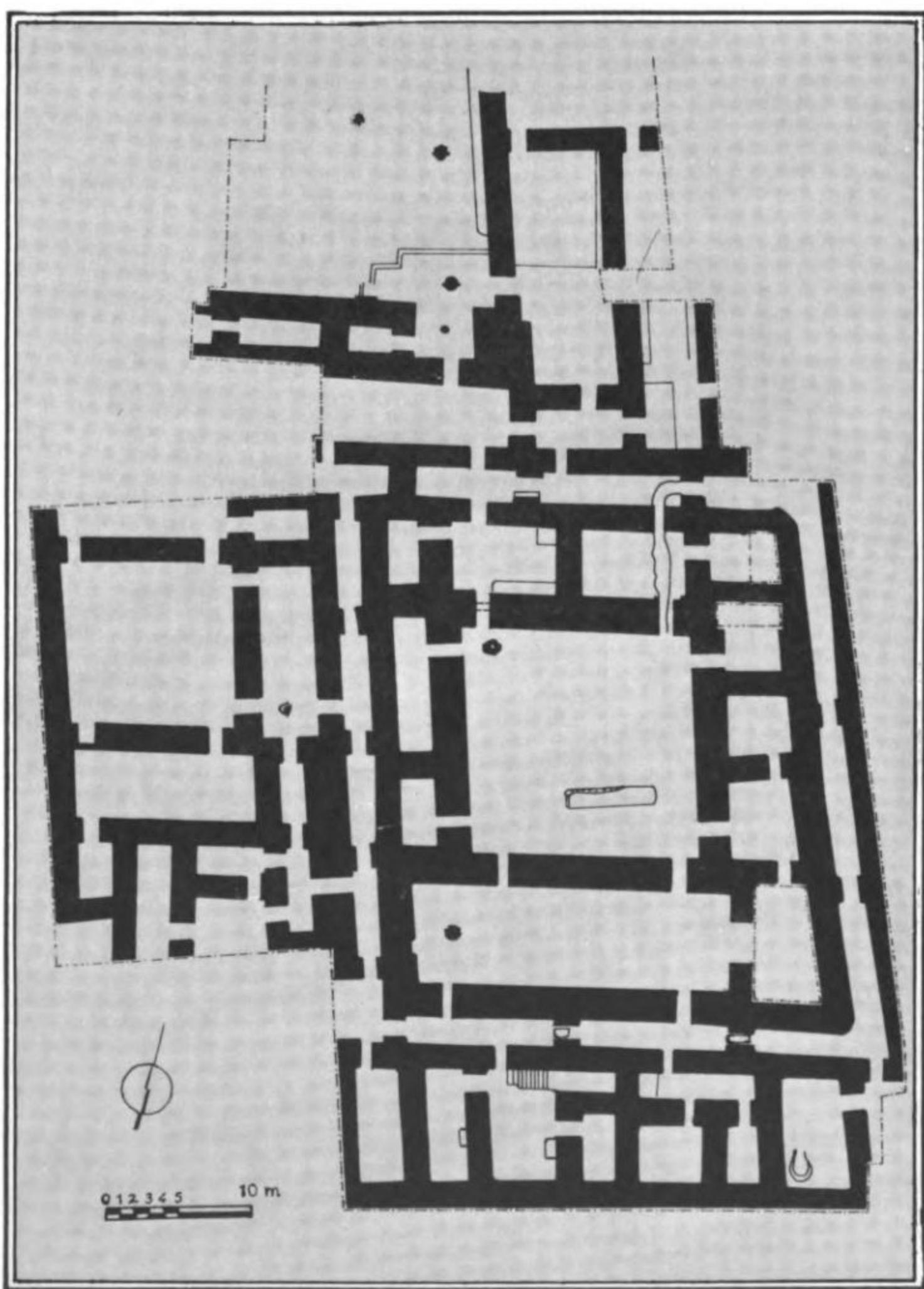


Fig. 11 : Palace at Mari, early dynastic period (after Parrot 1974).

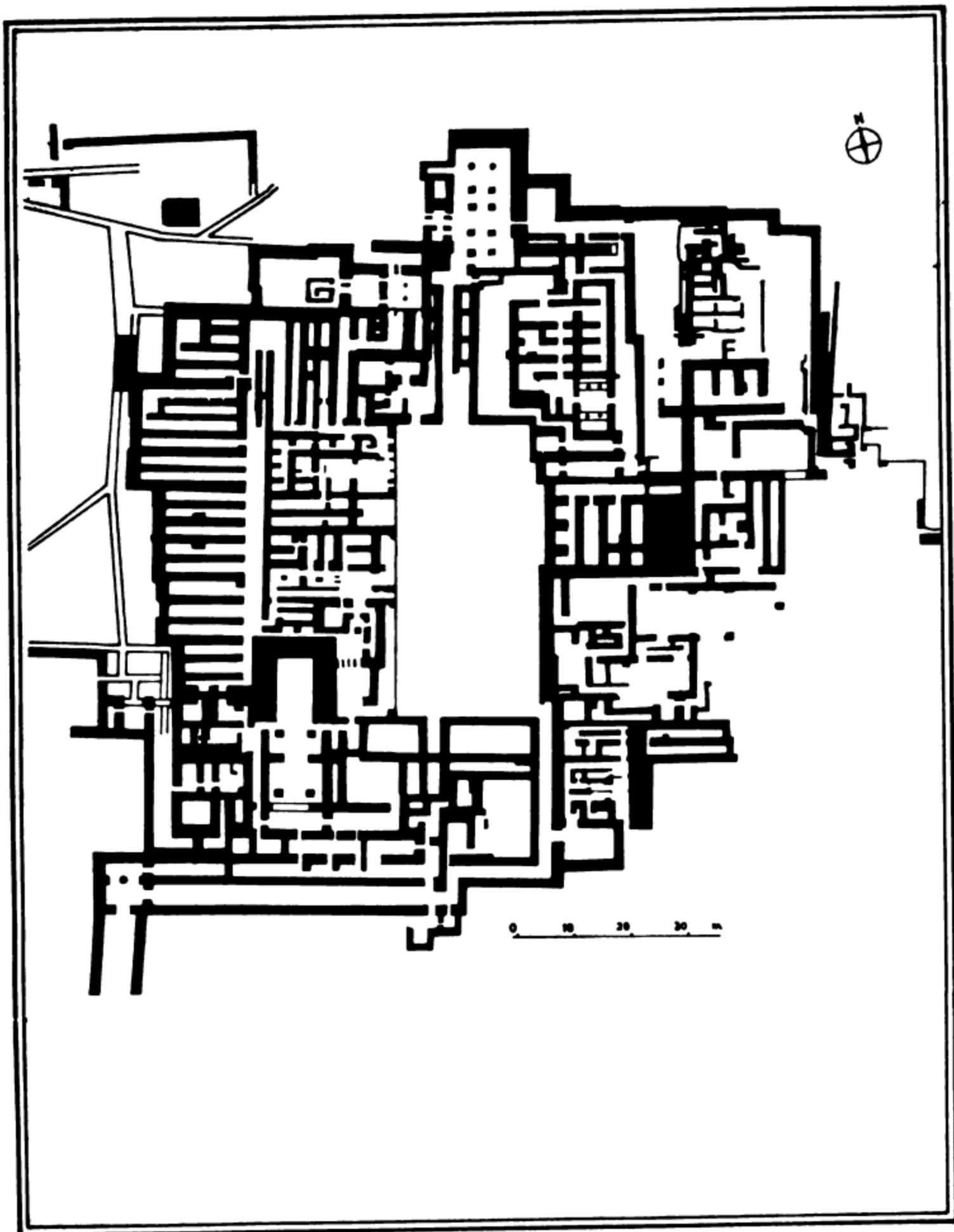


Fig. 12 : Palace at Knossos (after P. Warren, *The Aegean Civilization* 1975).

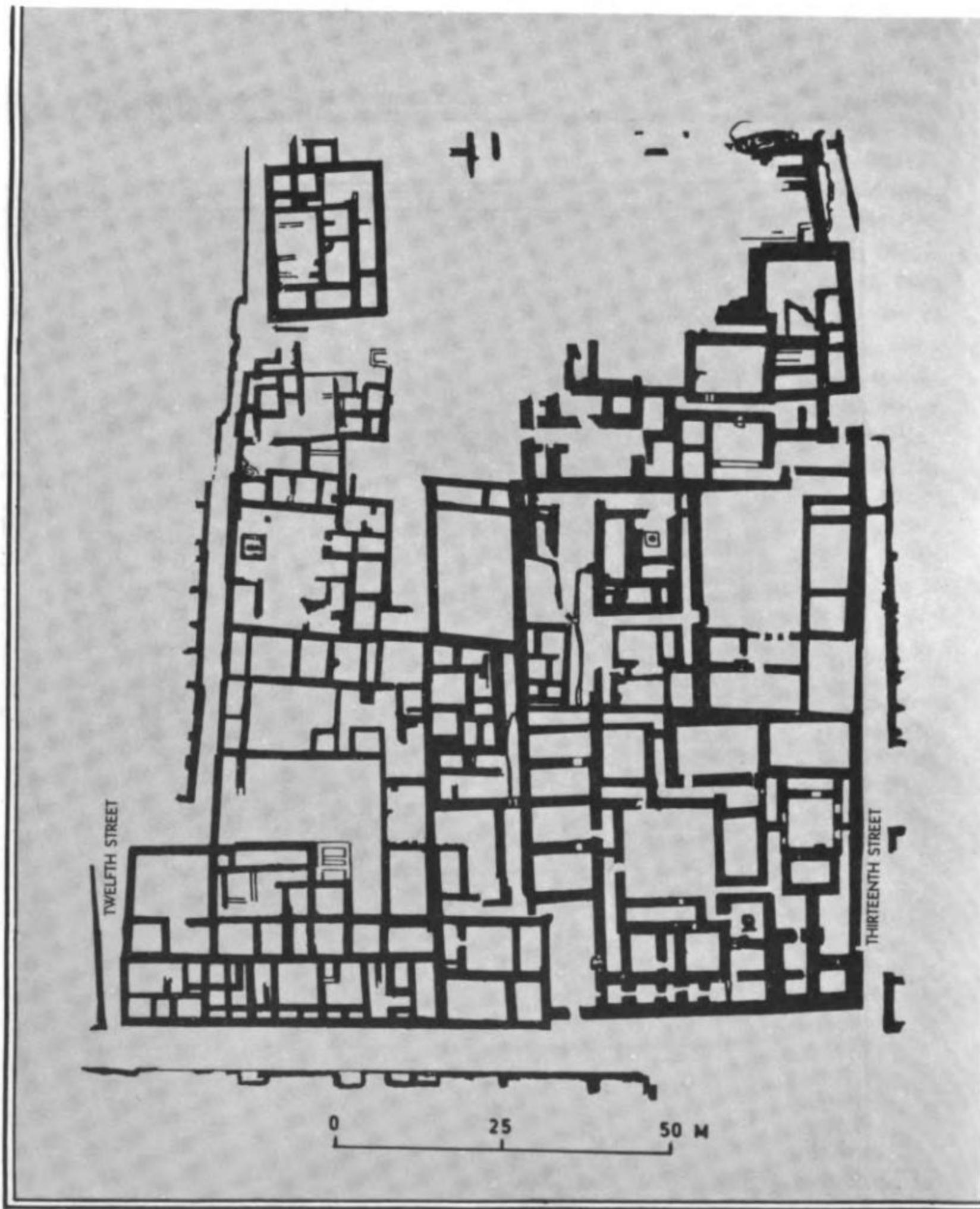


Fig. 13 : The Palace at Sirkap (after Marshall 1951).

Mohenjo-daro Citadel is the functional equivalent of these palaces, the various functions being spread over several separate but interconnected buildings.

We can also try to identify portrayals of a ruling elite in Harappan art. Of course, many instances are known from ethnography where the

symbols of kingship are fires, taboos and protocol, drums and other items of perishable or even non-tangible nature. And symbols of power are as likely to be found in myths, epics, or fertility rituals, as in painting or sculpture. No monumental royal portraits or depictions of kings in action have been found in the palace complexes of Minoan Crete (Finley 1977: 42), for example. Let us also remember that in ancient India there appears to have been no tradition of monumental royal portraiture, except among the Kushanas and Pallavas. When kings are depicted in narrative scenes at Sanchi or Bhathut, it is the accompanying inscriptions which identify them as kings.

There are no MH wall paintings, nor have we found any stelae showing the exploits of rulers in relief, as we have in Sumer. Harappan bronze sculpture tends to be confined to the depiction of animals, except for a few figurines of women. Figurines in clay no doubt depict people, but almost always in folk style [with the possible exception of a fragment from the Mohenjo-daro 'granary' (Wheeler 1968: pl.XX.B)], that is, with schematic modelling and appliquéd techniques, and no attempt at realism or formalism. But we may detect the portrayal of rulers in the stone sculpture.

In the stone statuary there are depictions of males with certain repetitive iconographic features. Significantly, all these pieces come from Mohenjo-daro. [Two headless stone sculptures from Mound F at Harappa are stylistically very different from the Mohenjo-daro group in their superb subtlety of planes and surfaces, and may not, according to some scholars, be of Harappan workmanship (see Wheeler 1968: 89-90), although Vats (1940: 74-76) argues that in spite of the lack of parallels in other Harappan art work, these must be treated as prehistoric in date.]

The stone sculptures from Mohenjo-daro have been studied as a group by Wheeler (1968: 86-89) and later by Ardeleanu-Jansen (1984) and the following discussion, with Table 3, relies on their work. Table 3 gives the details of five heads and five seated figures, most of which are in a damaged condition, and follows Ardeleanu-Jansen's analysis of hair arrangements, beards, garments, posture, and so on, for our interest is in the possible 'iconography' of depicting rulers.

The group contains somewhat stylized pieces, portraying types rather than particular men. We see that there are about four kinds of arrangement of hair and head ornaments, and two ways of draping garments. The ears may be summarily modelled or highly stylized, but they always have a drilled or chiselled hole at the centre. The eyes are always cut in such a way as to take inlays.

Among the seated figures in this group, the posture is either a variant of the cross-legged, with one knee at a higher level than the other, or a kind of squatting pose. Ardeleanu-Jansen asks if the squatting posture indicates

submission. This could have been submission to a deity or supernatural spirit, for on some of the Mohenjo-daro seals (Mackay 1938: pl. LXXXII.1c, pl. XC.23a, pl. XCIV.430) we find figures squatting before tree spirits or animals. As we shall see presently, Sumerian kings could also be shown as devotees, standing with hands clasped.

The ten pieces we have considered constitute a short list, and no pattern emerges in the 'iconography' in that a particular way of wearing the hair goes with a particular draping of garment. Even so, I would like to believe that these are portrayals of kings. There is a formalism about them, and the lack of a rigid or formulaic iconography need not refute this interpretation. After all, the Kushana royal statues also differ markedly in size, and in the objects held in the hands. Kanishka is shown standing whereas Kadphises is seated on a lion throne. And the 'fire altar' on the front face of the throne of the unidentified Kushana king is absent on Kadphises' statue. The Mesopotamian royal iconography of the third millennium was also complex. Barrelet (1974) has made a study of all the portrayals of kings from Early Dynastic III to Ur III times, some 107 pieces in all, and finds that the king is shown as a mighty warrior in very few cases, and much more often as a devotee. There are no special distinctions of hairstyle, clothes, or held objects in the portrayals of Mesopotamian kings, except in the case of an Ur III cylinder seal on which a throne is carved, and the Stele of Ur Nammu on which the king receives the rod and the ring as the insignia of kingship from his patron deity.

Perhaps more significant are the contexts in which these pieces were found. All ten come from Marshall and Mackay's 'Late' levels, from discard contexts, and most were deliberately destroyed in antiquity. Wheeler cautions us not to read too much into the lateness of the pieces, as it was the 'Late' levels which were most extensively excavated by Marshall and Mackay. But Ardeleanu-Jansen suggests that the statues may have been preserved down the generations and were therefore not found in the lower strata. In this context some aspects of Kuba royal statuary are relevant. The Kuba produced polished wooden statues of kings, up to 55 cm high, with the king seated cross-legged on an elaborately carved stool and wearing arm bands and bead and cowrie strings around his waist and over one shoulder (Vansina 1964: pl. 2). 'Such statues were considered to be the doubles of the kings they represented and as such were revered if not actually regarded as sacred' (Vansina 1978: 213). Theoretically, therefore, one was carved for each reigning king. But it is significant that in the opinion of some scholars these statues were not made during the reigns of the kings they portray, but in the late eighteenth century when one of the kings claimed himself to be a *ngesh* or nature spirit and initiated a new cult of royal ancestors. In fact, four of the extant Kuba statues appear to have been

TABLE 3 : Stone figures

	FIND-SPOT	EYES	POSTURE
1 DK 1909 bust ("priest-king")	-like, DK-B, block in centre Room has below, -ornamenta? setting and subdivided into 3 long a hypocaust south wall.	eyelids lowered; originally inlaid with shell.	—
2 DK B 1057 head	DK-B, block This block published	Shallow, paste, inlay?	—
3 HR 910 head	HR-A, house Large house many seals burial in co	hole at drilled	deep sockets, for inlay
4 L 898 head	L area, blo D, room 7 with piers rings. Four in a small	drilled	damaged deep sockets for inlay.
5 L 127 head	L area, blo A, room 10 100 is larg block 7.	nd hole at drilled	almond shaped shallow sockets, white stone inlay.
6 HR 163-193- 226 seated figure.	Found in pieces : he yard 10; S house IV. surface.	matic,	large sockets. squatting, hands on knees, R knee higher than L knee which touches ground.
7 L 950 headless seated figure.	L area, sed block 3, re On floor of room.	—	cross-legged, but L knee higher than R knee. Hands at knees.
8 SD 2781 seated figure fragment.	SD block 61-i.e. in courtyard "College"	—	squatting, R knee higher than L knee; hands at knees, with R hand enclosing a 3.2 cm deep cavity : for staff?
9 DK 4647 seated figure fragment	DK-G, blo house II,	—	squatting, R knee higher than L, hands at knees
10 DK I 419 seated figure	DK-I, roo This bloc published	nd hole	almond shaped, shell inlay. squatting, hands on knees.

NOTE : No. 3 and a frag



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made by one sculptor (*ibid.* 208, 211-214).

Because this formal sculpture was subjected to vandalism in Harappan times, it is less likely to have depicted deities or to have been the spontaneous portraiture of just anyone, than politically symbolic work, vulnerable in times of dynastic feuds or rebellions. Consider, for example, house I in HR-A area, with South Lane to its north and Deadman Lane to its west. This was not a very large house, less than 600 m² in total area. One fragment of the headless seated statue HR 163/193/226 was found here in courtyard 10. The other two fragments were found at or near the surface in South Lane, and in courtyard 34 of another house across South Lane, respectively. The white limestone head HR 910, obviously struck off from a larger statue, meanwhile, was found in room 14 of house I, a room adjacent to courtyard 10. So two of our rare pieces of mutilated statuary come from the same area in Mohenjo-daro city. What is of interest is that, besides an alabaster mace-head, house I in HR-A also yielded a total of eleven seals, six bearing the Unicorn motif, and, most intriguing, in courtyard 18, the careful burial of a man wearing three ivory bangles, a necklace of possibly faience beads, and a 'metallic ornament' at the neck. Intramural burials at Mohenjo-daro, according to the excavators, date to the time of the occupation of the city, unlike the unburied skeletons in Deadman Lane and elsewhere, which owe to the period after the desertion of the city. I am therefore tempted to let my imagination run riot and suggest that the intramural burial and smashed statuary in house I and surroundings, HR-A area, indicate that a political skirmish or dynastic feud took place which involved a member of the elite or a leading hanger-on, who lived in this house. The person never got a traditional burial, probably because he had been backing the wrong side.

6

*Political implications of
the EI-MH transition in the plains*

Among the El Amrian, Kot Dijian, and Sothi/Siswal cultures, hitherto dated to the first half of the third millennium B.C., the Kot Dijian and Amrian according to Mughal (1990: 195-197), may well go further back, in their beginnings, to about 3500 B.C. Contemporary with these cultures were numerous hill villages in Baluchistan, and levels IV to VII at the spectacular site of Mehrgarh. In general, these sites represent a stage of development which saw the use of metal on a small scale, and the use of the plough and the wheel. Exotic stones and shell were used for ornamental purposes, and richly decorated and diverse ceramic products were being made and carried far afield. Seals had come into use. And it appears that experiments were being made in new forms of pyrotechnology.

We may infer that at this stage chiefdoms if not incipient states had emerged. For we can identify at least two large sites, Mehrgarh (over 50 ha) and Kot Dijian Rahman Dheri (about 20 ha) as centres of political ascendancy. In the upper levels of Rahman Dheri were found Kot Dijian ceramics, various stone tool types, a bead industry on lapis lazuli, turquoise, and carnelian using specialized stone drills, and seals with hitherto unique motifs. Mehrgarh, fairly early in its history, saw the development of various crafts such as the manufacture of steatite disc beads and beads of semi-precious stones and some fine stone statuary, storage structures with rows of small cells, and the use of several types of ceramics, a range of exotic stones and shells, and geometric-motif seals. It is the disproportionate size and large quantity of exotic materials which mark these sites off from others of the period. In addition the existence of possible defence structures at Rahman Dheri, Kot Diji, Kalibangan, Amri,

Tarakai Qila, and Kothras Buthi suggest also that mutually warring or competitive chiefships had emerged. More important, innumerable pieces of ceramic evidence attest to a range of relationships between people of the different regions and cultures of hills and plains.

The following analysis does not make a comparison of the artefactual traits of the earlier cultures *vis-a-vis* the MH, so much as concern itself with continuities and discontinuities in settlement from the earlier into the later period. There is no body of theory anywhere near the level of sophistication which would enable us to use the data on the EI-MH transition to explain the origins of the Harappan state. We should not fall into the trap of viewing state formation as the play of inexorable forces, implying thereby that a state creates itself in some way. If one approached the subject in this way, one would be obliged to make detailed comparisons between each of the earlier cultures and its MH successor, and it would be difficult to avoid the problem of relative similarity or difference. For example, in order to identify the origins of the MH in the Kot Dijian, how many points of similarity would we need to establish between them? And in what categories of material culture?

Let us instead view the transition in terms of a more literal scenario: a process through which a small group of people becomes able to shake off its confining obligations to its immediate kin and gain enough economic advantage and political leverage to dominate others. While such a process is in operation, what happens to the existing local communities? Do they only begin to use new kinds of tools, prestige objects, and seals? If on the other hand we find that the onset of the MH period is marked by destruction levels at sites, or an overall change in settlement layout, or if we find that very few existing settlements continue to be occupied in the MH period, we must come to terms with political or social upheaval accompanying the development of state institutions, even if we find that in domestic traditions the MH owes much to its EI predecessors.

We may now consider the data, starting with the qualification that every site with a Kot Dijian or Amrian occupation need not necessarily be earlier than any site with MH occupation, except of course in cases where the one was stratified below the other. It is possible that earlier culture traditions continued to flourish after 2600 B.C., especially in regions to the north of the MH settled area.

In the Hakra plain Mughal (1990) identified 40 EI sites (EI in the sense used in this study), mostly between Fort Abbas and Yazman. Whether all these are Kot Dijian sites in the true sense is not clear to me, as it appears that the frontier between the Kot Dijian and Sothi/Siswal culture areas has not been defined. Of these sites, 37 are habitation sites, and Mughal (1990: 193; 1982: 91) gives the sizes of 32 of them. 19 are smaller than 5 ha; 8

are 5 to 10 ha; and there are 5 large sites over 10 ha in size, with Jalwali at 22.5 ha and Gamanwala at 27.3 ha.

It is obviously important that the largest number and densest cluster of MH sites is also to be found in the Hakra plains, but the MH sites cluster further downstream around Fort Derawar. For Mughal (1982: 93-94) this indicates that the latter region, where an inland delta of the Hakra was located in the third millennium, now had copious ground water from a channel off the Sutlej river. But it should be noted that even in the earliest, Hakra wares, period and in the post-MH period most sites concentrated in the Fort Derawar region, so that hydrological changes do not appear to provide a tidy explanation for the EI-MH settlement shift downstream. Equally important, only 3 of the EI sites (Sandhanwala (10 ha) and two small sites) were occupied subsequently in the MH period (Mughal 1982: 91).

In the MH period the total number of habitation sites rose to 83. Mughal (1990: 193) gives the sizes of 73 of these. His computation of the total settled area in each period is quite revealing. The total settled area of 32 measured EI sites is 210 ha; that of 73 measured MH sites is 447 ha or about twice that of the EI period. Whether this two-fold rise can be explained by population increase or immigration from other regions or the sedentarization of pastoralists is not known, but Mughal's tabulation reveals that the most substantial increase occurs in the number of sites of the smaller size ranges, so that this two-fold increase in settled area was not accompanied by a nucleation of population.

Mughal (1970; 1984; 1990) has often argued that the Kot Dijian culture of the Punjab and central Indus valley shows strong continuities with the MH, and that the Kot Dijian was a developmental phase of the MH. He points to the similarities in kilns, pottery forms (offering stands, ring stands, cylindrical vases) and pottery decorative motifs (fish-scales and intersecting circles), and also suggests a Kot Dijian derivation for the MH clay cakes, cart models, clay painted bangles, and carnelian beads.

Several Kot Dijian sites have been located in the northern Indus plains: Musakhel on the upper Indus north of Mianwali, Taxila and neighbouring Sarai Khola and Jhang, Khadinwala on the Ravi near Lahore, and 9 sites including Lewan and Tarakai Qila in the Bannu region. There is no MH occupation at any of these sites. In the Gomal valley, at the southern limits of the zone receiving adequate winter rainfall for *rabi* cultivation, is the large site of Rahman Dheri. Here period III A-B dates 2500 to 1900 B.C., but there is no MH occupation. At Gumla, a small site close by, the Kot Dijian levels are overlain by a MH stratum. At Jalilpur in the southern Punjab the Kot Dijian is not followed by any MH level, but at Vainiwal south of Harappa this does occur. At Harappa Kot Dijian pottery was found in the lowest

levels of mounds AB and E. And at the type site of Kot Diji, remains of both cultures occur in stratigraphic succession.

Two generalizations of interest ensue. In the first place, Kot Dijian sites in the zone receiving favourable winter rainfall do not have MH material. Perhaps these northern Kot Dijian villages continued to flourish contemporaneously with the MH settlements to their south, as available C 14 dates appear to indicate. One is tempted to interpret this locational distinction as a political frontier. For we know that at the Ghalighai rock shelter in Swat a third millennium occupation by people using wheat and fine pottery reminiscent of Kot Dijian forms was intrusive into a milieu in which the material culture was marked by the use of bone tools, pebble tools, and coarse hand made pottery (Stacul 1969: 53-54; Tusa 1979). Possibly some defeated or ousted people were driven north into the Swat valley, the traditional zone of refuge in the northern corner of the subcontinent.

Second, we find that of about 58 Kot Dijian sites in the plains [37 in the Hakra valley, 9 in the Bannu basin, 3 near Taxila, 4 in the Gomal valley, (see Mughal 1990) plus early Harappa, Kot Diji, Jalilpur, Vainiwal, and Khadinwala] only 7 sites (3 in the Hakra plains, Kot Diji, Vainiwal, Harappa, and Gumla) show continuity of occupation into the MH period, and these 7 do not include the largest sites like Rahman Dheri, Gamanwala, and Jalwali, which could have been the seats of developing chiefships. Also, the transition may have taken place in a context of mutually contesting chiefships, as hinted by the defence works at Tarakai Qila, Kot Diji, and Rahman Dheri, and for which the nature of the transition at two sites gives corroboration.

At Gumla the Kot Dijian stratum III is sealed by a thick layer of ash, charcoal, and burnt bones, and stratum IV above contains Kot Dijian and MH artefacts. Certain elements occur in both levels III and IV: metal, shank shell, stone blades, Kot Dijian pottery in appreciable quantity, clay wheels, and bull figurines. But new elements in IV include MH pottery, a weight, paste beads and buttons, and an etched carnelian bead (Dani 1970-71: 39 ff; Durrani 1988: 15-16). Thus at Gumla the MH material culture traits, such as occur, are intrusive, and the intrusion was accompanied by or followed soon on some kind of violence.

A parallel situation prevails at Kot Diji. The Kot Dijian levels here (16-4 on the 'citadel' and 5-3A on the lower mound) are sealed by a layer of ash and debris probably extending over the whole site. Above this occurs a stratum with a mixture of Kot Dijian and MH artefacts, but the Kot Dijian gradually disappear in the upper levels (F.A. Khan 1965).

In the transitional levels continuities occur in the use of Kot Dijian pottery, clay cakes, bull figurines, metal, and shell bangles. But new

elements seen in levels 3-1 and 3A-1 on the two mounds include MH pottery, changes in the flaked stone tool kit which now favours long chert blades and arrowheads, and the appearance of steatite disc beads and beads in semi-precious stones. The defences do not appear to have been used after the appearance of MH elements. Mughal (1990: 185-186) makes much of the occurrence of artefact categories such as grinding stones and chert blades and steatite seals in both Kot Dijian and MH levels, but does not go into the question of artefact types. Neither does he comment on the paucity of metal in the earlier levels on the 'citadel' mound.

At Harappa the situation is different. There is some mixing of strata as the MH occupation began with the laying of massive mudbrick platforms into the debris of earlier occupation. Dales and Kenoyer (1988, 1989) report no abrupt changes of material culture nor a hiatus in occupation. Rather it appears that the 'overlap' phenomenon is to be seen at Harappa also. Here certain kinds of kilns in the earliest levels may have been used for purposes which anticipate the MH stoneware bangle technology, but the forms of the kilns are quite different in the two periods.

One agrees with Mughal that many MH artefacts could have had their ancestry in the Kot Dijian culture tradition. But this only serves to establish that the MH material culture was not extraneous to the Indus plains. It does not rule out in any way a radically new set of economic processes or social relationships at the onset of the MH period. We do expect domestic artefact forms and basic technologies to continue to function, or to develop, even in the presence of a major political change, unless entire populations were wiped out. At the same time overlap levels at certain sites indicate that even in day to day life, the MH period brought about intrusive elements which co-existed with local elements for some time. One suspects that confusion arises on this point (continuity vs abrupt change) because the concept of culture in archaeology is associated, quite unjustifiably, with the concept of ethnicity, and it is imagined that 'the Harappans' replaced 'the Kot Dijians' at several settlements. Instead, the MH would seem to represent the imposition of state institutions and we should be asking why pottery or basic stone tool forms would have changed when this occurred: was it to do with new forms of production, new flows of raw material, or new systems of distribution?

Where the Sothi/Siswal culture is concerned confusion prevails, partly because of the changes in terminology and partly because terminology has differed in the presentation of different survey reports. Suraj Bhan (1975: 3) used the terms Early and Late Siswal, the latter alone being exemplified by early Kalibangan (where Fabric A contains bichrome

black-and-white ware), whereas later on he used the terms Early Siswal and Siswal, the latter being marked by the absence of bichrome ware. Later, a chronological distinction, Siswal A, B, and C, was made. Here, for convenience, we will simply use the term Sothi/Siswal, without chronological distinctions, 'Sothi' having been used by Ghosh (1953) during his explorations in the Bikaner region.

As stated earlier, it is not known whether the EI sites on the Hakra all represent the Kot Dijian culture with some Sothi/Siswal contact. In fact, the relationship between Kot Dijian and Sothi/Siswal ceramics remains undefined. According to Mughal (1970: 101-102) some sites downstream of Hanumangarh have both kinds of pottery. For F.R. Allchin (1982: 151-152) 'the Kalibangan pottery contains two elements; one wholly Kot Dijian in style; and the other more individual... the mark of a new regional province'. The former would include typical Kot Dijian globular pots in 'Fabric C' (Mughal 1990: 184).

As many of Stein's explored sites are probably incorporated in later surveys by Mughal and Ghosh, we risk possible exclusion of some of these sites and consolidate the lists of sites presented by Frenchman's (1972) re-examination of some of Ghosh's sites and material in the lower stretch of the Sarasvati-Ghaggar system, and by Suraj Bhan (1975: 122-126) and Suraj Bhan and Shaffer (1978) in the Sutlej-Jumna divide further upstream. We get a total of about 58 Sothi/Siswal sites. Of these, only 11 sites appear to have had MH occupation as well : Kalibangan, Mitathal, Rakhi Garhi, Banawali, Binjor, Tarkhanawala Ther, Berore, and another 4 discovered by Ghosh. In Indian territory, MH sites without previous Sothi/Siswal occupation are about 15 in number: Balu, Kotla Nihang Khan, possibly Ropar, Mayoli Khera (Nauli), and 12 sites, mostly near Anupgarh, found by Ghosh. At these sites, Siswal artefacts may (as in the case of Balu), or may not (as in the case of Mayoli Khera) occur alongside MH artefacts. Meanwhile, there are several sites such as Siswal and Sanghol where the material culture is of Siswal vintage but showing some MH contact, and at least 33 sites in Suraj Bhan and Shaffer's survey area which have no MH pottery. This is a highly tentative summary, especially as Ghosh published few details, and there is little unambiguous identification of the cultural affinities of his sites. Eliminating his sites from the count, we could have 47 Sothi/Siswal sites; 5 Sothi/Siswal to MH sites; and 5 MH sites.

At Sandhanwala (Mughal 1970: 101-102) and Kalibangan the Sothi/Siswal and the MH strata are separated by an intervening deposit of sterile material, indicating that there was a period of abandonment before Harappan building activities began. At Kalibangan the layout of the settlement was totally changed in the MH period: the old built-up area was used as a Citadel complex and the residential area moved to adjacent,

hitherto unoccupied, land. At Banawali also, where no hiatus is reported, the layout of the buildings was altered with the appearance of MH culture traits.

As at Kot Diji and Gumla, so too at Kalibangan, Mitathal, Balu, and Banawali, there are 'overlaps'; at Kalibangan only the lower levels of MH occupation show a continued use of Sothi/Siswal artefacts, whereas at Banawali, Balu, and Mitathal, Sothi/Siswal traits are present throughout the period of MH occupation.

At Mitathal, Rakhi Garhi, Banawali, and Kalibangan the MH period sees an enlargement of the settlement. At Mitathal an area of about 1.95 ha (Mound 1) was occupied in the earlier period, whereas an additional area (Mound 2) of 5.25 ha was also occupied in MH. At Kalibangan, the Sothi/Siswal habitation was spread over 4.5 ha, but the MH buildings occupied about 11.3 ha. At Banawali the settlement expanded almost two-fold in MH times (IAR 1983-84: 26). Much of the expanded built-up area at these sites can be accounted for by Citadel areas; nevertheless, this change may also indicate the compulsory settlement of non-local people at these sites.

The Sothi/Siswal culture shows many parallels with the MH. Ivory, copper, shell and carnelian were in use in the earlier culture. The wheel was known. Steatite disc beads (and shell bangles ?) occur at early Kalibangan. Pipal leaf motifs are common on painted pottery. But in the MH period small chalcedony blades gave way to long chert blades, cubical chert weights came into use, and faience ornaments began to be used (e.g. at Mitathal II A). One-brick thick walls were replaced by massive walls.

It is not so much the similarities or contrasts in assemblages which are significant pointers to the manner in which the Sothi/Siswal settlements were inducted into the Harappan system, but the evidence for interruption of occupation at two sites, the change in settlement morphology at three excavated sites, the intrusive nature of MH traits, and the appreciable extension of the area of settlement at at least three sites. None of this points to diffusion, or to a gradual incorporation of the communities into a wide spread trade network. Instead, the threat or use of force must have compelled the temporary desertion of settlements (or else the Kalibangan Mound 1 shows desertion because the Citadel was built only after the lower town had been laid out and occupied)* and the overall change in the distribution and use of house plots. Note again that, as in Punjab and the central Indus valley, the presence of possible fortifications at early

* B.K. Thapar (1973b : 87) read the interruption of settlement at Kalibangan as the result of an earthquake – there are hints of wall subsidence and faulted strata – but a question arises about the time span in which sterile material was laid. Why was the settlement not rebuilt immediately ?

Kalibangan and Banawali suggests that the transition took place in a context of militarism.

The Amri culture (with or without a Nal component) is spread through Sind west of the Indus, and into Kohistan. The surveys of Majumdar (1934) and Krishna Deva and McCown (1949), together with the sites later discovered by Jarrige, Dales and de Cardi, give a total of about 27 EI (not all Amrian) sites in the Sind plains, the Kirthar foothills, and the Las Bela plain. (The Baluchistan hill region is not considered here.) Of these sites, 16 had MH occupation in upper levels. A total of about 33 MH sites are known from the Las Bela plain, the Kacchi plain, and along both sides of the Indus. Sites with EI-MH transition are Amri, Lohri, Tharro Hill, Ghazi Shah, Gorandi, Pandi Wahi, Dhal, Pokhran Landi, Paijo-kotiro, Jarejo-kalat, Rajo-dero, Mari Khan, Pathani Damb, Nowsharo, Bamba-damb, and Balakot. MH sites without an identified EI occupation level are Mohenjo-daro, Kotasur, Judeirjo-daro, Therri Bahadur Shah, Allahdino, Amiliiano, Hasan Wali, Garho Bhiro, Kot Kori, Jhukar, Chanhu-daro, Lohumjo-daro, Lakhioyo, Ali Murad, Karchat, Shahjo-kotiro, and Thano Bula Khan. (Kot Diji was mentioned earlier.)

At Amri (Casal 1964) levels IB-D represent the Amrian culture, and levels IIA-B above them, a transition phase when Amrian and MH elements co-exist. Levels IIIA-C have only MH material. In Amrian levels, copper, ivory, lapis lazuli, shell, clay cakes, carnelian beads, and clay bull figurines were recovered. New elements in period III are faience bangles, cubical chert weights, a seal, an etched carnelian bead, the use of baked brick of standard size, and clay cart frames and model wheels. Blocks of small rectangular cells, either house foundations or storage rooms, are peculiar to period I. In the flaked stone tool kit there is a greater range of forms in Amrian levels than in MH levels (Lechevallier 1979).

But C-14 dates and stratigraphy indicate that at Balakot (Dales 1979 a and b; 1981) there was a hiatus of a few centuries between periods I and II. In period I some metal and lapis lazuli were used. But there are many contrasts between the assemblages of levels I and II. The form of bull figurines changes, there are differences in the flaked stone tool forms, clay cakes appear only in MH levels, and house walls of level II are oriented some 45° off the level I walls. Moreover, local estuarine and marine shells were used on a large scale for ornaments only in the MH period.

It may be noted that possible fortifications of the early period are known at Amri, Pokhran Landi, and Kothras Buthi (Mughal 1970: 124 ff). Once again, we see that in Sind MH traits are intrusive at sites occupied in

previous centuries.

The overall picture which emerges is as follows. First, the largest numbers and densest clusters of sites in the earlier and MH periods lie in the Hakra plains (although the MH saw a substantial shift of settlements downstream). Is this significant? Perhaps it is only a factor of the chances of mound survival, as the Hakra ceased to flow some time after the MH period and in later centuries mounds here would not have been exposed to erosion or silting as in Sind or lower Punjab. On the other hand it is significant that the Hakra plains saw the frontier between the Kot Dijian and the Sothian assemblages, if indeed these represent regional cultures.

Second, the MH does not favour any one EI culture region to the exclusion of others. Mughal (1970, 1984) has emphasized that cross-cultural contacts were plentiful in the earlier period. While the ceramic traditions of each culture may have been distinctive, there was much interaction and similarity in clay and stone artefacts and building techniques. We need to work out the social and economic processes behind these interactions.

Third, the problem of the transition is not a problem of autochthonous *versus* alien origins of 'the Harappans'. This seems to be a non-issue. All we can infer is that no single EI culture developed into the MH material culture, as EI artefacts did co-exist with MH ones at least at some sites and for some time.

Next, the transition saw a significant rupture in overall settlement history. In the greater Indus valley the total number of MH sites is roughly the same as the total number of EI sites. But out of about 132 EI sites on which some data are available, only 28 sites (about 21%) have continuity of habitation into the MH period. Conversely, only about 21% of the 130 MH settlements (accounted for here) in the greater Indus region favoured the sites of past habitations. That the transition involved large-scale resettlements of people is an unavoidable inference.*

Social evolution is a basic paradigm for the study of the ancient past. By social evolution we mean that social formations succeed one another at

* Similar kinds of settlement change occurred in the upper Mantaro valley when that rich agricultural region came under Inca rule in about A.D. 1460. (Earle, D'Altroy, *et al.* 1980). Many sites with older occupation were abandoned, stretches of upland zones were depopulated, new sites were established in lower zones suitable for maize production, and as administrative centres. Inca pottery and architecture are intrusive at the sites, although local ceramic traditions continued. The relative proportions of Inca and local style ceramics vary from site to site.

increasing levels of complexity; that wherever all 'stages' (bands, tribes, chiefdoms, states) are present the order of succession is the same; and that culture change resulting in a transformation of social structure from one stage to another can be explained by factors prevailing in the preceding stage. Thus we do have to seek the origins of the MH culture in the earlier period and in the multiregional context in which the earlier cultures functioned. No one would deny the great import of the fact that the earliest occupation at Harappa itself was by users of Kot Dijian pottery, or that Rahman Dheri saw the apogee of external contacts and craft production at a time when Kot Dijian artefacts were in use. We have also noted that the spread of villages of the Kot Dijian culture is especially wide, besides which Kot Dijian ceramics are also detectable in the Quetta, Zhob, Loralai and Surab valleys of Baluchistan, and also at Amri. More intriguing, the lowest occupation stratum at Manda, on the navigation head of the Chenab, contained, besides MH artefacts, a red ware paralleled at early Kalibangan. One may well infer that the first breakthrough in terms of widening resource-flow networks was made in the EI period, and theoretically it is possible that the EI chiefdoms were in competition with each other for highland resources. Further, if marine shell was popular as a material for Harappan ornaments and knick-knacks, its use was pre-empted in earlier centuries at Mehrgarh, early Amri, Kot Diji, and Gumla. In sum, the EI period saw the emergence of basic preconditions for the emergence of urban society: technological developments including wheeled transport, substantial regional networks of resource movements, and centres of political dominance and community defence.

If, however, we view the transition from the perspective not of technological tradition but the emergence of a ruling elite, a different perspective emerges. One cannot believe that states are the kind of phenomena which 'evolve' in the same way as did the midwife toad. The state is a product of political processes, human ambitions, opportunities for domination, and growing economic inequality. An overly gradualistic approach would do injustice to the concept of the state.

So earlier prototypes of MH artefact forms reveal only one aspect of the transition, and should not obscure other aspects. For one thing, there is the question of scale. The MH culture area is many times larger than any of the earlier culture regions. The MH settlements also seem to have used metal and shell on a much larger scale than their predecessors. In the MH period, we find shell being used not only for ornaments, as in the earlier period, but also for ladles, inlays, and containers (Kenoyer 1983: 122-130, 145-162); and Kenoyer (*ibid.* 164) reports that some 3,300 shell objects were registered in the Mohenjo-daro excavations alone. And the use of marine shells like *Chicoreus ramosus* found in the Gulf of Kutch begins only in the

MH period (*ibid* 164).

If we consider metallurgy, the contrast between the material from the two periods lies not so much in the numbers of metal artefacts (copper and bronze are always amenable to re-cycling) but in the variety of techniques used. In MH we have evidence not only for cold hammering and simple casting, but also for a range of techniques in copper/bronze, gold, and silver: *cire perdue*, the use of gold foil over a core, soldering silver and gold together, granulation as on occasional ornaments at Mohenjo-daro, tracing or engraving grooved designs with a sharp tool as on a gold filet from Mohenjo-daro, *repoussé* work on a gold pendant from Harappa, and filigree work in fine gold wire coiled on a silver brooch from Harappa. Such sophisticated techniques are not attested in the EI period.

We may also remember that distinct industrial sites, the prolific use of recognizable weights, large storage facilities, and literacy were new – and significant – phenomena in the MH period. It has been suggested that the MH system of writing had already emerged in the EI period. Pottery graffiti are known at EI Kalibangan, Jalilpur, and Amri (Mughal 1970: 145, 336-337), and painted signs and graffiti also occur at Rahman Dheri (Durrani 1981: 197-199, figs. 3-4). But as pointed out by Boltz (1985) in the context of alleged precursors to the Shang writing system in China, writing is a matter of invention and not evolution – writing either exists or does not. And potters' or dhobis' marks are not writing – they may only suggest the form that letters of a script could take. To ascertain that writing did exist in the EI period we would first have to establish that the signs occur in combinations, and not singly. At Rahman Dheri (Durrani 1981: fig.4) Durrani suggests one mark was a ligature of 5 distinct MH type signs. But he reports only about 50 signs from this site; a logographic writing system would have required many times that number of signs.

Given this perspective, then, the MH period presents a radical break from the past. And the nature of the transition also gives us a first clue concerning the nature of the Harappan state. If the state system was such that one centre or a local elite only organized tribute collection from existing polities, and controlled their external affairs, we would have seen a continuity of settlement at the large and prosperous EI centres, with MH seals or finely crafted objects at these sites indicating elite exchanges. We would not have seen such marked changes in the distribution and morphology of settlements. That the state system did not involve simply a loose integration of semi-autonomous polities, will be further worked out in the following pages.

7

The grid plan settlement

Data on MH settlement layouts is scrappy and often unreliable. For example, Rao (1979: 86) states that a central arterial street at Lothal is 40 ft (12 m) wide, but the site plan does not reveal any continuous street alignment of such a width, which would make this street wider than the widest streets at Mohenjo-daro. Occasionally an excavator mentions a chess-board layout but presents no site plan as corroborative evidence. In some large settlements entire street lengths could not be excavated, but alignments have been connected up on plans to show probable street courses. At the same time there seems little justification for recent attempts to dismiss the evidence of grid plans at MH sites.

We will clarify at the outset that neither at Mohenjo-daro nor at any other MH settlement do we have a base grid of the accuracy or symmetric squares of a Roman town. Instead, there are systems of wide streets running down the lengths of habitation areas, not perfectly parallel with one another, and intersected by narrower streets, usually at right angles but in a staggered manner (so that there are few square junctions), and with the side streets often dog-legged. What we do have, then, is the division of habitation areas into roughly rectangular blocks, each of which contains several houses.

At Mohenjo-daro an arterial north-south street, about 9 m wide and named 'First Street', was exposed in the DK-G area excavations. The same street alignment can be picked up further south in the VS area, and then even further south in the HR area.

North of HR, a wide depression today cuts the lower city between the 50 m contours. This depression crosses First Street at a right angle and is very likely to have been a major thoroughfare. In fact it has been called 'East

fig. 14, p. 107

'Street' and on the north it is fronted by 3 to 6 m high platforms carrying the houses of the VS area.

Within the excavated blocks smaller streets, approximately parallel to First Street, are also exposed : e.g., West Street in DK-G, and two streets in HR-B. The latter two side streets do not, however, continue north into VS, which was clearly a separate block.

More important, in the area excavated by Dales on the western edge of HR, runs a major street, about 8 m wide, parallel to First Street and possibly also an arterial thoroughfare, though its length has been traced for less than 200 m.

East of First Street, also running north-south, lies a street crossing the DK-B area in the northeastern part of the city. Though traced for only about 55 m, this street is also approximately 9 m wide, and runs northeast to southwest (rather than exactly north-south), just as First Street does. It could have been the third longitudinal arterial thoroughfare.

Meanwhile, an equally wide east-west street cuts across the DK-C area and may be the second major lateral street, north of East Street.

We thus know of five arterial streets in Mohenjo-daro, three along its length and approximately equidistant from one another, and two lateral. Though only two of them can be traced for appreciable lengths, they are also paralleled by side streets in the DK and HR areas.

A superimposition of Mackay's plans shows that in DK-G the frontage of the narrow West Street remains constant through levels Late III to Ia. Similarly, the frontage of First Street in DK remains constant through the Intermediate III, II, I, and Late III and II levels. Thus the large building DK-G 1 had an unchanged outer wall alignment for a depth of 6.7 m, which for Mackay (1939: 59-60) would have involved a period of at least 300 years. Again, from Jansen's (1984b) restudy of the Moneer area, we can tell that side streets, traced for 60 to 66 m, both north-south and east-west, formed the perimeters of five blocks. Within each block the buildings could be altered or expanded in the course of rebuilding, but their street frontages remained constant. The consistency of street alignments through the history of Mohenjo-daro is significant, but we must not exaggerate the significance : as a general rule street layout is the most conservative aspect of a townscape. While buildings can be rebuilt or reaccommodated with their neighbours or put to different uses, it is not practical to change the alignment of streets in a densely built space (Carter 1975: 145), especially in a city like Mohenjo-daro where most building-blocks were raised over high platforms.

A grid in the Kalibangan lower town layout also appears certain (B.K. Thapar 1973b: 98-100). Four north-south, and three east-west streets have been located which divide the area into rectangular blocks, while smaller

lanes taking off from these on both sides are staggered on plan. The longitudinal streets are not parallel all the way, and neither are they parallel to the fortification walls. Through the eight to ten building phases (amounting to some 10 m of debris) these streets provided the grid for the blocks of buildings. B.K. Thapar observes that street widths are multiples of 1.8 m.

At Mitathal II A the settlement 'appears to be planned with streets oriented east-west and north-south', there are staggered junctions as at Kalibangan, and widths vary between 1 m and 1.7 m (Suraj Bhan 1975: 7, 13). No site plan for level II A, however, appears in the report.

Bisht (1982: 116-118) found that at Banawali three major streets, about 5.4 m wide, cross the lower city, parallel to one another and following the alignment of the city walls. Single rows of houses form blocks between each two streets. This is not a grid of rectangular blocks, and streets are not always straight; often streets do not meet at right angles (Bisht 1984: 94). But the published plan nevertheless indicates a kind of grid, maintained over a period of accumulation of more than 4 m of building debris (IAR 1983-84: 25-26).

The house plans of Mound II, second Harappa level, at Chanhudaro do not reveal a clear grid because of subsequent destructions of house walls. But Mackay (1943: 38) was able to trace the carefully laid brick drains to plan the orientations of the streets and could infer the presence of wider and narrower streets, running parallel or at right angles to one another. 'Some attention had been paid to town-planning' in Harappa II levels.

F.A. Khan (1965: 18, fig. 4) referred to a 'well-regulated town plan' at Kot Diji but this is not clear from the plan of the 'Citadel', and no plan of area B, the 'lower city', has been given.

The plan of the MH buildings in the western (higher) part of the Balakot mound (Dales 1979b: fig. 4) reveals an east-west lane being met by two narrower lanes, at approximately right angles, from the south. There was apparently a grid here, but many more streets would have to be traced to prove it.

According to Rao (1979: 85-88) the residential area of Lothal was divided into rectangular blocks by side streets and lanes, which in turn formed larger blocks between arterial streets. In block B in the Acropolis the grid of narrow streets is clear (*ibid.* pl. XXVIII).

At other excavated MH sites, either the small extent of the excavated area or destruction of MH buildings in later periods prevent us from confirming or denying the existence of a grid plan. There is, however, the small site of Surkotada where there is no suggestion of a grid. Of course, for reasons given below, we would not expect all MH settlements to have been built on a grid plan. What is of interest is that the grid plan is not confined to the

largest Harappan towns, but is also attested at a medium size settlement like Kalibangan, and, if confirmed, even at a 2.8 ha settlement like Balakot.

Let us explore the possible function and significance of the grid plan. The provision of public drainage systems at MH sites is well known. Street drains, either covered or open, below street surface, conveyed waste from several houses to soakage dumps or cesspools at convenient points at Mohenjo-daro. Side drains could feed major drains at right angles. The drains were often of substantial dimensions, say 60 cm deep and 25 cm wide, and carefully constructed of baked brick.

Interconnected drains of this sort must have a sufficient downward slope to discharge effectively. When drains are public and collect waste from several houses and are fed by branches, they would obviously have to be straight, and the system must be laid on a master plan. A public drainage system could not be laid on narrow and sinuous lanes which repeatedly rise and fall. Neither can it be constructed piecemeal according to the decisions of individual householders, as was recently learned from the attempts to improve the living conditions of the slum dwellers of the *Kacci Abadi* of Orangi at Karachi. Thus the grid pattern and street drainage systems are functionally interrelated. But the latter is not the 'cause', for a grid pattern layout can be found even where street drains are absent. At Kalibangan, for example, there were soakage pits and jars for individual houses, but no street or public drains in the residential area (B.K. Thapar 1973b: 98-100). Public street drains were also absent at Banawali (Bisht 1982: 116-118) and Mitathal (Suraj Bhan 1975: 81).

Was the grid a function of the use of wheeled traffic inside the larger towns? Regular wheeled traffic cannot ply on narrow and tortuous streets. At Harappa, Wheeler (1947: 85) found the ruts of a cart to be just over 1 m apart. At Kalibangan, then, streets of 1.8 m width could not have taken two-way cart traffic. Perhaps carts plied only the wide streets and could not be driven up to every house door.

Was the grid at Mohenjo-daro intended to provide direct and easy access to focal city points? This does not seem likely. The largest known buildings in the lower town, 1 and 18-19 in DK-G, for example, are reached from side lanes, and not an arterial street. Among 'exceptional' buildings referred to in earlier sections, only house 2 in HR-B, with its large courtyard and projecting screen walls, lies on First Street. In the formal organization of space, we see that apparently key storage, meeting, and ritual structures are located in the Mohenjo-daro Citadel, spatially distinct, but having no grid of streets in its own layout. Thus Mohenjo-daro is not a city whose layout can

be said to be a symbol of a cosmological conception, an *imago mundi*.

There are however other implications of the grid plan. At Kalibangan, Mitathal, Banawali, and Lothal, there is a history of previous habitation, in ordinary, unplanned settlements. At Lothal the earliest habitation occupied the southern portion of the mound (Rao 1979: 85), whereas at Kalibangan and Mitathal, fresh patches of land adjacent to the previous habitation, were used to lay streets and houses in the MH period. At Banawali the MH buildings were constructed over a previous settlement with a totally different layout (Bisht and Asthana 1979). And at Chanhudaro the second Harappa level buildings lay over those of the third Harappa level, but on a different alignment (Mackay 1943: 37).

If the grid plan was introduced at a place already settled for generations, its implementation would mean a disruption in the lives of the inhabitants. The grid pattern does not take shape gradually and a grid-plan town is 'not conceivable except as an organic whole' (Stanislawski 1962), coming into being only when a regulating authority decides on the layout of streets and the allocation of house plots. Thus for the old inhabitants the new plan would have meant a termination of existing house plot demarcations or ownership. Houses would now have to be rebuilt on new plots (at Kalibangan) or house plots would have to be re-aligned (at Chanhudaro). Stanislawski points out that rectangular blocks of houses are inconvenient for house owners in terms of light and air. But a chessboard plan allows for the rapid building of a town, being easy to lay out with simple measuring instruments, and for easy extensions of the town in subsequent periods (Carter 1983: 121).

We therefore infer that the grid plan settlement involved compulsory settlement of people according to state ordered norms. That is, grid plans reflect the existence of state implanted settlements.

Corroborative data from various historical contexts support this interpretation. Gleave (1963) shows that in the early twentieth century many Yoruba people were encouraged to resettle in new locales by the British administration so that there may be better vehicular traffic, services, and administrative facilities [not to speak of political control]. The new towns had the same house types, crafts, markets and economy as did the old. But they differed from the old in that they were now laid on grid plans.

The seventh century B.C. Urartian provincial capital at Karmir Blur, with its Citadel and production and storage facilities, was laid on a grid plan. A building inscription of Rus II here states that the site of the town had previously been uninhabited (Piotrovsky 1969: 135-154, 177-178), and Piotrovsky suggests (*ibid.* 178) that 'the whole town was built in advance for occupation by people transferred here from other areas'.

We also have the evidence of Greek and Roman cities outside their

homelands. Greek grid-plan towns overseas were 'the product of expanding situations involving the creation of many new towns and the occupation and reallocation of their adjoining territories' (Ward-Perkins 1974: 25-26) within a cultural context in which the city was 'the natural political and social unit' (*ibid.*).

Greek colonial towns like Olbia on the Black Sea were laid on the grid plan as new towns. But the grid plans at Smyrna, Miletus, Priene, and Olynthos came only at rebuildings after destruction or relocations of the towns on more favourable sites. For example, Smyrna was rebuilt, around 680 B.C., on a grid plan, with parallel north-south streets and an open space for agora and temple, after it was destroyed by a fire. Ward-Perkins' study shows that in such cities the streets may or may not follow the alignment of the defence walls – e.g., at Miletus they do not, and this recalls the plan of Kalibangan. The grid plan of Olynthos incorporated broad avenues whereas at Miletus these were very few. At Olynthos individual house plots were of similar size, but not so at Priene. Few classical cities had street drains: those at Rhodes (408 B.C.) were perhaps the earliest. Classical planned towns were built either in regions where urbanization had long been developed, or where it was hitherto unknown and could be located at new sites, or, as in the case of Nimes, could incorporate existing settlements. And in the classical world we have at least one case, viz., Megara Hyblaea in Sicily in the seventh century B.C. (Ward-Perkins 1974: 23-24, figs. 34-35), where the blocks of the grid were trapezoid [as at Kalibangan] and not rectangular, perhaps because of the topography created by an earlier settlement on the site.

Nearer home, we can cite the case of Taxila. The Bhir mound settlement was not a planned one, but when the town was transferred to a new location for better defence and water facilities in the first century, Sirkap was laid on a clear chessboard plan (Marshall 1951). Similarly, at Charsada the unplanned Bala Hissar settlement was shifted to the site of Shaikhan in the first century B.C. where the grid plan is clearly evident (Wheeler 1962).

We may finally quote the case of Jaipur (Roy 1978), which in 1727 became the replacement of the older and smaller capital, Amber, and in due course was officially recognized as such by the Mughal emperor. Jaipur is the first grid plan city in northern India after Sirkap.

It may therefore be inferred that the grid plan layout reveals that a settlement has been implanted (perhaps by colonists) or is a relocated settlement, and that it is the result of controlled and coherent building activity. If some MH settlements were planned settlements, and if MH settlements are known in regions like Kutch or Makran where no earlier village communities are in evidence, and if the EI – MH transition involved little continuity of settlement, we can infer that the Harappan state

organized movements and resettlement of people on a substantial scale.

The construction of new settlements would have necessitated large supplies of building materials. The 'uniform size' of baked and unbaked bricks at MH sites is relevant in this context. With the possible exception of Gilund, in later protohistoric India brick size was not standardized, brick dimensions varying even within a single structure. In contrast, there is a general conformity of large brick size at the MH sites, and a conformity to the 4:2:1 in length:width:height. If individual house owners had been left to make their own building materials, there would have been variation in brick size and shape between houses, as we see in the Gangetic towns of the first millennium B.C. In the MH context we cannot explain the uniformity of size by any market mechanism which saw the mass production of bricks at one centre and their sale at several points over a region. Thus it is fairly clear that the uniformity of brick size reveals that large numbers of people were put to brick making as settlements were being built under state supervision. Moreover, the MH brick shape favours quick building, for the favoured practice was to use alternate courses of headers and stretchers (see Rao 1979: 75-77). Relocations of populations therefore appear to have been facilitated by amenities and labour organized by the state.

8

Infrastructure

If standardized brick form is a first pointer to the possibility of mass manufacture in conditions other than commercial production, we may now consider other kinds of artefacts to explore whether there is more evidence for the provision of basic facilities to the scattered MH settlements. The first example which comes to mind is the clay models of carts, or their solid wheels. These are reported from all excavated MH sites except Rakhi Garhi, Pandi Wahi, Sutkagen-dor, Manda, Pabumath, and Balakot. State systems depend for their efficacy on efficient systems of communication and goods transport. The MH area is large, and long distance transport would mostly have been by river, coastal sailing, or animal caravan. Nevertheless, for short distances ox carts would have been essential. Wheeled transport was known in the Kot Diji and Sothi/Siswal cultures, but in MH it appears that this infrastructural technology was dispersed over Sind, Kutch and Kathiawad.

We had earlier referred to the 'typical' MH long chert blade. Chert probably came from Rohri, the Nai Gaj debouchment, and southern Sind (the Tharro Hill area) (B. Allchin 1979; Krishna Deva and McCown 1949: 14). MH flaked-stone tools are not totally restricted to long chert blades: for example, flake tools were important at Amri and Allahdino. But long blades appear to be the predominant and ubiquitous flaked-stone tool form at MH sites.

In this case too we seem to have an infrastructural facility made available all over MH territory. We had referred to B. Allchin's argument for the increasing standardization of flaked-stone tools in the MH period, and their mass production. These tools did not have any esoteric function, but would

have been used for harvesting, for cutting substances softer than stone, for incising designs on steatite or shell objects, or, if given pointed ends, for piercing substances (Pant 1979; Kenoyer 1984c: 127 ff). From the studies of Lechevallier (1979) and Cleland (1986) we can tell that the importance of chert blades at MH sites is not simply a matter of the survival of an earlier technological tradition. There is no significant technological change between the EI and MH periods in stone tool production: long chert blades were not a MH innovation, and in both periods Kot Diji may have been a centre for the production of blades, judging from the low proportion of flakes to cores at the site. But microliths become scarce in the MH period, and there are other changes.

At Amri, for example, a wide range of flaked-stone tool types (arrow-heads, pointed blades, burins, etc.) in period I gives way to far fewer tool types in period III. At Balakot, similarly, there is a decline in the number of tool types in MH levels. And Cleland's study reveals that if we compare EI and MH stone tool assemblages we find that EI tool kits had greater functional variability. According to Cleland the functional change is due to the use of metal on a larger scale in the MH period. But in this context the point of interest is that this simple stone tool for basic everyday needs was used in Kathiawad, in Sind, as well as at Kalibangan, although in all these regions stone technology for cutting plants or other materials was not unknown.

There is also the question of MH pottery. A certain range of ceramic forms (tall and narrow jars with S-profile and rounded base; large pots with wide shoulders and disproportionately narrow, ringed base; shallow dishes with outcurved rims on tall stands; cylindrical perforated jars; and so on) recurs at most MH sites. Little comparative work has been done to verify the presence of different forms, or their frequencies, at various excavated sites. (We had made a cursory comparison between ceramic shapes at Lothal and Mohenjo-daro, in Chapter 4). We need to find out which particular forms are ubiquitous, and what their functions could have been. MH pots are thick, heavy, and exceptionally sturdy. What does this indicate about production processes? If, indeed, our impression is confirmed that MH sites show a marked uniformity of fabric and standard range of ceramic forms, this will raise the question as to why one general ceramic tradition became dominant over so large an area – what does this have to do with political processes? Is it that the emergence of a state organization saw the advent of specialization and a quantum leap in the scale of pottery production?

Chert blades can be struck off cores at a rapid rate and one person might produce dozens of blades in the course of a working day. And chert blades are easy to transport. So it could be argued that the wide spread of chert

blades at MH sites reveals not the hand of a state organization, but 'trade'. Pottery, however, cannot be produced at such a fast rate, although households may require almost as many pots (which are breakable) as stone blades in the course of a year. And pottery is bulky and fragile to transport. It is difficult to imagine that a few large centres specialized in supplying pottery to the entire Harappan region. And even if this were so, large-scale production and 'trade' would not explain why all centres should produce the same kind of pottery rather than adjust to the needs and preferences of their own consumers.*

Ceramic production probably took place at all MH settlements, so that, if the uniformity of ceramics is confirmed, we would have to suggest that a standard process of manufacture, with controls on clays and firing technology, was established, as also controls on the number of potters, and that producers had particular functions in mind when they made particular vessel forms. Thus pottery production may also have been a matter of state direction and organization. Significantly, we see at Mitathal II-A that the two kinds of pottery, Siswal and Harappan, in contemporary use, show different degrees of firing and were possibly not baked in the same kilns (Shaffer 1981: 70-71).

At MH sites where *shankh* shell bangles were made, Kenoyer (1983: 171 ff) finds a uniform manufacturing technique and evidence for the use of similar metal tools. Again, it is significant that at Balakot the standardized *shankh* bangle-making procedure was not replicated in the manufacture of bangles from local bivalve shells, *T. damaoides*. Metal tools were not used for cutting the latter kind of shell for bangles. And these have a restricted distribution (in Makran, at Lothal, and Allahdino) compared to the distribution of *shankh* bangles (Kenoyer 1983: 224 ff). One would therefore suggest that besides technological factors, it was the organization of production of the two kinds of bangles that was different. It was not as if metal saws were not available at Balakot, but it appears that they were not available for a local or regional industry. The reason cannot be found in a trade in metal, and I suggest that *shankh* bangle manufacture was under state direction, so that metal tools were made available for this industry at Balakot, but not for the manufacture of other bangles.

So let us now consider the question of metal and metal tools. At MH sites the range of copper/bronze tools is limited, and the forms are elementary in comparison with contemporary Mesopotamia. Tools are more common than weapons, and while there are tools of everyday use such as fish hooks or razors, there are also craft-work tools such as various kinds of knives and

* For a similar argument that not all resource flows can be labelled "trade", see Chang (1975) on Shang China.

chisels. To confirm the impression that various Harappan communities had access to a fairly limited and standardized metal tool kit, we can make a comparison of copper/bronze tool types at different excavated sites.

Lothal and Chanhudaro were settlements of similar size and both had a range of craft production activities. If we compare the copper/bronze artefacts at the two sites we see a general similarity in the flat axes of various shapes, in the shapes of blades variously called 'spearheads', 'lanceheads', or 'daggerheads', and in the forms of arrowheads, chisels, drills, rods, hooks, bangles, rings, beads, mirrors, and carinated jars (although more metal vessel forms occur at Chanhudaro than at Lothal). The double-blade razor and the long, narrow knife with curved tip, so common in MH assemblages, however, do not occur at Lothal. To what extent, then, are the metal tool forms at the two sites comparable? To what extent do they have unique tool forms, forms not seen at Mohenjodaro or Harappa either?

Artefacts from Lothal which do not have counterparts at the other three sites are :

1. the flat, fragmentary 'anthropomorph' (Rao 1985: fig. 107.3);
2. a small chisel (*ibid* 532, fig. 112.1) with twisted grooves down its length;
3. rods round in section with 4 longitudinal grooves for drawing wire (*ibid* fig. 113.5);
4. a cast bangle with scalloped outer edge (*ibid* fig. 115.3);
5. a large L-shaped hook, rectangular in section (*ibid* fig. 114.8).

Concerning grooved rods, we notice that at Chanhudaro a 'chisel' (Mackay 1943: pl. LXVII.10), rectangular on plan with a tapering section, much shorter than the Lothal rods, has grooves down the centre of two sides.

Rao (1985) calls a 5 cm long flat blade, tapering in the section and with a concave dip on both sides (fig. 112.5), a 'plainer-bit' [sic]. No parallel seems to occur at Chanhudaro, but a blade of similar shape and size, even if without a sharply tapering section, comes from Mohenjodaro, where it is called a 'short axe blade' (Mackay 1938: 456, pl. CXVII.2). A Lothal hook (Rao 1985: fig. 114.10) resembles a thin wire bent into an L shape at Harappa, where it is called a 'scraper' (Vats 1941: 389, pl. CXXV.58). The copper/bronze mirror and chain links at Lothal have no parallel at Chanhudaro, neither do the animal figurines (at Chanhudaro there is only a dove figurine in metal), but these occur at Mohenjodaro. And a thin L-shaped fragment with 3 teeth along its inner edge from Lothal (Rao 1985: fig. 114.11), alternately called a 'hook' (*ibid* 546) and a 'saw' (*ibid* 533), may have a counterpart at Mohenjodaro (Mackay 1938: pl. CXXI.26), where the fragment, however, has no teeth and is called a 'razor'.

So we can conclude that copper/bronze artefact types unique to Lothal are one bangle form and not more than four tool forms, and that the double blade razor and narrow knife with a curved end are conspicuous by their absence at the site.

Copper/bronze 'drills', hollow, cylindrical and with protruding points, plus solid pieces with rounded flange above the point, occur at both Lothal and Chanhudaro, but to my knowledge not at either Harappa or Mohenjodaro, where chert micro-drills are common. [At Mohenjodaro (Mackay 1938: pl. CXXXII.10, CXXI.6) copper/bronze 'drills' are either a thin solid rod with pointed end or a tool with similar working end but a thicker and faceted top portion. At Chanhudaro (Mackay 1943: pl. LXXII.6-15) these are called 'awls'.]

If we turn to distinctive copper/bronze artefacts at Chanhudaro, we have –

1. a unique shovel (Mackay 1943: pl. LXXIV. 13);
2. an arrow with a long central tang (*ibid* pl. LXXIII.13) which, however, may come from the Jhukar occupation of the site (*ibid*. 184);
3. a container with concave sides and sharp carination near the base (*ibid* pl. LXXIII.38); and
4. crescent-and U-shaped blades (*ibid*. pl. LXXIII. 31,32).

A fluted cosmetic jar is unique in its beaded rim and shoulder, and fluting (*ibid* pl. LXXIII. 39), but the general shape does occur at Mohenjodaro (Marshall 1931: pl. CXL. 16). The Chanhudaro canister (Mackay 1943: LXXIII.37) with wire loop handles has a general similarity with one vessel from Mohenjodaro (Mackay 1938: pl. CXVI.3) which, however, has a flat base and no wire loops.

So at Chanhudaro we find only 3 unique tool forms, and perhaps a couple of unique metal container forms.

In terms of 'infrastructure', then, we can state with some confidence that metal technology and craft technology dependent on metal tools were markedly similar in the four MH centres, large and small, and that Harappan production, where it utilized metal, was dependent on a standardized copper/bronze tool kit.

We may extend the comparison between the material from the four sites to cover general artefact types for everyday use, as presented in Table 4.

A few points of interest arise from this comparison. There is great diversity in the types of spindle whorls used at the four Harappan settlements. These tools do not occur in clusters at any of the four sites. If they were used by individual households to produce their own textile requirements, such diversity is to be expected. Footed querns occur only at Harappa; did they have the same function as saddle querns? Chert drills occur only at Harappa and Mohenjodaro, and flanged and hollow metal

**Table 4 : The occurrence of certain artefact – types
at four excavated sites**

	Mohenjo- daro	Harappa	Chanhу- daro	Lothal
brick shape 4:2:1	•	•	•	•
common brick size 28 × 12 × 7 cm. (approx.)	•	•	•	•
use of baked and unbaked bricks	•	•	•	•
groups of buildings raised on platforms	•	•	•	•
use of mud mortar	•	•	•	•
party walls of adjacent houses	•	OCC	?	OCC
TC cakes as paving, near heat installations	•	•	•	•
copper/bronze fish hook with barb and looped top	•	•	•	•
net sinker	• (stone)	?	• (TC)	• (TC)
quern : saddle footed	•	•	•	•
chert cores (fluted)	•	•	•	•
long chert blade (retouch & end shape vary)	•	•	•	•
chert drill	•	•		
copper/bronze drill (hollow)			•	•
long, polished chert burnisher, pointed ends (goldsmith's tool ?)	•	•		
chert arrowhead, leaf shaped		•		
copper/bronze swallow-tail arrowhead	•	•	•	•
asymmetric flake tools	•	•		
clay cart and wheel models	•	•	•	•
scored goblets	• •	• •	OCC	OCC
spindle whorl with domed top, grooved edge	•	•		
faience and shell spindle whorls	•	•		
bobbin, round with flat ends & narrowing centre	•	•	•	
copper/bronze needle or reamer, plain round section	•	•	•	
copper/bronze awl or netting needle, facetted shaft	•		•	
bone point or awl	•	•	•	•
plumb bob: lead, spherical stone, grooved and round clay, carrot shape	•			•
weights of one metrical system	•	•	•	•
copper/bronze double blade razor	•	•	•	
ground stone axe		•		
axe-like chipped flint or chert object	•	•		

•• : plentiful

OCC : rare

drills only at Chanhudaro and Lothal; perhaps they were functionally identical, but the absence of the metal drills at the large cities requires explanation. Of the four sites, only Harappa produced flaked-stone arrowheads, but all four have the standard metal swallow-tail arrowhead.

Scored goblets occur in large clusters and huge quantities at Harappa and Mohenjodaro, and are probably relatively late in the MH period. Some clusters were found near wells, and because of the general resemblance to the modern *kullad*, the rough workmanship, and poor firing, have been interpreted as drinking vessels. But many clusters occur away from wells, e.g. a cluster of about 200 goblets occurred on the eastern portion of Mound F at Harappa (the area with the storage facility, standard residential facilities, and working platforms) in the context of a 25 cm thick deposit of earth sealing a rectangular sink, and containing, besides the sherds of the goblets, animal bones, brick bats, and grain (Vats 1940: 133 ff). Since the scored goblet is the only MH ceramic form to bear seal impressions (at Harappa several goblets were impressed with the same seal), one cannot believe that it was made only for drinking, thereafter to be discarded. It needs to be explored whether these seemingly mass produced vessels were of standard capacity, and if so whether they could have been used in some state distribution process. Only then can we ask why this ceramic form is practically absent at Lothal and Chanhudaro.

Considering that metal axes at MH sites are rudimentary, flat blades without strengthening midribs or sockets for handles, it is strange that ground stone axes occur only at Harappa, of our four sites. What tools did the Harappans use for land clearance?

We have been able to compare artefactual material across only those sites where substantial areas were trenched, and for which excavation reports are available. Moreover, we have only made a comparison on the basis of presence or absence of chosen traits. Quantified data are not available to enable us to calculate, for example, that at Mohenjodaro metal awls form x per cent of the total number of awls (metal plus bone), but at Lothal only y per cent. Thus the comparison we have made is liable to give an exaggerated picture of homogeneity. To offset the possibly misleading impression, then, we will compare the occurrences at the same four sites of artefacts in gold, silver, and faience, materials which either came from long distances, or were produced only through the application of intensive labour and special skill, that is, materials which we can assume to have been valuable. Table 5 shows that even a presence/absence comparison gives marked differences between the sites. If at Mohenjodaro we can count about 19 kinds of faience artefacts, at Lothal there are only about 6. While gold, except for scraps of foil, is absent at Chanhudaro, it does occur in the form of several ornaments at Lothal. But silver is entirely absent at both

Table 5a : The occurrence of artefact-types in valuable materials at four excavated sites

Gold	Mohenjo-daro	Harappa	Chanhudaro	Lothal
bead cap	•			•
small bead	•	•		•
flat bead with axial tube	•			•
facetted bead	•	•		?
spacer	•			•
terminal, triangular or D-shaped	•	•		•
cylindrical pendant or ear drop	•			•
conical hair ornament	•	•		•
nose-stud	•			
bangle	•	•		
netting needle*	•			
wire for pendants	•			
V-shaped fillet	•			
pendant with repoussé work and hooks		•		
brooch with gold work		•		
finger ring		•		•
inlay piece			•	?
foil	•	•	OCC	•
Silver				
vase or jar	•	•		
small bead	•	•		
bar, lump, scrap, foil	•			
earring of silver wire	•			
ring with bezel		•		
bangle	•	•		
cone	•			
fillet (?)	•			
button with domed top	•			
seal	•			
boss inlaid with shell ('temple ornament')		•		

sites. We must acknowledge that many of the Mohenjo-daro gold and silver objects came from secreted hoards, and that no hoards were found at the two smaller sites, except for bronze workers' caches at Chanhudaro. Yet it may not be an accident of discovery that fine workmanship in complex gold

* Was this in fact an ornament? In the *Mahājanaka Jātaka* (Cowell 1897: no. 539), the hero has to demonstrate his ability to be king by meeting several challenges, one being to "find the head of a square bed". The wily hero 'took out a gold needle from his head and gave it to [the princess] saying, "Put this in its place". She took it and put it at the head of the bed'. This is how Mahājanaka found the head of the bed.

Table 5b : The occurrence of artefact-types in valuable materials at four excavated sites

Palence	Mohenjo-daro	Harappa	Chanhudaro	Lothal
cosmetic container	•	•	•	•
message sealing	•	•	?	
inlay piece	•	•		
box cover	•			
spindle whorl	•	•		
gamesman	•	•	•	
animal figurine	•	•	•	
human figurine	•			
ball or marble	•	•		•
bangle	•	•	•	•
cog-wheel nose (?) ornament	•	•		
conical hair ornament	•	•		•
segmented bead	•	•	•	•
spacer	•	•		
terminal	•	•	•	
bead (shape varies)	•	•	•	
hair pin	•			
button	•	•	•	
finger ring	•			
brooch			•	

ornaments is exclusive to the two large cities, and that silver is used not only for small personal ornaments but also for vessels and a seal at Mohenjo-daro, and is nevertheless totally absent at Lothal and Chanhudaro – and for that matter at Banawali (personal communication, R.S. Bisht) and a long list of other MH sites.

What emerges is that, if the MH sites have strong similarities in objects of everyday use, this is not the case with wealth or prestige goods. We do not seem to have a system of semi-autonomous polities, loosely connected by 'trade', or political alliance and honorific exchanges between the upper echelons of these polities.

We find strong similarities across MH sites in artefacts of everyday use such as building materials, chert tools, or metal knives; in crafts such as *shankh* shell bangle or stone bead or steatite micro-bead making; but this standardization does not extend to spinning and weaving, or to making bangles from local bivalve shells at Balakot, or to making pottery in the indigenous style at Mitathal. It is therefore inferred that we are dealing with a political system in which the administration actively organized or

controlled the founding of new settlements, transportation, and certain (but not all) spheres of craft production, if not subsistence production.

9 *Citadels*

Portions of certain MH sites have traditionally been named 'Citadels'. By dictionary definition a citadel is a fortress or castle near a city, intended to keep the inhabitants in subjection, or to provide a final point of defence. We will not at the outset assume that MH Citadels had military functions, but use this term simply for convenience.

At fifteen sites the built-up area is divided into two distinct sections. These sites are : Mohenjo-daro, Harappa, Ganweriwala, Banawali, Kalibangan, Mitathal, Rakhi Garhi, Balakot, Sotka-koh, Sutkagen-dor, Desalpur, Kotara Juni Karan, Dholavira, Surkotada, and Lothal. [Kot Diji (Khan 1965: 15, fig.3) has two mounds but I am not convinced that one was a Citadel.]

Few features are common to all the excavated sites in this list. Generally, a smaller part of the habitation is built on artificially raised ground, or on occupation debris, to the west of the settlement. Thus at Mohenjo-daro and Harappa the Citadel is a parallelogram whose buildings are laid on mud or mud-brick platforms, 6 m and 10 m high, respectively. At Mohenjo-daro the Citadel lies on the west but at Harappa, Mound AB is not isolated to the west of the city – instead, Mound F, carrying the storage facility, furnaces, working platforms and 'barracks', lies to the north of the Citadel AB, with Mound D to the south. Mound D adjoins the lower city so that there is an L-shaped configuration of the two. The Mohenjo-daro Citadel is just over 8 ha in size, and that at Harappa almost 11 ha.

Not all Citadels were built on deliberately raised elevations. At Kalibangan, the Citadel was built over 1.6 m of Sothi/Siswal habitation remains, and therefore was on higher ground than the lower city which was

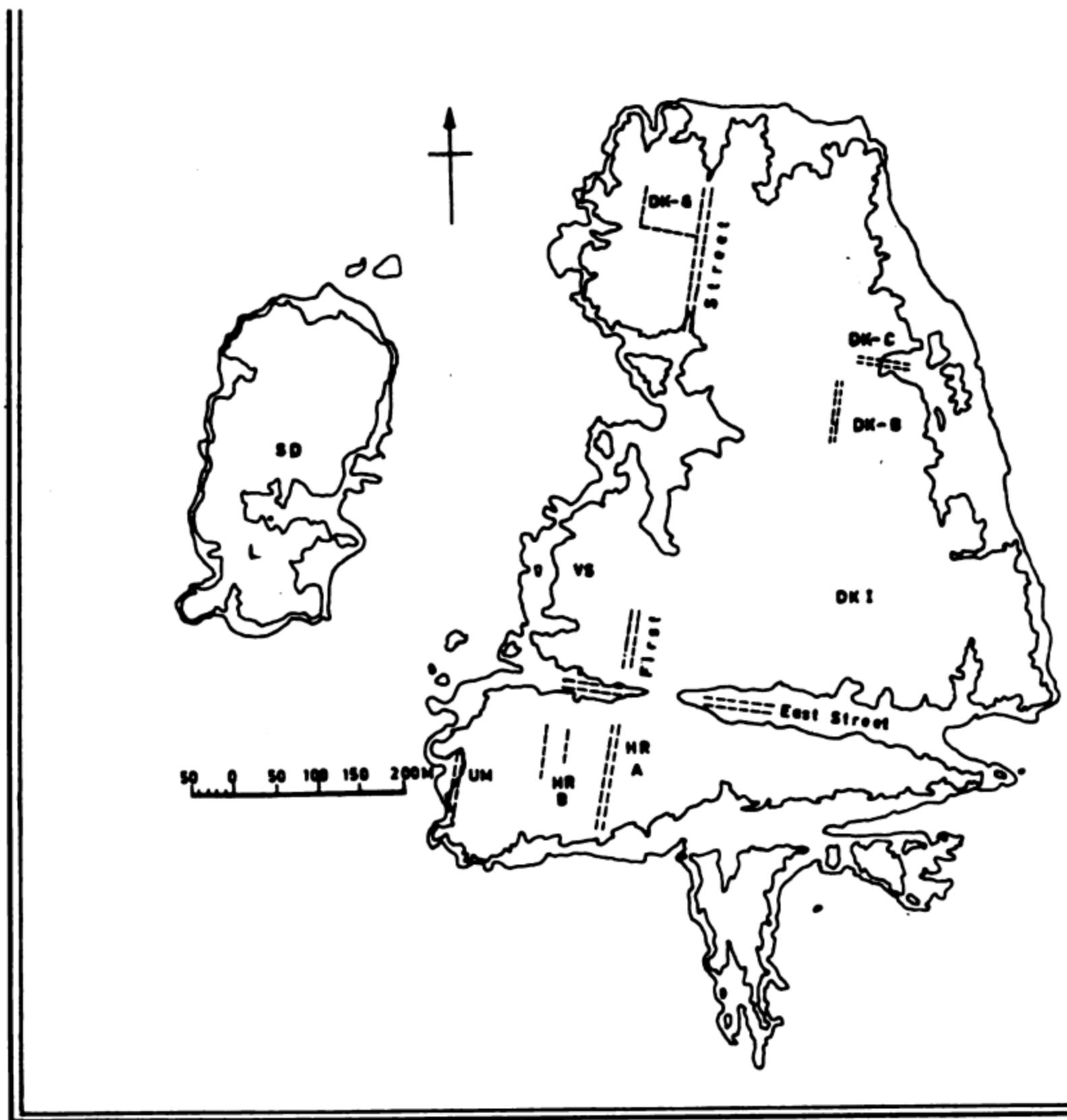


Fig. 14 : Mohenjo-daro mounds and excavated streets.

built on natural soil. In the southern part of the Kalibangan Citadel, separate platforms were built to take ritual structures, but in the northern part, where residences were located, there were no platforms (Lal 1984: 59).

At Sutkagen-dor a 2.5 m high platform was built against the Citadel perimeter wall (Dales 1962b: 4), and at Lothal the Citadel buildings were raised on a platform more than 4 m high (Rao 1979: 29, 53), and built in turn over the habitation debris of phase I (*ibid.* 59). At Surkotada the level of the Citadel was raised by 1 to 1.5 m whereas that of the lower town was raised by only 0.5 m (Joshi 1979: 59). A 3 m high mud-brick platform was noticed in the Desalpur Citadel (IAR 1963-64: 11) but its function is not clear. Mud-brick platforms at regular intervals are also known at Rakhi Garhi 1 (Suraj Bhan 1975: 96). And the Citadel mound at Dholavira is 16 m high

(IAR 1984-85: 14-17). But at Banawali and Mitathal the Citadel sections, as at Kalibangan, were relatively high only because they were built on the occupation debris of earlier times.

As at Mohenjo-daro and Harappa, so also at Kalibangan, Rakhi Garhi, Balakot, Sutkagen-dor, and Surkotada, the Citadel lies on the west. But at Banawali the Citadel section is found in the southwest part of the mound, at Mitathal it lies to the east, at Lothal it is to the southeast, and at Dholavira to the east or southeast.

At five of our sites, the Citadel area is separate from the rest of the habitation. At Mohenjo-daro the Citadel and lower city are separated by a space of about 150 m, possibly covered by the flow of a water channel. At Kalibangan 40 m separate the Citadel from the residential town, at Mitathal

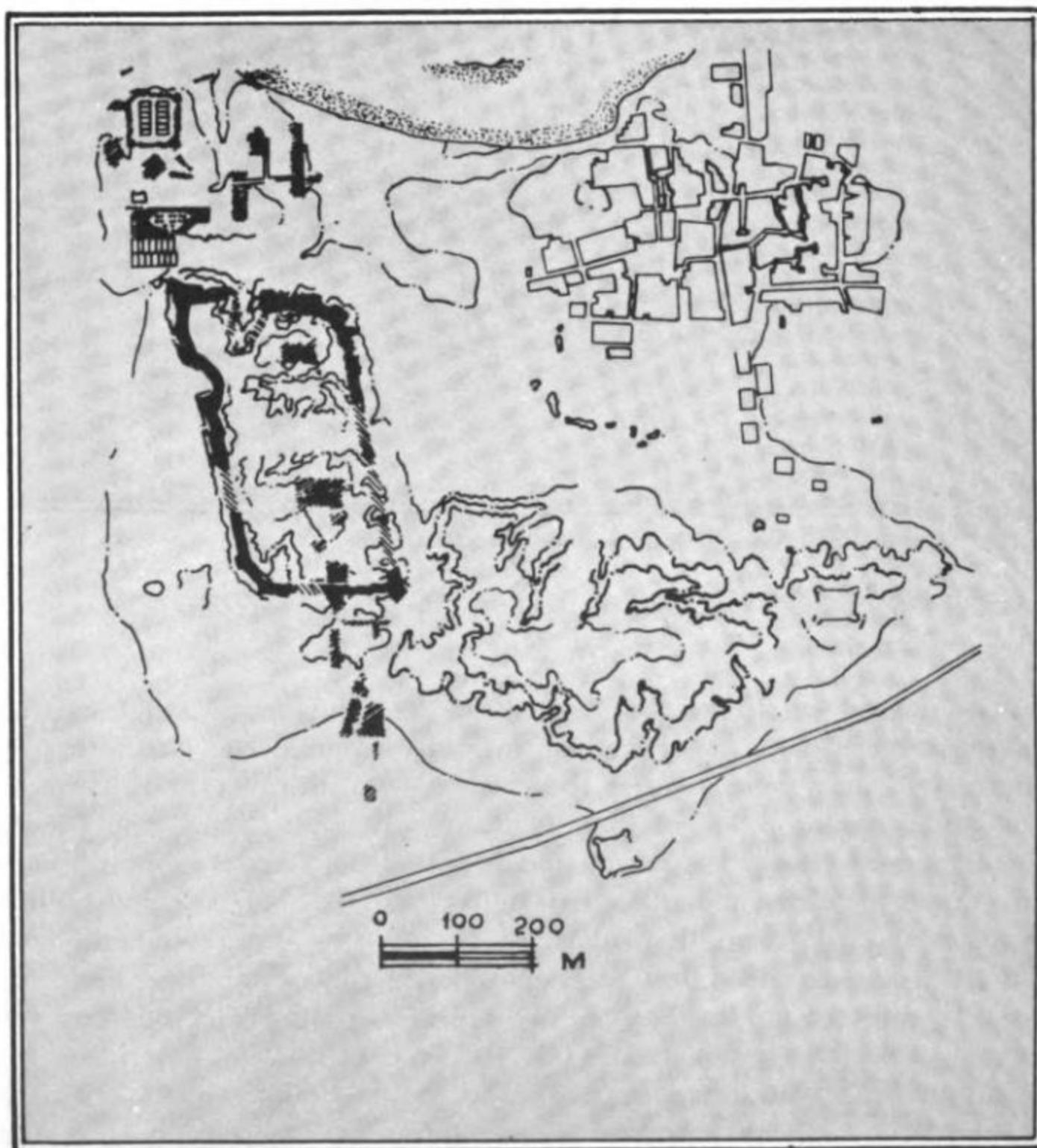


Fig. 15 : Location of Citadel at Harappa.

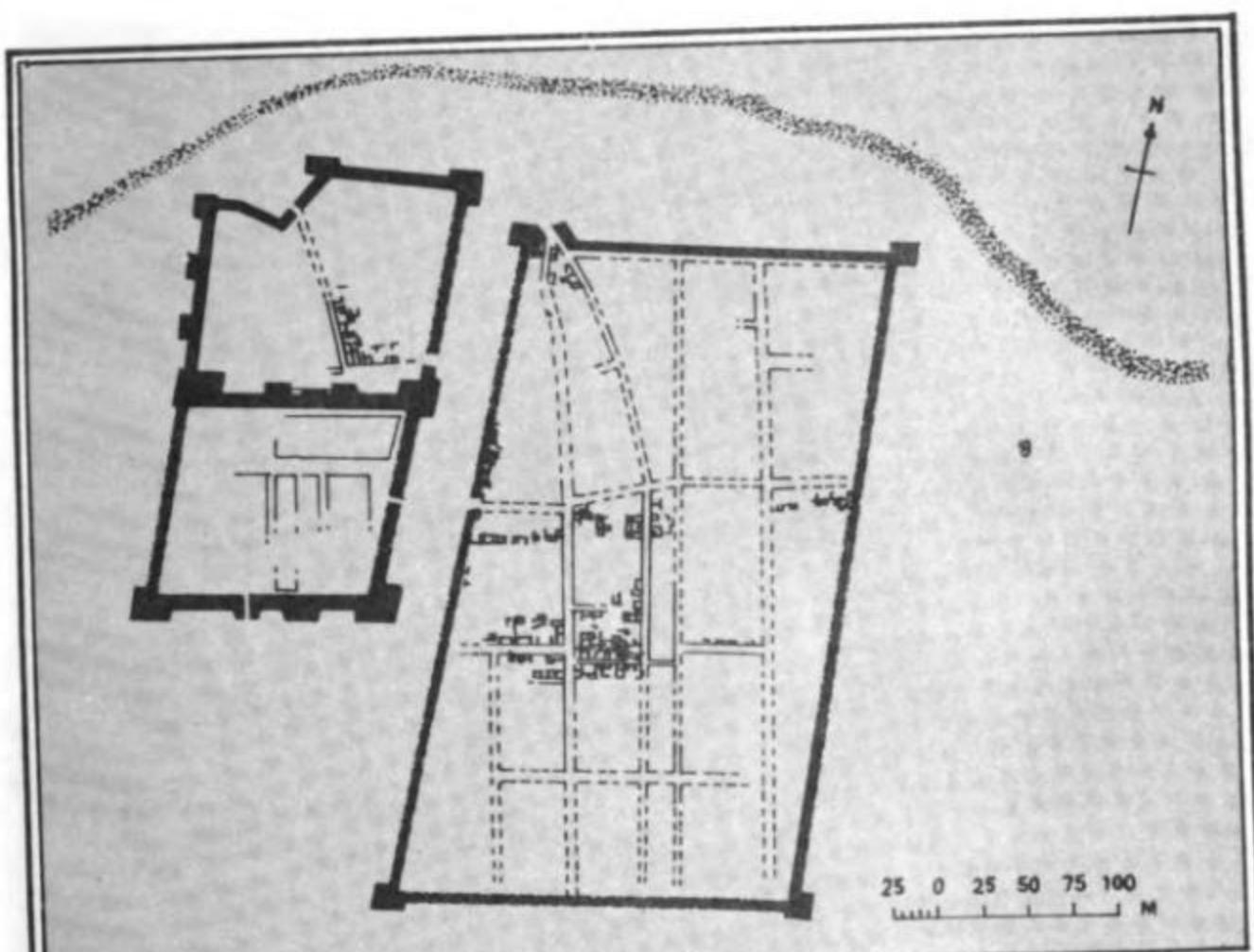


Fig. 16 : Kalibangan – Citadel and Lower town.

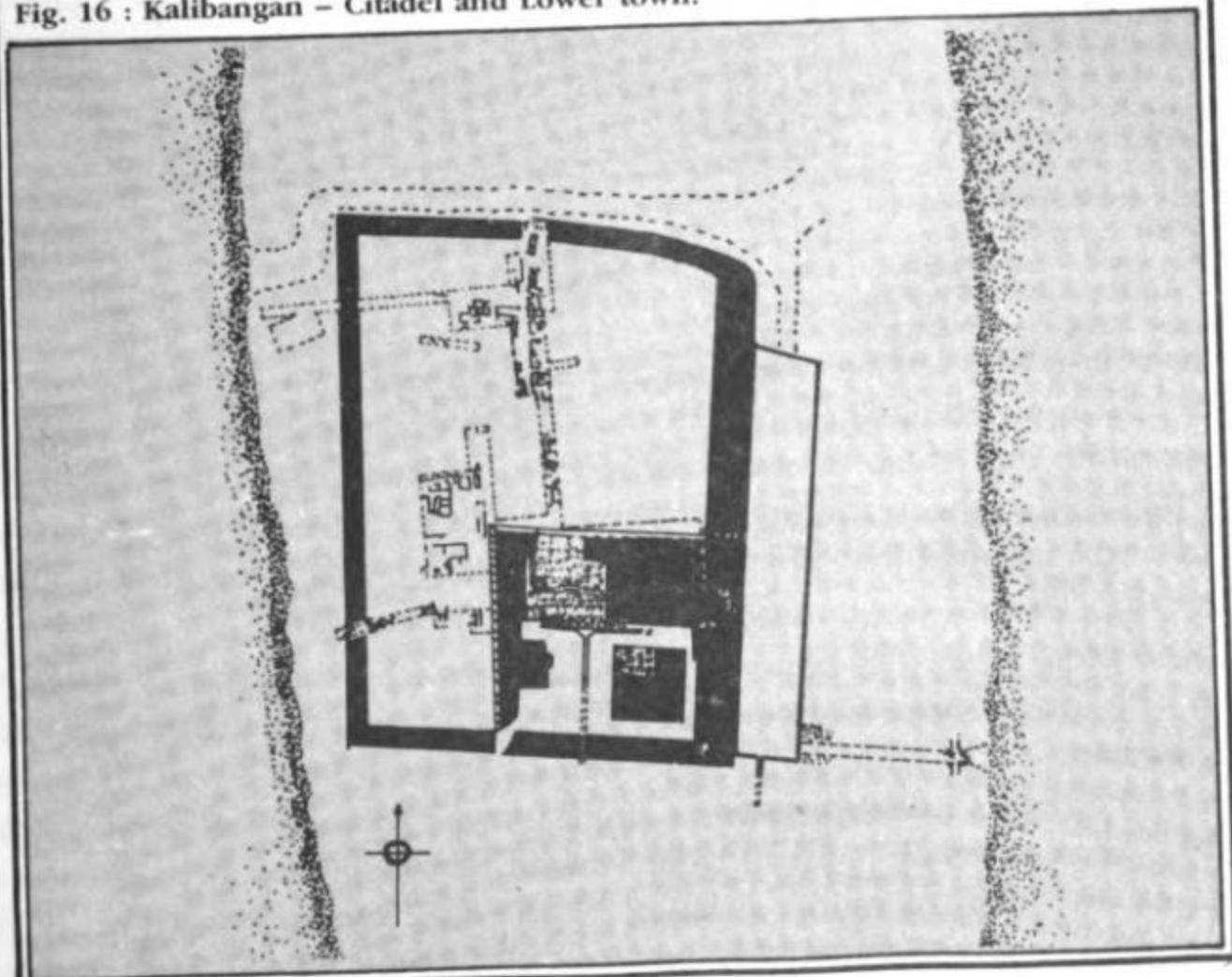


Fig. 17 : Lothal – "Acropolis" area.

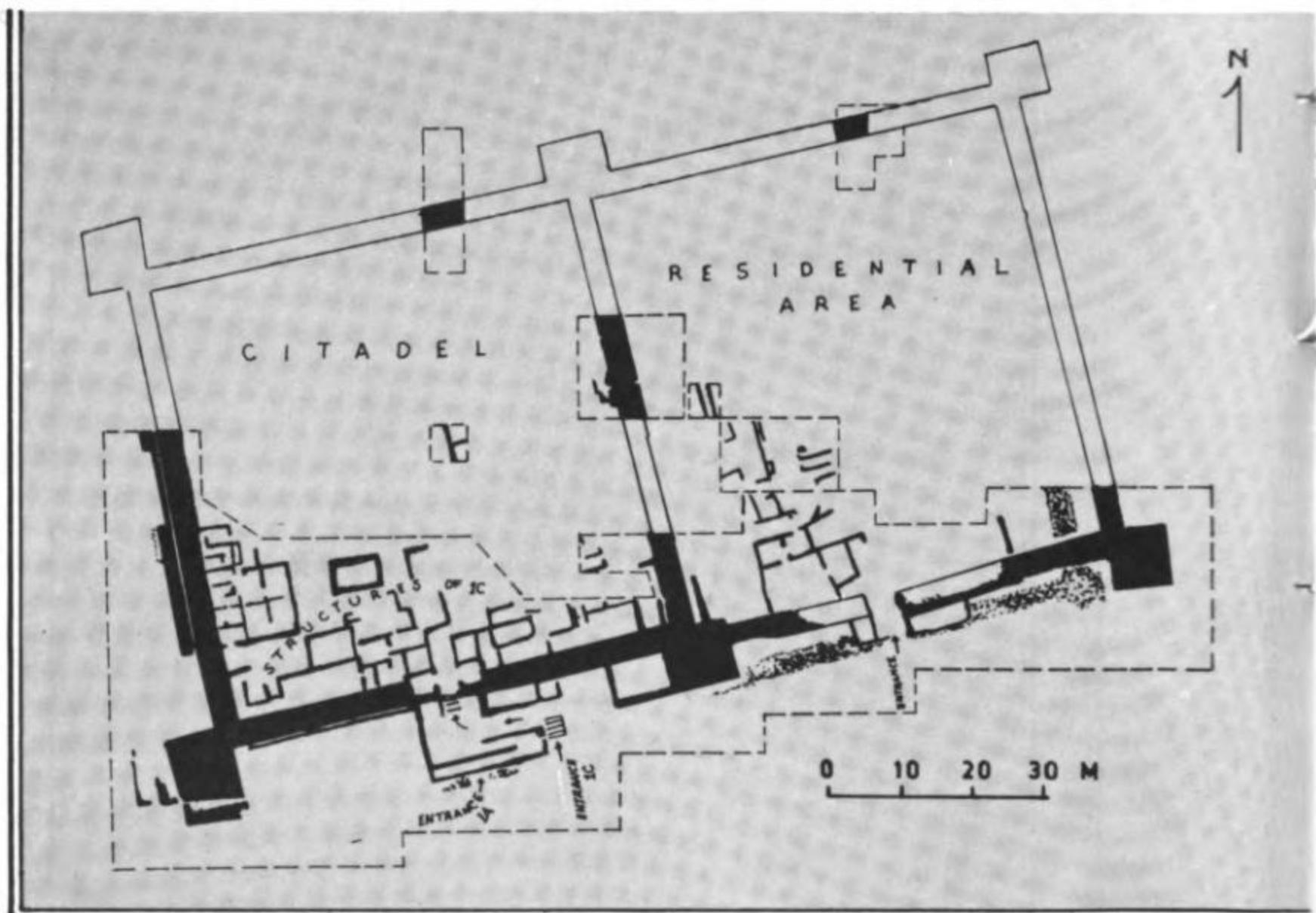


Fig. 18 : Surkotada.

20 m, and a distance between Citadel and lower town is also reported at Rakhi Garhi. At Dholavira much of the area has been put to the plough, but it is possible that a gap of about 50 m existed. But Citadels are contiguous with the rest of the settlement at Harappa (where the southeast corner of mound AB adjoins the north-western periphery of Mound E), and at Banawali, Sutkagen-dor, Surkotada, Desalpur, and Lothal.

At the same time, it is important to note that where no spatial separation exists, the Citadel area is always walled in. At Harappa the Citadel perimeter wall is about 12 m wide at its base, and faced with baked brick (Wheeler 1947). The high Citadel portion of the Banawali mound was enclosed by a 5.4 to 7 m wide wall. A formidable wall of stone slabs, 9 m wide at base, encloses the Sutkagen-dor Citadel, with two massive towers in the southwest corner (Stein 1931: 60-71; Dales 1962 a). At Surkotada the Citadel wall of mud-brick with stone rubble veneer in phase IA was rebuilt

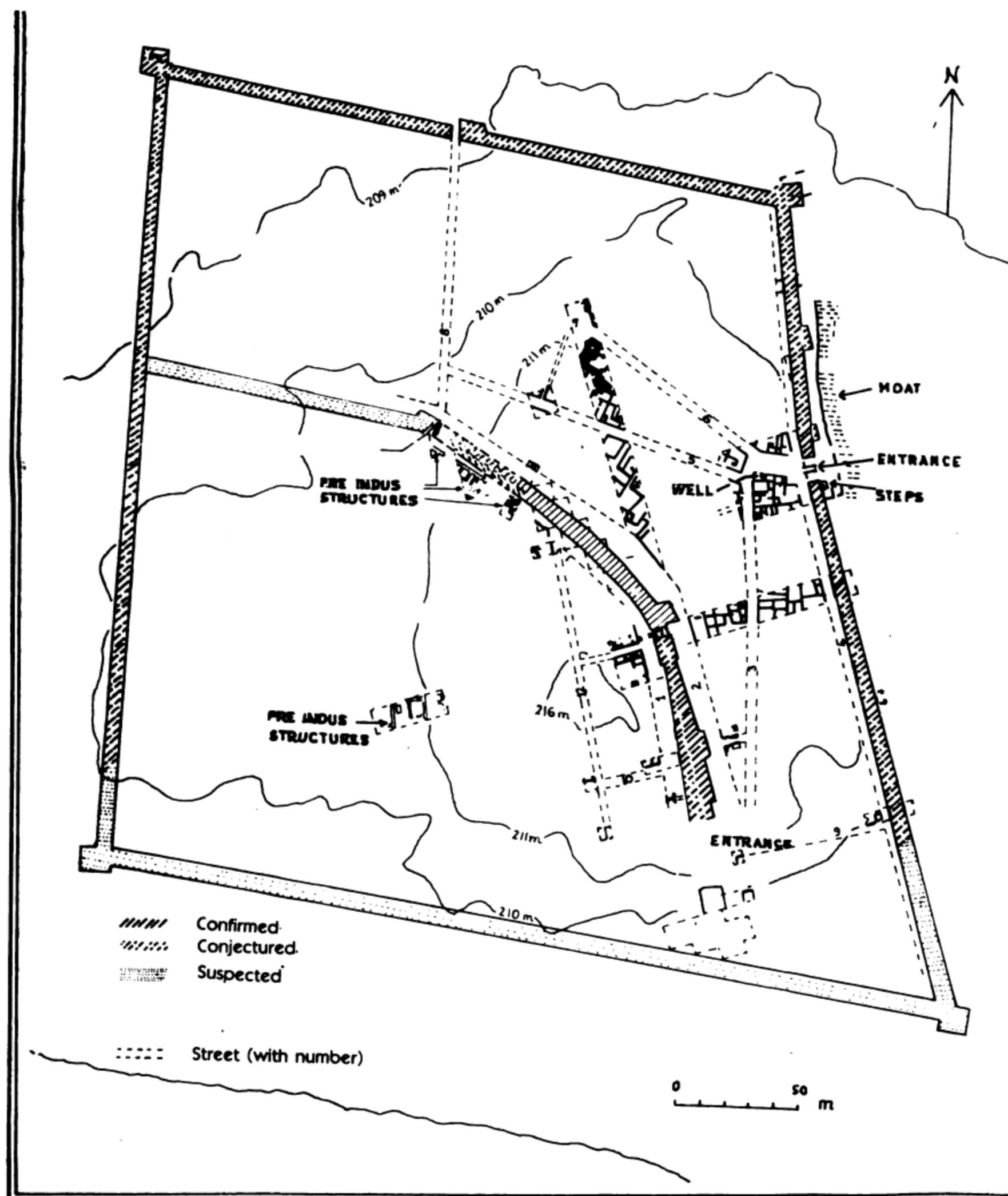


Fig. 19 : Banawali.

in phase IC with large dressed stone slabs and carried two rectangular bastions, 10 × 10 m, as well as an elaborate gateway complex projecting 10 m south (Joshi 1973, 1979). A 4 m wide stone and rubble wall, with two rectangular bastions in the east, encloses the Desalpur Citadel (IAR 1963-64: 10-12).

At Lothal the trapezoid 'Acropolis' area shares portions of the settlement enclosure wall on its south and east, the eastern wall functioning as a 'wharf for the adjacent dock basin' (Rao 1979: 86). The site plan does not indicate clearly that walls separate the acropolis from the rest of the settlement to the west and north, but the two major sections (*ibid* pls. X, XIX) reveal a brick wall along the west of the Citadel, with a platform and revetment abutting it on the west (area D); and similarly, a mud-brick wall with revetment stood along the northern edge of block B.

At some sites the spatially separate Citadel area also was walled in. In the southeast corner of the Mohenjo-daro Citadel solid baked brick towers flanked an entrance passage, but were later rebuilt further apart and connected by a parapet. This chest-high parapet was approached by a flight of steps, and in its vicinity were found about a hundred clay missiles in two size ranges. Here we have unmistakable evidence for a watchpost. The Kalibangan Citadel was 3 to 7 m wide and had corner towers and salients. Surface indications point to a stone wall enclosing the Dholavira Citadel. For Mitathal, however, no Citadel walls are reported or discernible in the sections of the trenches cutting the eastern slope of the Citadel mound. On the other hand, the steep contours of the Rakhi Garhi Mound 1 make walls possible (see Suraj Bhan 1975: 96).

Dales (1981: 28) suggests the possibility that the Balakot 'high mound' was surrounded by a 1 m wide wall with a possible square tower on its eastern edge. Rubble walls enclosing the Citadel are visible on the surface at Kotara Juni Karan (Joshi 1972a: 27), and at Sotka-koh a large stone wall runs for 500 m along the eastern edge of the settlement (Dales 1962b: 10), but this may have been a wall encircling the entire settlement.

In short, at only two of the fifteen sites, Mitathal and Sotka-koh, do we lack evidence for a Citadel enclosed by a wall. (There is no information on Ganweriwala.)

The question of the function of the Citadel walls arises. Kesarwani (1984) argues that all these enclosures cannot be assumed to have had military functions. He points out that the entrance passage in the north wall of the Harappa Citadel is wide and has no flanking guardrooms (and we may add that the storage structure at Harappa lies beyond the walls). Kesarwani

suggests that the Kalibangan enclosure wall has a similar provision for unrestricted access. Also, Rao (1979: 85-87) rules out any defence function for the Lothal Acropolis wall which was not provided with towers or guardrooms or elaborate gateways.

But we have noted the clearly military character of the Mohenjo-daro tower system, and rectangular towers along the Harappa Citadel wall (Wheeler 1947: 65) surely also point to a defence function. At Banawali the curving eastern Citadel wall which separated the high area from the rest of the town had two rectangular bastions and a gateway only 1.5 m wide (Bisht 1984: 91) (as compared with the 5m wide north entrance of the Kalibangan Citadel and the 2.5 m wide north entrance of the Harappa Citadel).

Kesarwani admits that the elaborate south gateway at Surkotada shows provision for very closely guarded entry. Here entry was gained by a short flight of steps, a right-angled turn, the mounting of a ramp, at the top of which another right-angled turn gave access to a second flight of steps and a 1.7 m wide entrance way flanked by two guard-rooms. Also, Kesarwani acknowledges the elaborate fortification of the Sutkagen-dor Citadel where the 2 m wide south entrance was flanked by massive stone towers and the entrance passage ran for about 12 m between the towers (Dales 1962b: 4).

The Harappans surely had defence in mind when they provided such massive walls for the Citadels. Flood protection was not necessary at Dholavira: the topographical map of Khadir Island shows scores of minor rivulet channels running from the north edge of the island to the southwest, south, or southeast, but there is no major channel, and the site is located well inland from the marshy southern and western shores of the island. Near Surkotada the remains of a substantial channel are to be found, but not so close as to indicate that floods could have endangered the settlement. Lal (1984) argued that the Kalibangan Citadel had ritual or ceremonial functions; yet a symbolic enclosure wall would surely not need a width of 12 m, as at Harappa. Concerning the wide entrances, we could argue that in times of trouble even long and wide entrance ways could have been sealed and guarded. Guard posts could have been located at a height against a periphery wall, as at Mohenjo-daro, rather than at ground level. Moreover, ritual or symbolic enclosures do not require adjacent towers such as we see at Harappa, Mohenjo-daro, Kalibangan, Banawali, Sutkagen-dor, and Surkotada.

We should not forget that it was not the Citadel alone which was walled in, but the lower town also, at sites such as Kalibangan, Banawali, and Lothal. The peripheral town wall at Banawali had rectangular bastions, an elaborate towered gateway in the east, and a surrounding moat (IAR 1983-84: 24-29). There are also MH settlements like Ali Murad and Balu,

which have no Citadels but are surrounded by walls. At Balu the perimeter wall has been exposed to a height of nine courses, and is perhaps 13 m wide; along its inner margin it is flanked by a narrow lane. Walls, then, could not have been only a mechanism for social separation, or only symbolic enclosures.

If we are correct in arguing that defence was one of the functions of the MH Citadels, then the location of Citadel sites should reveal some kind of pattern or logic on the map. Do Citadels occur at the largest sites, which could have been the centres of political control and wealth? Are they located near mountain passes, or on important river crossings, or at frontiers where potentially hostile neighbours are in evidence?

In the first place there is no correlation between settlement size and the occurrence of Citadels. Citadels mark sites of 125 ha as well as 2 ha. We cannot even argue that all the largest sites had Citadels, for there is none at Rangpur or at Judeirjo-daro. Of course, the size of a site is not an automatic indicator of its political importance. In the centralized Ur III state of Sumer, towards the end of the third millennium B.C., Ur, the capital, was spread over only 50 ha whereas the provincial capitals Nippur and Adab were about 100 ha towns (see Adams 1981: 142-145, table 14, 329-330; Steinkeller 1987: 22-24). But Citadels at sites of 2 ha and less, e.g., at Surkotada and Desalpur, are surprising. These sites however are not exactly comparable to Kalibangan or Lothal, in the sense that the adjunct to the Citadel area is exceptionally small. Soundararajan (1984) interprets the Kutch sites as special-purpose stations, administrative, trade, or military outposts.

Map I shows that Citadels do not occur at the centres of clusters of MH sites, which prevents us from suggesting that they were regional headquarters administering several communities. Rather, the Citadel sites are 'bunched' in Kutch, Makran and the upper Sutlej-Jumna divide. Not all points of presumably strategic significance have Citadels. Thus, among the chain of sites below various Kirthar passes (discussed in chapter 4) Ali Murad has stone fortifications but lacks a Citadel, as do the other sites. (However, de Cardi (1983: 35-36) suggests that the high central portion of the Pathani Damb I Mound may have been the Citadel.) Again, MH sites around the navigation head of the Sutlej lack Citadels.

We thus abandon the attempt to correlate Citadel location with points of strategic location, or to interpret Citadel sites in terms of Roman *limes*, and attempt a different approach.

In terms of the sheer number of sites, the greater Indus valley emerges as the central region of the MH cultural area. But it is not easy to define the central Harappan region precisely, except along its western hill borders. Instead an attempt can be made to define the regions around the three largest MH sites in the greater Indus valley, Harappa, Ganweriwala, and Mohenjo-daro. The 'regions' of these three largest sites could not be defined by environmental features such as hill ranges or strips of desert. Their surrounding regions do not present marked geographic contrasts either. Nor could their regions be drawn up on the basis of the location of smaller sites in their vicinity, for we expect far fewer MH mounds to have escaped destruction from natural agencies in Sind than in the Hakra valley.

Therefore the 'region' of each of the largest sites has been drawn on the 'mean distance to the farthest neighbour' principle. On Map I the distance between Ganweriwala and its furthest neighbour in the top tier, Mohenjo-daro, is halved, and this forms the radius of a circle drawn around Ganweriwala. A circle of the same size is drawn around Mohenjo-daro. The distance between Harappa and its top-tier neighbour, Ganweriwala, is also halved and forms the radius of a circle drawn around Harappa. The two points where the Ganweriwala and Harappa circles intersect are connected with a line to avoid ambiguity. The resulting three large circles on map I will be taken to represent the central Harappan region. [It may be questioned whether distance as the crow flies, represented in the three circles, has any correlation with distance along land and river routes. In this region the main obstacles to access from one large centre to the other would have been river crossings. Between Mohenjo-daro and Ganweriwala the Indus would have to be crossed, and possibly also the Hakra, if it flowed into the Indus during the third millennium. Between Ganweriwala and Harappa, the Sutlej would have to be crossed, and possibly also the Hakra. So we get the same number of major river crossings in movement in both directions from Ganweriwala.]

What strikes us first about the map is that there is a very irregular spacing of smaller settlements within each of the three circles. Around Ganweriwala there are more than 70 sites, around Mohenjo-daro less than 25, and around Harappa less than 5 sites. The boundaries of any two contiguous circles do not see the location of sites of medium-size range, say 16 to 32 ha.

Even more striking is the fact that none of the three circles on the map incorporates Citadel-sites other than its central city. If the three circles represent the MH core area, then Citadel sites in the middle and lower-size tiers all fall *outside* the core area.

Is this sheer coincidence, or do the three circles on the map reflect at least part of the real conditions of Harappan times? In one way at least the area enclosed by the circles contrasts with that falling beyond them. In

chapter 4, we had referred to the co-occurrence of MH pottery with diverse other ceramics at Allahdino, in the Sutlej-Jumna divide, and in Gujarat. The sites involved all fall outside our three circles. We had pointed to the survival of elements of the Sothi/Siswal tradition at sites such as Mitathal and Banawali in the MH period; at Banawali, Bisht (1984: 89-90) found that Bara traits were confined to the eastern quarter of the town; and there are sites like Sothi, Siswal, Farmana, and Dher Majra where local culture assemblages show only MH contact (Suraj Bhan 1973: 257). We had therefore suggested that in the Sutlej-Jumna divide upstream of Kalibangan we have a kind of interstitial province where MH traits do not totally replace earlier traditions as happened in Sind or lower Punjab.

We had also referred to the survival of local pottery traditions in Gujarat during Harappan times; not all would agree with Jarrige (1973: 276-278) that the co-existence of two ceramic traditions at Lothal is a factor of the relatively late chronological position of Lothal within the MH period. For Soundararajan (1984), the Kutch sites of Desalpur and Surkotada were 'not typical Harappan village or town sites', but special-purpose stations, and the MH sites in Gujarat, with their diverse non-Harappan wares, represent a 'backyard' of the Harappan region.

At Sutkagen-dor (Dales 1962b: 5) pottery with Baluchi affiliations was recovered mainly from the lower city (and less from the Citadel). At the Citadel site of Balakot, Kulli ware and bull figurines in Kulli style are known. Other sites outside the core region such as Gumla and Manda have a continuity of elements of earlier cultural periods in MH levels. In fact at Gumla IV Kot Dijian pottery is more frequent than MH pottery (Dani 1970-71: 150, 39 ff).

Outside the core region, except for Kalibangan, no excavated site has produced only MH ceramics. It needs to be verified that MH sites within the three circles indeed have no such ceramic heterogeneity, but this does seem to be the case with MH levels at Amri, Chanhudaro and Kot Diji.

Whatever we may subsequently find on this point, the fact remains that Citadel sites occur outside the core MH area as delineated by the three circles on the map. It appears that the building of Citadels was confined to the large centres of dominance in the core area and to those centres established amongst 'alien' peoples.

Perhaps the inability to totally subjugate alien peoples dictated the need to establish a formal and architecturally distinct manifestation of state power, which was militarily defensible. In the Zande states of the Sudan, the Avongara rulers were the most autocratic, and established the most distant

and impersonal relationships with their subjects precisely in those areas where the foreign element was the strongest (Evans-Pritchard 1971:41). Zande governors stationed in frontier provinces had less autonomy and were more dependent on the king at the centre, than were royal governors of the home provinces. They also had stricter tribute collection obligations, and corvee obligations (*ibid.* 144-145, 169, 218-219).

Why should this have been so? I can think of three possible reasons. In the first place, among the Azande, in outlying regions people had few chances of developing relationships with the rulers, and were treated more as 'subjects' than as 'followers'. Second, it is conceivable that in Gujarat local populations who received Harappan rule themselves had only acephalic social structures and no local elites to mediate with the state, thus making maximal state presence necessary in the region. But this would not apply to the region upstream of Kalibangan. The co-existence of non-Harappan artefacts and maximal state presence here could indicate that political or cultural resistance to Harappan rule was prevalent. It cannot be simple coincidence that if a 'devolution' of MH culture is detected anywhere in the post-urban period, it is in Gujarat and the Divide. Perhaps Harappan rule was insecure in Makran, Gujarat and the Divide.

Can we suggest that Citadel sites in the peripheries were centres of interaction between representatives of the Harappan state on the one hand and neighbouring peoples on the other? Such centres could have been the points of exchange of goods, or places where patron-client ties or ties of friendship were forged between Harappans and elders of neighbouring or vassal peoples, hunters or pastoralists or distant farmers. I think this may have been but one of the functions of Citadel sites, or for that matter of any centre in the peripheral region; high and forbidding Citadels are not necessary to attract friendships or partnerships and may even have intimidated less organized peoples.

It might be argued that Citadel sites represent the emergence of small and independent seats of power, at safe distance from the core zone, when the Harappan state(s) or ruling house(s) branched and fissioned or disintegrated into smaller units, and some ambitious individuals cast off their ties with the centre and built their own centres in emulation of the central seats of domination. But independent successor states are hard to imagine in an environment like the Makran, and there is the question of the rather close spacing of Citadel sites in Kutch and the Divide.

Wheeler's imagery (1968: 135) of the 'high-built citadels' 'frowning upon their cities with a hint of alien domination' may therefore be closer to the mark than has hitherto been credited.

If Citadels were the mark of imposed political rule backed by the use or threat of force, this does not mean that military domination was exclusive to the Citadel sites, or that it was the only function of the Citadel. Political, administrative, and ceremonial functions do not preclude one another, and there are few early states in which political and ritual activities are organizationally separate.

Manufacturing activities within Citadel walls are not common but are attested at Balakot (where there are two shell working areas), Mohenjo-daro (where in Late levels the pillared hall and structures in blocks 10, 1, 2 and 3 in the north portion of the 'L' area were used for shell working), and at Lothal (where at block B in phase III some ivory cutting is possible in one house).

We had surveyed the non-domestic buildings in the Mohenjo-daro Citadel. Few building plans were uncovered by Vats in the Harappa Citadel, but he remarks (1940: 142-143) that there were some massive brick structures in stratum V.

Traces of large, possibly non-domestic, structures were detected in the Balakot high mound, one room being paved with baked tiles bearing intersecting circle designs (Dales 1979b: 51-52). [A similar tiled floor was found at Kalibangan, but in the lower town (Lal 1981: pl. XXIII).] In one courtyard large storage jars were sunk into the floor. Dales reports (1979a: 263) that structures on the high mound and the eastern mound had different wall thicknesses.

At Surkotada the average house in the residential section had a courtyard and 5 rooms, with the average room being 3×2.5 m, but in the southwest of the Citadel is a 9-room house with stone foundations, and some rooms are large, e.g., 4.3×3.6 m (Joshi 1979: 62-63) so that this house could have been more than twice the size of an average house.

At Lothal the Acropolis contained a very large storage structure (to be discussed later) and a residential area, block B. This block B appears to be the only locality in Lothal to be served by underground street drains. There is no complete plan (see Rao 1979: 102-111) but a grid of five streets crossed by three lanes is discernible. Also discernible is a row of twelve paved bathing floors, 2.4×2.4 m, each provided with a drain which leads into a public drain under street 2. Rao suggests that there were twelve small houses, each two adjacent ones sharing a party wall, and each consisting of three rooms.

At Kalibangan the northern part of the Citadel, crowded with residential structures, was separated from the southern portion by a wall. The southern section appears to have been a public ritual area with at least six massive and separate mud-brick platforms, on one of which stood seven fire altars with a well and a paved bathing place nearby, served by a baked brick drain.

On another platform stood a fire altar, associated with a well and a rectangular brick-lined pit containing animal bones. The fire altars consist of a clay lined pit about 75 × 55 cm, bearing an upright clay column in the centre, the depression being full of ash, charcoal, and terracotta cakes. Thus Lal (1984) suggests that fire and water rituals as well as animal sacrifices were conducted in the southern area.

In addition, a paved path connects the north entrance of this ritual area with the east gate of the Citadel, located in the northern rhomb. The path may mark a ceremonial processional way (*ibid.* 58). Flanking the southern entrance to the ceremonial portion of the Citadel is a pavement carrying a row of four post holes cut into the brick, apparently some 20 cm in diameter (see Lal 1981: pl. IX). Lal (1984: 58) suggests that here posts carrying banners could have been inserted.

Lal's argument for the ritual and ceremonial function of the southern half of the Kalibangan Citadel is forceful and convincing. It is supported by the location of the Great Bath in the Citadel of Mohenjo-daro, and by a curious architectural feature flanking the west wall of the Harappa Citadel (Wheeler 1947: 70-74).

This west wall at Harappa, instead of being straight, has a marked inward curve in one portion. At one corner of this curve, some distance away from the Citadel wall, is a square pylon from which begins an outer but narrow wall, running parallel to the Citadel wall. Thus an enclosed, plain-level, passageway is formed. Further south a gap in the outer wall suggests an entrance, with a flanking guardroom, from the plain into the passageway. In the south the passage leads to a terrace and thence the west gateway of the Citadel. Wheeler suggests that we have here an assembly area and a processional way leading into the Citadel.

Public ritual could not however have been the sole activity in the Citadels apart from residence. The Citadel at Mohenjo-daro is 8 ha in area, and we have seen the variety of structures built on it. At some of the smaller sites the Citadel can occupy one-third to half of the built-up area, too large a proportion, surely, for ceremonial alone.

So where we disagree with Lal is over his implication that there could have been either military functions or ceremonial functions, either kings or priests. Public ceremonial, we had said, is an intrinsic function of early states. It cannot preclude the existence of kings, or of militarism, or of state power. Let us here recall Megasthenes' description of the processions in Pataliputra, headed by the king and his escort of drum and gong beaters; the Mauryan state was hardly one dominated by priests!

In summary, we can say that Citadels were militarily defended high places (the symbolism is obvious) which saw ceremonial, storage, and other activities, and contained presumably elite residences. They were built not

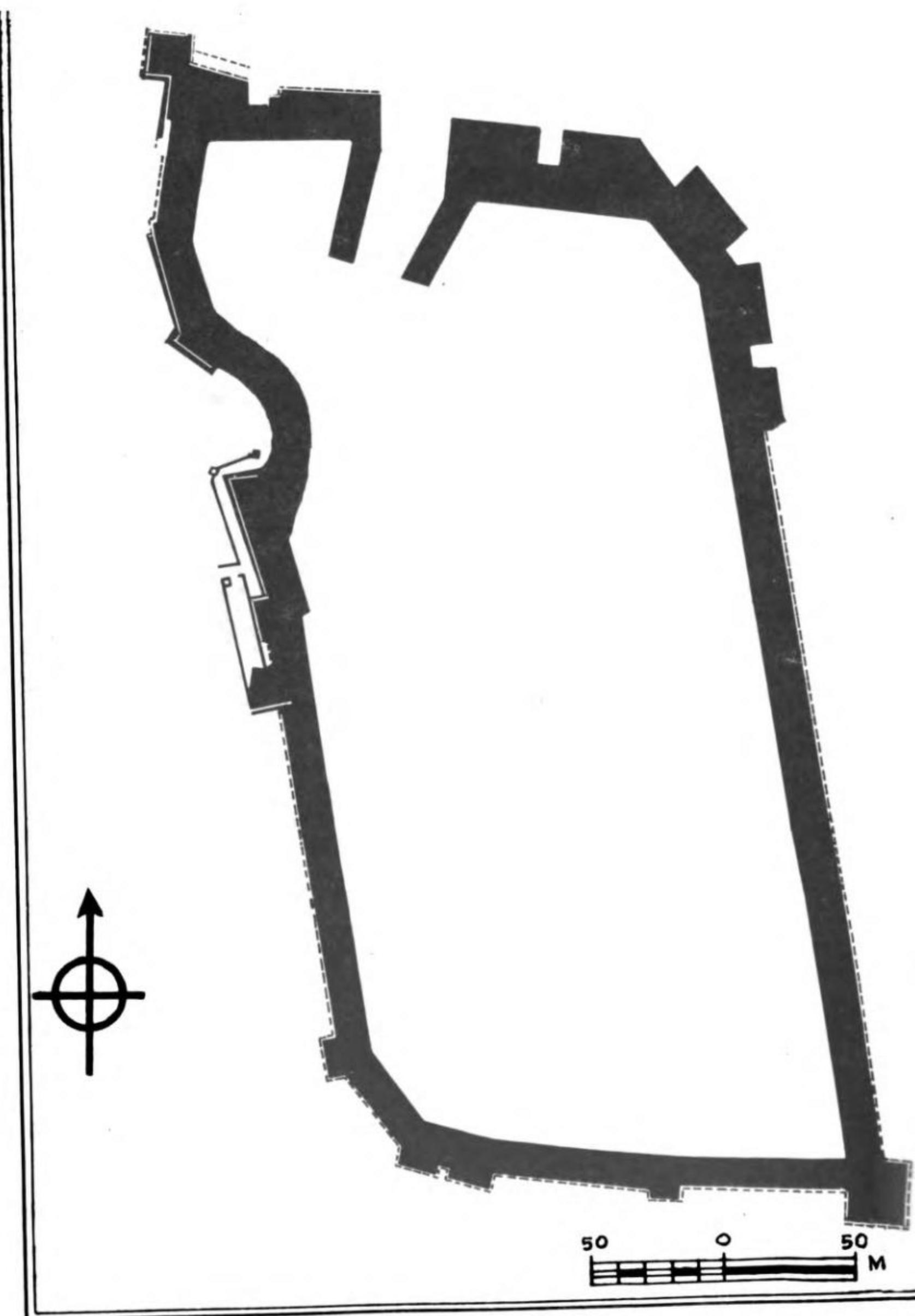


Fig. 20 : Harappa – Citadel periphery

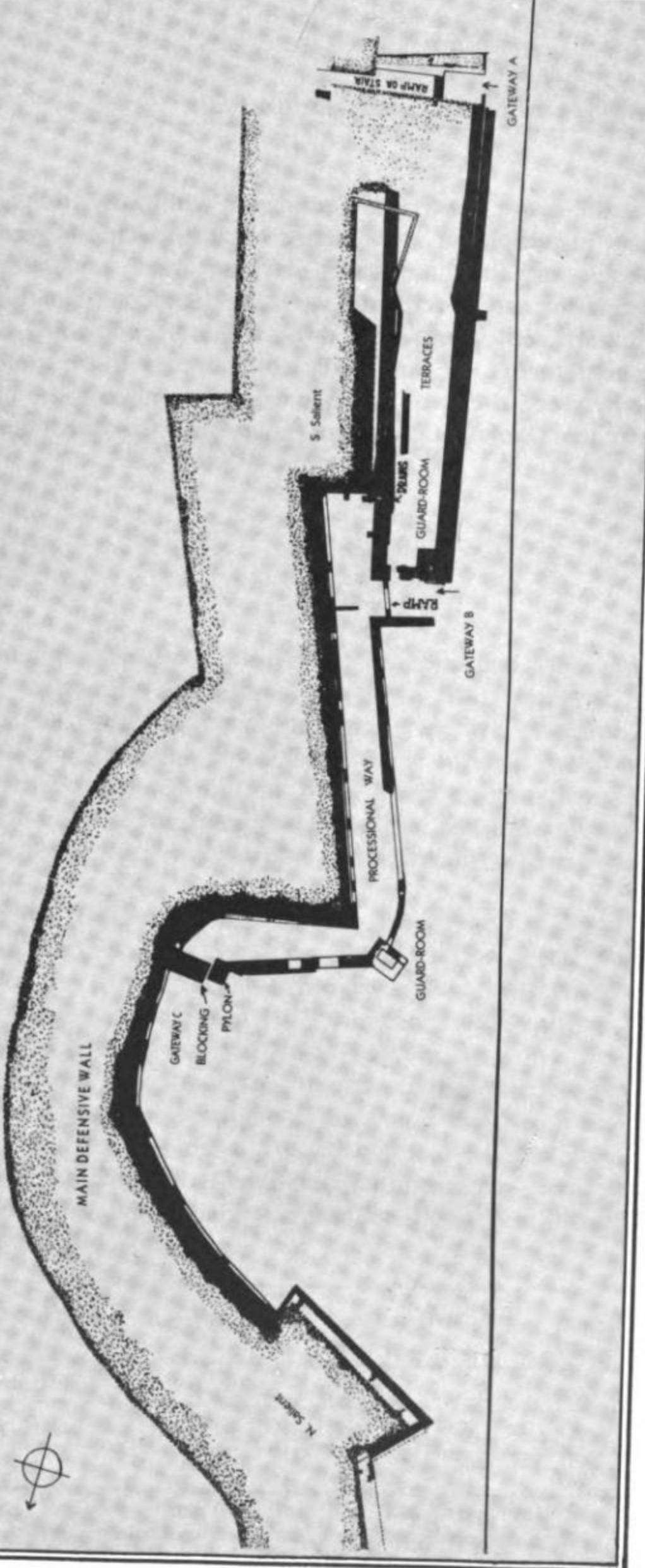


Fig. 21 : Harappa – detail of west wall of Citadel.

only at the major centres of dominance within the Indus plains core zone, but also in peripheral areas where local populations were either alien or rebellious, or, in some cases, lacking local leadership. [This line of interpretation can be refined if we make detailed comparisons to distinguish fortified MH settlements from those which have fortified Citadels, and from those settlements like Surkotada which appear to be some kind of halfway house between the two. In other words, we need to be clearer about how a centre like Dholavira compares (apart from size) with one like Surkotada.]

10

The mobilization of surplus

It is often assumed that the 'granaries' at Harappa and Mohenjo-daro attest to the extraction of harvest taxes by the Harappan state. Occasionally it has been said that the 'granaries' are evidence for a redistributive economy, although few scholars have tried to spell out just what would be involved in redistribution. We will first discuss the problems concerning the functions of the Harappan buildings, and then move on to the general issue of the forms of surplus mobilization possible in early states.

There are three MH structures to discuss: the 'granary' on Mound F, near an old bed of the Ravi, at Harappa (Vats 1940: 15-22, pls. III, VI); the 'granary' in the western part of the Mohenjo-daro Citadel (Marshall 1931: 142-143; Wheeler 1968: 43-45; Jansen 1979); and the 'warehouse' in block C on the Acropolis of Lothal (Rao 1979: 111-115, fig. 18).

The first feature which strikes us is that the size of these structures is not proportional to the size of the settlements in which they were found. At Harappa the area of the complex is 168×135 feet = 2104 sq.m. The combined area of its 12 halls – that is, the actual floor area – works out to about 984 sq.m. This makes the Harappa building the largest in size. The others compare as follows.

Size of Town	Total area of Structure ¹	Actual Floor Space
Harappa Over 100 ha ²	2104	984
Lothal Less than 10 ha	2005 (or 1567)	832
Mohenjo-daro 125 ha ³	1650	749 ⁴

¹ Measurements in sq. m.; ² Dales & Kenoyer 1988 : 7; ³ Bondioli *et al.* 1984 : 18

⁴ Jansen's figures (1979: 420 ff) are used for the dimensions of the Mohenjo-daro granary.

The reader may doubt that the Lothal structure was really as large as stated by Rao (1979: 111), namely, 160 × 135 feet, or 2005 m²: the excavation report is full of errors, with the stated dimensions of various features varying from page to page. The extant mud-brick platforms of the structure are 12 in number, and the structure is damaged (eroded) on the east and south sides. To check whether the original structure was large enough to accommodate 64 platforms as believed by Rao, (8 platforms in each of 8 rows, and each platform 12 × 12 feet) with 4 feet wide intervening passages, I studied the sections facing east and south (*ibid* pls. X, XIX). The overall length and width of the structure then emerge as 133 feet by 127 feet (not 160 × 135 feet as stated), just adequate to accommodate 8 platforms and 7 intervening passages in both directions.

Therefore, if not in total area, in actual floor space the Lothal structure turns out to be larger than the structure at Mohenjo-daro, although Mohenjo-daro as a city was more than ten times as large as Lothal. It is this disproportionate size that needs to be explained: a size which is disproportionate even if the Lothal structure were half its stated dimensions.

Were these three buildings used for storage?

All three have been built on elevated ground. The Harappa building stood on foundations whose facing or retaining wall was at least 1 m high. The Lothal platforms stood on a mud-brick, rammed earth and rubble platform about 4 m high. And the Mohenjo-daro structure was built on the high Citadel.

The numerous granaries and stores built by the Romans also had elevated floors, except where these were relatively early in date and where the flooring was of stone or some other impermeable material (see Rickman 1971). Closer in date to the Harappan structures are two building units at Ur. The earlier of these is a row of six long and narrow rooms in the Early Dynastic temple enclosure, termed 'shrines' by Woolley (1939: 17-20, pl.66) but identified as storerooms by Mallowan (1971: 281). Unlike the other rooms in the temple enclosure these six units had floors made up of fifteen courses of baked brick, the lower courses set in bitumen and the upper in clay mortar, so that each was approached from three steps from the courtyard. At a short distance to the southeast lies the later (Ur III) **E.nun.mah** or sacred storehouse. Here a small shrine was separated from the long and narrow storerooms surrounding it (perhaps 15 such) by a corridor on all four sides, and this structure too was built on a platform 2 m high (Woolley 1956: 45 ff). Deliberately elevated floors or foundations are therefore our first clue that the Harappan structures were storage facilities.

HARAPPA
MOUND F
The Great Granary

0 5 10
meters

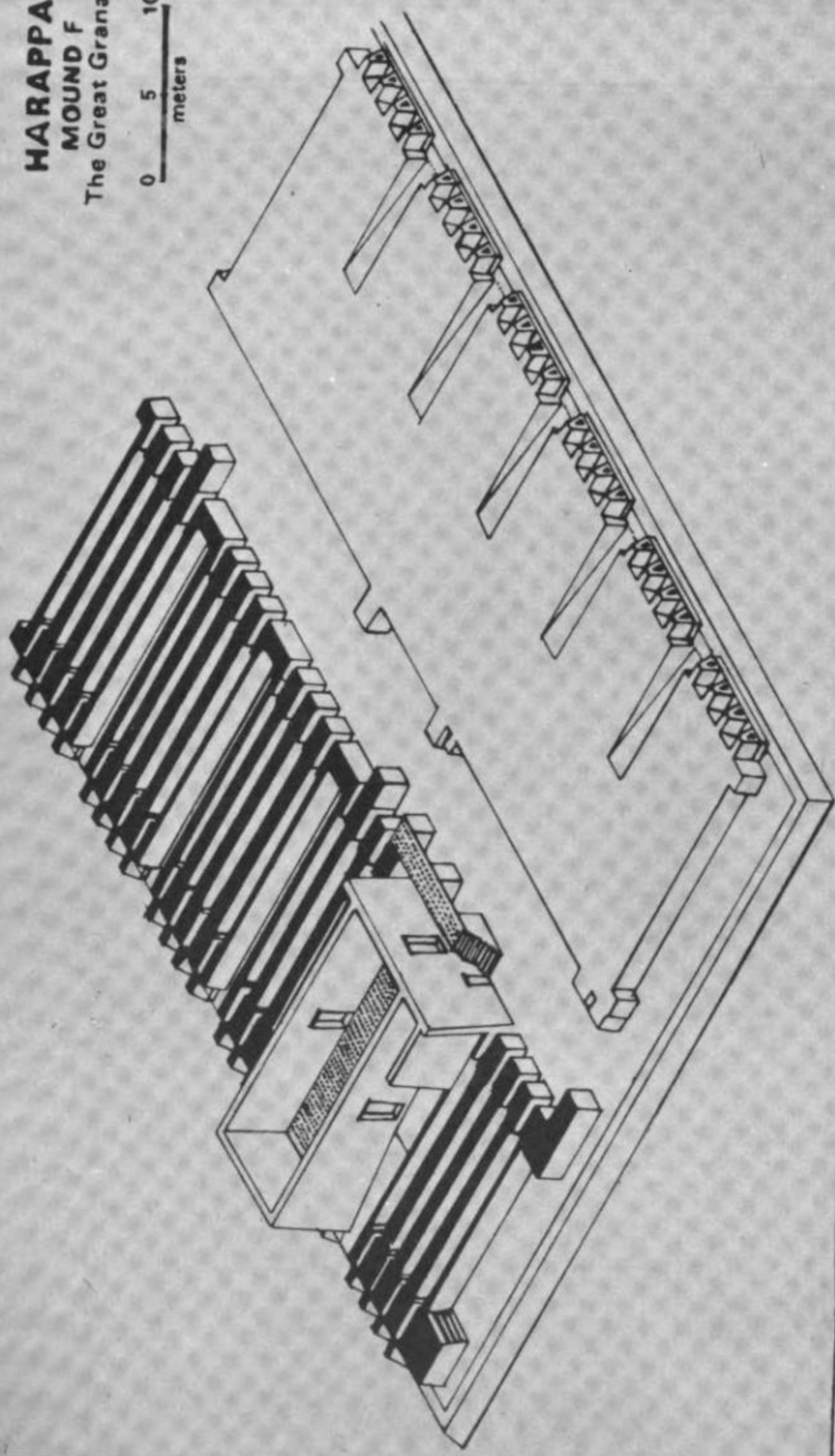


Fig. 22 : Harappa - storage facility.

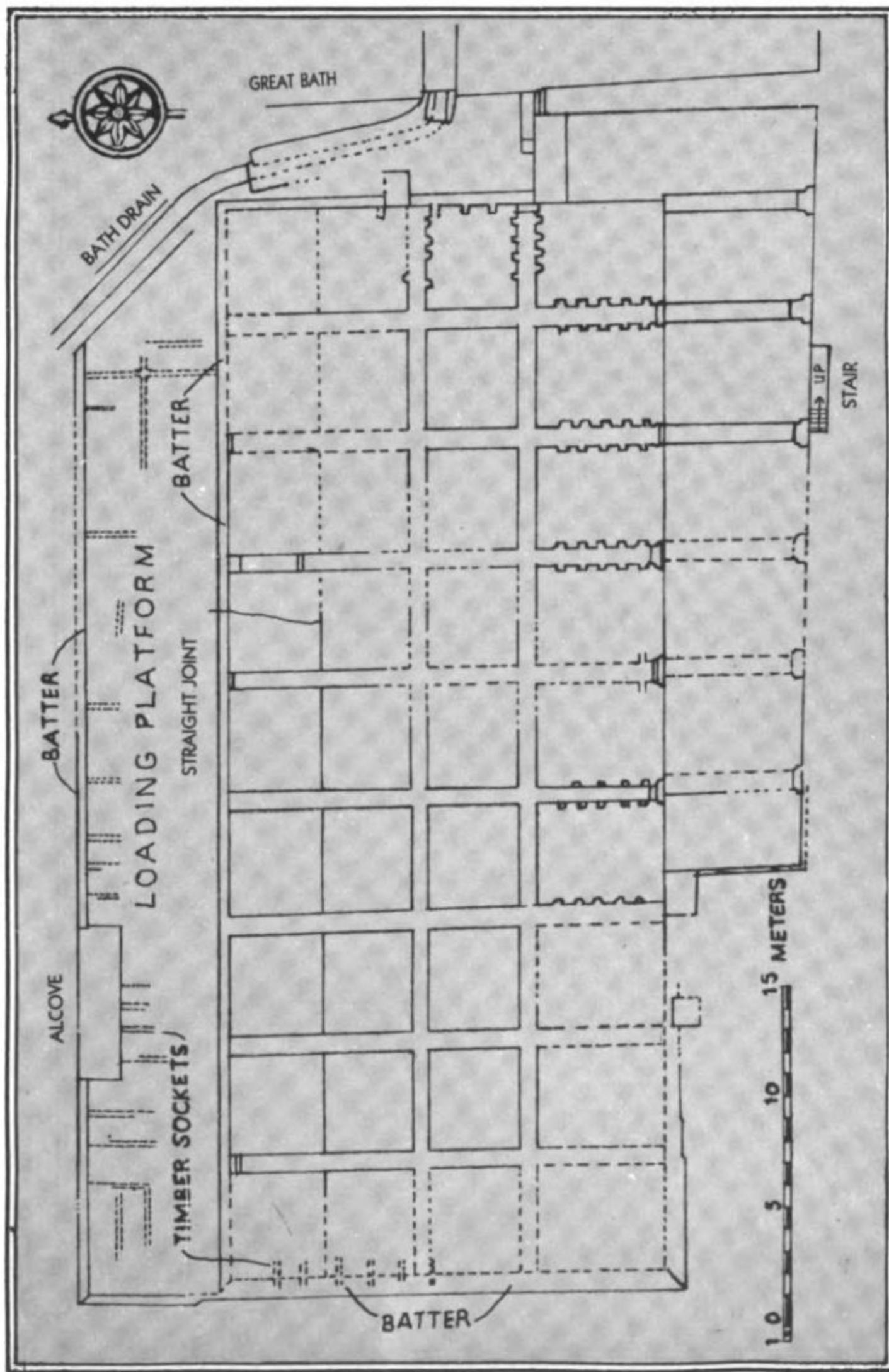


Fig. 23 : Mohenjo-daro – storage facility.

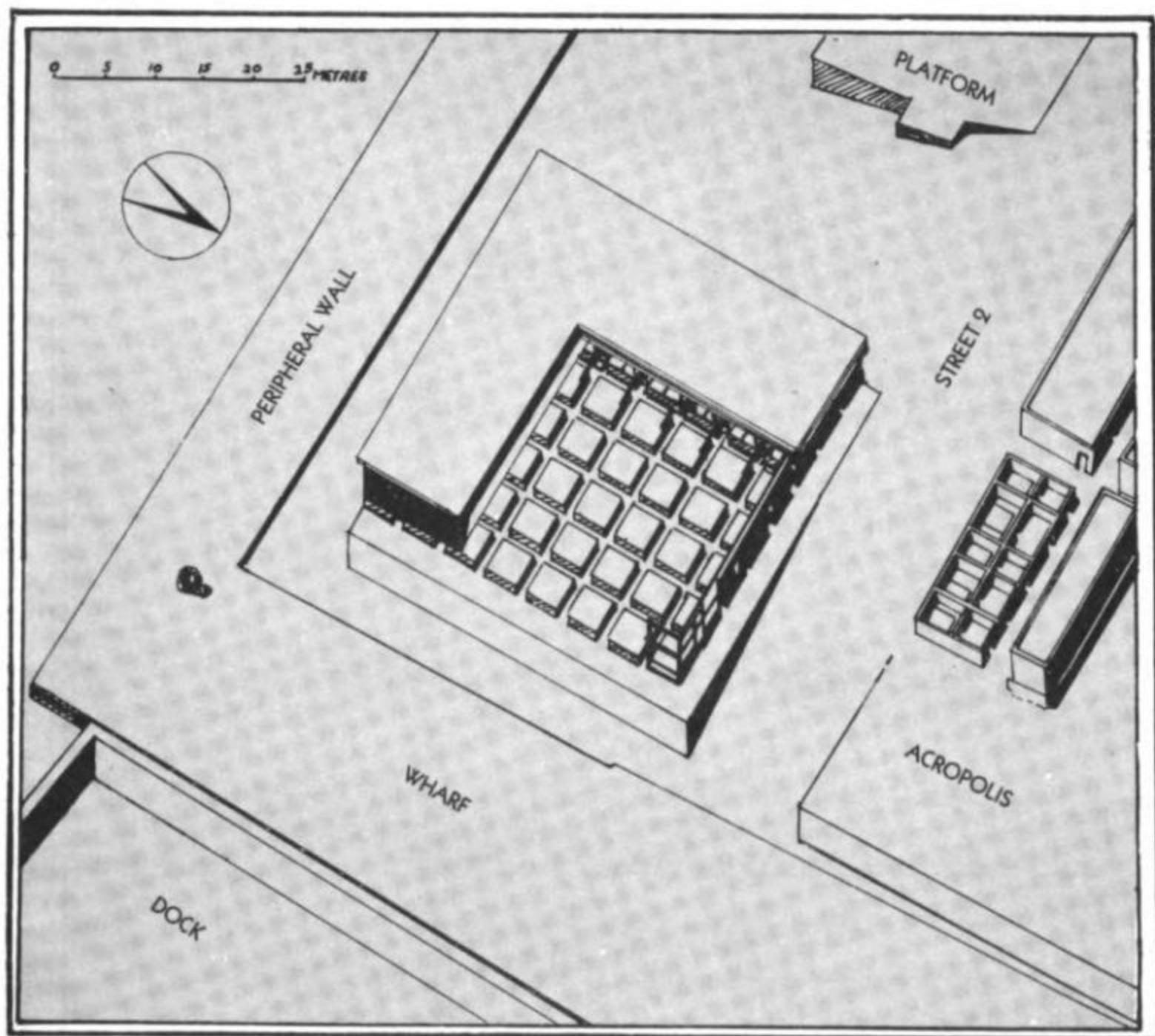


Fig. 24 : Lothal – storage facility.

But let us consider each of the structures. The one at Harappa had a different construction from the other two. It consisted of a paved, 7 m wide, central aisle flanked by 6 symmetrically laid halls, carried on a continuous foundation wall on either side of the aisle, and each two adjacent halls were separated by a narrow corridor. Each of the presumably wooden floors of the halls rested on 5 long and equidistant sleeper walls of baked brick and mud-brick, about 1.1 m high. Each hall was about 82 m^2 in area. Steps in the central aisle seem to have led to each hall. The main entrance to the

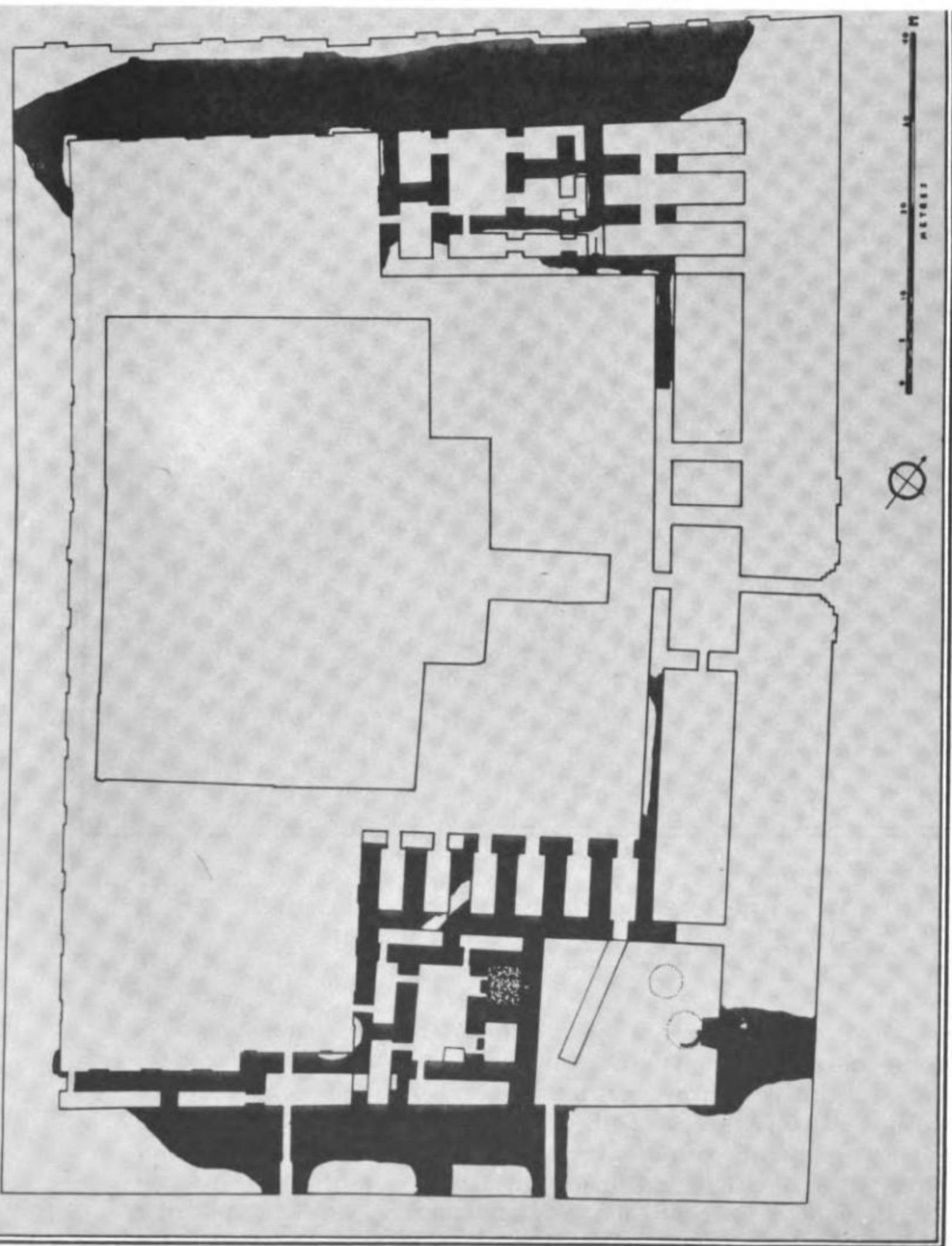


Fig. 25 : UR - six storage rooms in Ziggurat complex (after Woolley 1939).

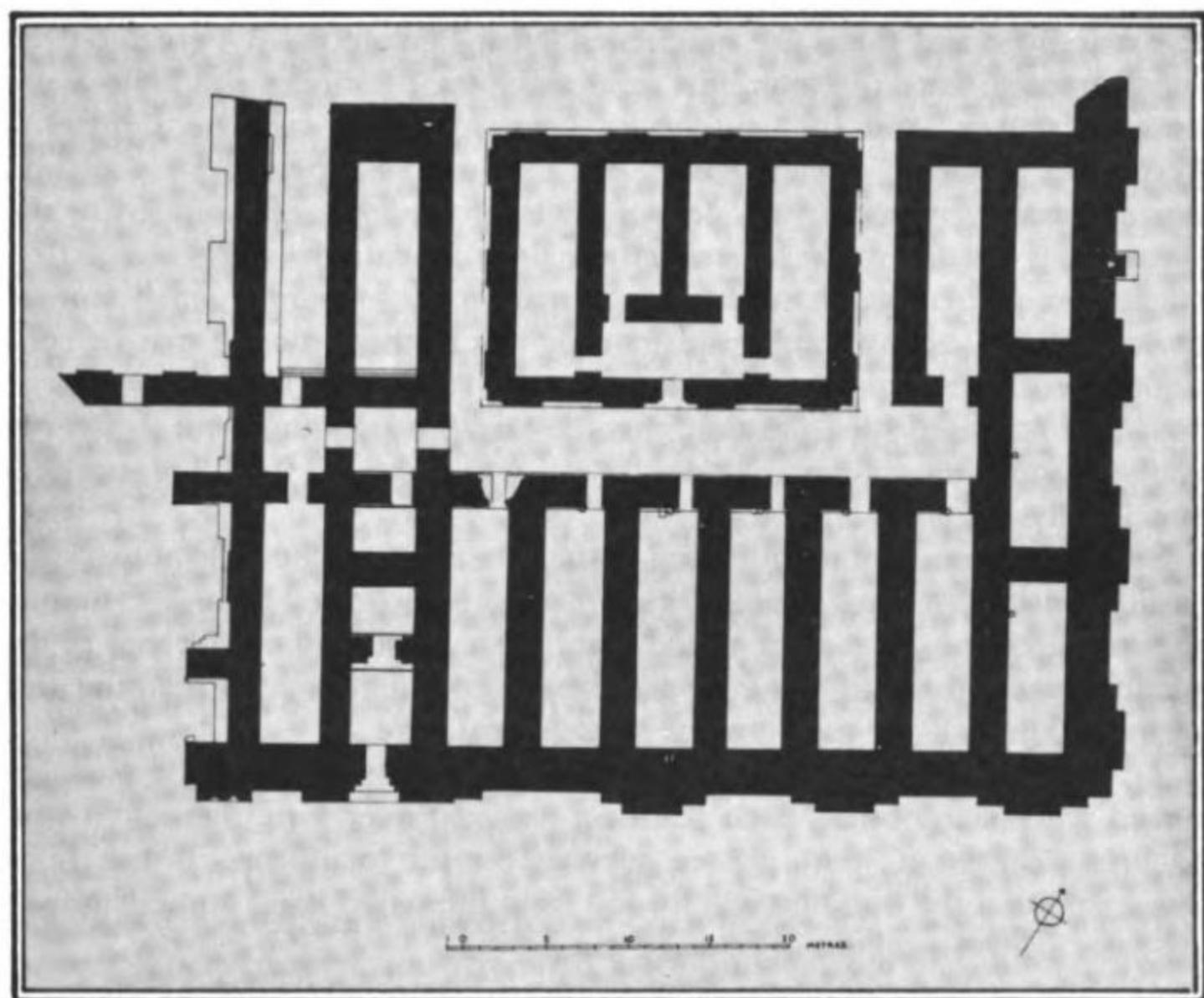


Fig. 26 : UR – store rooms surrounding a shrine in the *Enun.mab* complex (after Woolley 1956).

complex was from the north (the river bank) into the central aisle, and the inference cannot be avoided that, if goods were stored here, they came by river.

It is the system of raising wooden floors on longitudinal hypocausts which is the important feature of this building, and which the structures at Lothal and Mohenjo-daro lack. Among the several methods used in Roman store buildings for raising floors were 20 cm thick layers of crushed potsherds (as in the Horrea Grandi, the largest storage building at Ostia); sleeper walls supporting floors of bipedal tiles; and wooden uprights set in rows on the foundation floor. Rickman (1971: 252-255, fig. 61) sees 'exact parallels' to the Harappa building in the five storage units on the acropolis of pre-Roman (3rd-2nd centuries B.C.) Pergamon. Here too wooden floors

lay on sleeper walls. But the layout of individual storage units is different at the two sites, and these are much smaller at Pergamon. At Pergamon the substructures were of stone, but as at Harappa, the floors and walls were built of timber. And the systems of ventilation may also be similar: at Pergamon a series of ventilators ran through one periphery wall and corresponding points on the sleeper walls; at Harappa, piers added to the outer ends of the walls to strengthen the foundations were pierced by triangular ventilators. In prehistoric northern Mesopotamia small storage buildings have been found with grain or jars in them, where mat or reed floors were laid across parallel sleeper walls (Schwartz 1987).

Thus it is reasonable to assume that the Harappa building, with its sleeper walls, wooden floors and wooden walls, was a storage building, perhaps specifically a granary.

But identification of the function of the other two buildings is not so easy. Both consisted of rows of solid brick platforms separated by aisles running in both directions. It may be noted that the space offered on the tops of the platforms at Lothal and Mohenjo-daro were very much smaller than the area of individual halls in the Harappa storage structure.

At Lothal the mud-brick blocks were separated by 1.2 m wide passages paved with baked brick. Each platform was just over 1 m high and 13 m² in area. Traces of mud plaster survive on the platforms. It has been suggested that the building was loaded from the wharf lying immediately to its east, loaders walking over earth ramps.

At Mohenjo-daro there are 27 platforms in 3 rows of 9, each about 1.5 m high. Passages running north-south and east-west separate these blocks. Each block is 4.5 m wide in the east-west direction, but the length of the north row of blocks is 8 m, that of the middle row is 4.5 m, and that of the south row, 6 m (Jansen 1979: 420 ff). These differences in length seem to have occurred because of extensions made on the north and south sides in different periods. Along the eastern and western edges, some blocks had vertical slits about 30 × 23 cm. Along the entire north side was a 6 m wide floor-level platform carrying a rectangular indent or bay in its outer edge. According to Wheeler this was a provision for loading, as the outer wall of the structure is vertical rather than battered only below the indent.

The vertical slits in the edges of the platforms match in dimensions the sockets for timber rafters on ceilings which occur in some houses at Mohenjo-daro. These vertical chases do not match on either side of a passage, but are regularly placed opposite one another where an individual platform is concerned. Jansen therefore suggests that each platform was individually roofed with light material laid on wooden posts set in the chases. We may add that the width of the platforms, 4.5 m, would be the maximum span that available wooden beams would have been able to cover

(Marshall 1931: 277). No post holes are reported in the Lothal structure; it was destroyed by fire and pieces of burnt clay with 'reed impressions' were found, which indicate that the roofing was of wood and thatch – but where would the posts carrying such roofs have been set?

It should be noted that at Mohenjo-daro the vertical chases were spaced some 63 cm apart, so that if solid walls were given to each platform, wooden planking would have been needed to bridge the spaces between posts. More important, not all platforms carry these chases and the platform in the southeast corner has chases not on opposite sides but on its north and west sides.

A structure across the street to the south of this building and the Bath also poses the problem of the function of vertical chases. This is block 3 (Marshall 1931: 143-144, pl XXII), 'a very important building' with a battered exterior wall along its north. The paved unit 4 in this block is 8.1 × 7.6 m, which would have been too large to be spanned by wooden beams in either direction. Yet along the internal faces of the east and west walls of this courtyard occur 6 and 5 vertical chases respectively, 33 × 25 cm or only slightly larger than the chases of the 'granary', and irregularly spaced. This instance cautions us not to assume that vertical chases were necessarily facilities for roof supports.

Wheeler (1966: figs 10, 13; 1968: 43-45) suggested that the Mohenjo-daro platforms supported wooden floors and walls in a way that the entire structure would have had a continuous roof and uninterrupted walls. He suggested that the vertical chases were fittings for wooden steps or ramps. But steps or ramps would need only two close-set chases per platform. And if the floor itself lay over the platforms, there would have been no need to pave the aisles, as was done both in the Mohenjo-daro structure and the Lothal structure. Moreover, at Lothal the north ends of the aisles bear 7.5 cm wide grooves in their baked-brick pavings, which, as the excavator suggests, point to the use of doors or shutters to close off each aisle.

If below-floor ventilation were required, sleeper walls would suffice. Sleeper walls are known not only at Harappa but also at Mohenjo-daro itself: unit 1, block 2 in the DK-B area (Marshall 1931: 236-237, pl LXII) [where the 'priest-king' statue was found] is a long room, subdivided into 3 longitudinal spaces by 2 sleeper walls, 1.2 m high. Around the internal perimeter of the room are dados of the same height as the sleeper walls, so that a raised flooring could have been laid with ease. Thus disjointed platforms are an unlikely solution to the problem of laying elevated floors. Whatever the difficulties regarding the vertical chases, for the moment it appears prudent to infer that the platforms of the Mohenjo-daro and Lothal structures were individually walled with posts and planks, and individually

roofed.

Problems, however, remain. Were goods placed directly on the platforms? In that case it is strange that at Lothal the aisles were laid in baked brick but that the platforms themselves were only of mud-brick with a coating of mud plaster. Was the height of the platforms sufficient protection against damp?

A more serious problem is that for all three of the Harappan structures we have wooden walls, although hundreds of dwelling units at these settlements had very thick brick walls. Roman granaries could have solid stone walls 60 cm to 1 m thick, and at Early Dynastic Ur the six storerooms mentioned above had brick walls about 2 m thick. In the **E.nun. mah** complex, walls were about 1.8 m wide.

But we had seen the evidence for wooden structures at pre-Roman Pergamon. Moreover, not all early Roman granaries were stone or brick structures. Several timber ones have been found in early Roman Britain and Germany, e.g., at Richborough, Fendoch, Haltern, Saalburg, and Rodgen (Rickman 1971: 213 ff). Their floors were raised on wooden uprights or on transverse stone sleeper walls. At Richborough, an individual timber storage unit was as large as 296m² (*ibid.* 217).

At Prabhas Patan level III (1500-1200 B.C.), moreover, Dhavalikar (1977-78) identified a possible coastal storehouse, a stone rubble structure comprising rows of square or rectangular rooms about 1.4 m wide, whose walls stand to a height of only 60 cm. There is no stone debris in the vicinity to indicate wall collapse, neither are doorways evident, nor post holes, and this structure must have been open to the sky, and thus most likely a storehouse for non-perishable items.

While we would expect state storage structures to have been built on a standard plan, it is not impossible to imagine that the facility at Harappa, with its unique construction and very strong substructure, was a grain storage facility, while those at Mohenjo-daro and Lothal were used for storage of other goods like metal, shell, timber, or craft goods. This would explain why the Harappa building is not located in the Citadel, but out near the river. And about 100 m to the south of this building lay two rows of perhaps 20 circular platforms (Vats 1940: 15, 74; Wheeler 1947: 76-78), all of the same size, equidistant from one another except where an older well disturbed the alignment, and constructed in the same manner. These may have been public or state facilities used for grinding grain. Wheeler's careful section down one of these platforms shows that the hollow enclosed by the circle of bricks extends higher than the top of the bricks. Thus the bricks may have enclosed a hollow wooden container and grain may have been pounded in it with the use of wooden pestles. That one of the hollows

contained animal bones may be due to later depositions or fill. While there is no trench connecting the storage structure to these platforms to point to their relative dates, it is nevertheless significant that the two kinds of facilities appear in close proximity at Harappa.

No grain was found in the storage building at Harappa; the only antiquities found were three jars, a small seal, and a macehead. (Similarly, in the Mohenjo-daro structure only charcoal, small pots, and a faience bead were found.) The paucity of large storage pots in the three Harappan structures need not argue against storage functions. Large containers are also absent in the Roman *boreæ*, in spite of the textual evidence that they were used not only for grain but also the storage of wine and oil (Rickman 1971: 10, 166). Neither were large storage vessels found in the **E.nun.mah** at Ur, although texts of the Larsa period indicate that agricultural produce was received or disbursed from here. Goods could have been stored in cloth or leather sacks; items like timber logs of metal would not require containers; and even grain can be piled in heaps on the floor.

No grain has been reported in any of the three MH structures, nor, for that matter, in the **E.nun.mah** or the majority of Roman *boreæ*. Considering, however, that the Lothal structure was burned in antiquity, some charred grain would surely have been found if it had been used for grain storage. In the passages of this structure were found, besides burned roofing material, terracotta cones and spheres, much ash, and seven lumps of clay which, having been hardened in the fire, preserve the impressions of one or more seals on their obverse and cloth or string impressions on their reverse, or else show marks of attachment to the mouths of vessels (Rao 1985: 305, 319 ff). Obviously, goods sealed in cloth or in pots were stored here. None of the seal impressions match with seals found locally at Lothal (Rao 1979: 114), so that we infer that the commodities were sealed elsewhere and then brought to Lothal.

Of course, the lack of charred grain at Lothal need not necessarily rule out grain storage in the Mohenjo-daro structure. But the problem is that stored grain exerts a strong lateral thrust, and timber walls must therefore be correspondingly strong. Even at Harappa, where the foundations were built exceptionally strong, Vats reports that the strengthening piers at the ends of sleeper walls show a bulge. A system of ties and trusses is required for a timber grain storage building (Rickman 1971: 3, 213 ff). Did this exist at Mohenjo-daro?

Fentress (1984) asks whether the Mohenjo-daro structure could have served as a market place. Traditional markets do contain rows of platforms, but these are usually only knee high or waist high, not 1.5 m high as at Mohenjo-daro, where a person standing in an aisle would not be able to view with ease what lay on top of the platforms. Such a height probably was needed to facilitate the offloading of a burden from the head or shoulders of a person standing in the aisle. In addition, the Mohenjo-daro structure has aisles only 0.8 m wide [those at Lothal are 1.2 m wide], which would hinder

the movements of buyers among the platforms. Even the side passages between adjacent halls at Harappa are wider than the aisles in the Lothal and Mohenjo-daro structures.

We have thus arrived at the conclusion that the three MH structures were storage facilities, but that only the building at Harappa can with confidence be interpreted as a grain storage facility. What does this tell us about taxation or redistribution?

If the structure at Harappa was a granary, the point of interest is that Harappa was located on the northern fringe of the known MH settled area, and that few smaller settlements are known in its immediate vicinity. If the size and location of Harappa argue (Ratnagar 1982) for its function as a gateway city, the bulking of goods would have been an important activity. The granary here need not point to the existence of a universal harvest tax – if so, we would have to ask why larger quantities of grain were collected at this point than at Mohenjo-daro which was located in the most fertile tract of Harappan territory, for the facility at Mohenjo-daro, we have seen, is smaller than that at Harappa.

If we were to suggest that the storage facilities were insurance strategies for years of bad harvests, we would expect many more such buildings at MH sites, and that such buildings would be proportionate in size to their local or regional populations.

No grain was found in the Lothal warehouse. In any case, the MH settled area in eastern Kathiawad comprises only a few sites. We cannot expect grain production from (or disbursement to) this area to have been of such proportions as to require storage capacity greater than that of the building at Mohenjo-daro. Lothal was a craft production centre where the raw materials for crafts came from different regions, and it was very likely also a port. Such a break-of-bulk centre, at a point where shipping was strictly seasonal, would indeed have required the large storage facility. Sealed packages here speak for the state's involvement in the collection of raw materials and finished goods, awaiting dispatch to other Harappan centres, or export overseas.

In earlier chapters, we had reached the inference that the Harappan state did not simply bring various groups of people under its influence in order to receive periodic tribute and regulate their external relationships, allowing local leaders and local techniques to function autonomously, as in several simple state organizations. We have seen that in certain spheres the

uniformity of equipment across settlements cannot be a matter of the conservatism of tradition, or trade. The nature of the EI-MH transition, the evidence for implanted settlements, and the phenomenon of Citadels do not allow us to believe that the wide spread of the MH culture was the result of refugee populations fanning out from the core region, or the result of burgeoning population increase and a search for new lands. Instead, it is more likely that the state ordered movements and resettlements of population, and mobilised labour to make large quantities of brick, and to lay out new settlements, to master the technique of pottery-making, or develop quarries or shell fisheries. An infrastructural equipment of metal and stone tools and transportation seem to have been made available to the local communities. That is to say, the Harappan state seems to have mobilized labour in order to promote and regulate subsistence and craft production, and to have organized the distribution of tools and equipment or techniques for this purpose. This would explain the lack of correlation between settlement size on the one hand, and the occurrence of craft production or grid pattern layouts or Citadels on the other. But so far the discussion has led from the archaeological remains.

It will now be argued that an essential feature of the earliest kind of state is what Diakonoff (1972) called 'the state sector'. We will survey the evidence from various early states to see what forms the state sector can take, and then enter a theoretical discussion on why the state sector is integral to the structure of the earliest states.

We will first take the case of third millennium Mesopotamia, for which Diakonoff used the term 'state sector'.

Among the thousands of accounts and administrative tablets dating from the Early Dynastic to the Ur III periods, there is not a single reference to taxes being received from the agricultural communities in the countryside. The rural communities, organized on tribal or lineage principles (who formed what Diakonoff calls the 'private and communal sector'), owed the state not a portion of their harvests, but labour and military service only. The state organized production on fields, orchards, herds, and fisheries owned by various temples and the palace. By the late Early Dynastic period, temple estates had become *de facto* royal property. Some temple lands which were allotted to high functionaries were cultivated by tenants in return for rent.

Those who laboured for the state – either all the year or for a few months in the year – received regular rations in barley, oil, and clothes. For agricultural work, seed, ploughs, and working animals were handed out by

the temple or palace. Temple or palace workshops employed people in weaving or baking or chariot building. Other than continuous production, state work also involved specific projects such as building temples or other constructions, for which huge teams of men were recruited under supervisors and equipped with rations, tools, and replacements. In the Early Dynastic period foreign trade was carried on in the name of the king; imported materials were weighed out for the king in the Lagash palace.

By the end of the third millennium the state sector had expanded to employ, for example, 21,000 people in agricultural work near Nippur – by Adams' calculation (1981: 145) this amounts to about one-fifth of the population of the urban centres of northern Sumer at that time, and a huge area of state-managed fields must have been involved. During this period, under the IIIrd Dynasty of Ur, the Mesopotamian early state saw its apogee. Many new temples were built, their estates were integrated in the state sector, and the revenues used for various purposes. Several towns received from different provinces pastoral produce, or livestock, or cereals, and each in turn disbursed quantities of these from its stores to other centres when required. The state now created and guaranteed a unified system of weights and measures; the Magan trade was under temple management; large textile workshops existed at centres like Ur; and the state's livestock wealth was unsurpassed.

The state sector was also an eminent feature of the Shang state of bronze age China (c. 1700-1100 B.C.). Inscriptions refer to overseers of agriculture and to groups of labourers sent to work in fields under supervisors. Oracles predicted the harvest to come. At Hsiao-t'un, a ritual and administrative centre 3 km to the northwest of the walled capital An-yang, a storage pit with 3,500 stone sickles, used and unused, was found. Here a major craft complex yielded hundreds of metal casting moulds, stone knives, and bone tools, plus evidence for shell and jade working. It appears that craft production was largely confined to the major capitals like An-yang and Cheng-chou, or to satellite settlements around them. Chang (1975: 220) remarks on the great contrast between a node like Hsiao-t'un and an ordinary village in the number and variety of craft items and valuables, and holds (1983: 108) that bronze, used for weaponry, ritual vessels, and carpentry tools (chariot-making), was 'associated primarily with ritual and with war, the two principal affairs of state'.

There was no landed nobility in Shang China, and the state used its own stores to equip and provision soldiers and workers. The Shang period saw intensive warfare and the state used captive labour on a massive scale. Meanwhile, aside from labour, the king also received tribute from subjects and neighbouring vassals in horses and cattle, in turtle shells and cowries. The presentation of cowries by the king to a loyal subject was an honorific act, commemorated by the dedication of a bronze vessel (Cheng Te-kun

1960: 197-200; Chang 1980 a and b; Wheatley 1971: 75 ff).

If we consider how Egypt acquired building stone, precious stones (amethyst, carnelian), or gold from her neighbouring desert regions (Berlev 1987; Eyre 1987), we also see the importance of the state sector during the Middle and New Kingdom periods. Particular expeditions, with specific quantities of material as the target, were sent out to mines or quarries. In one case over 8,000 personnel comprised the task force, in another, 1,006 people. For the duration of such enterprises monthly food rations as well as oil and clothing were issued to the crews. Although archaeological evidence for large-scale craft workshops is not frequent, Eyre points out (1987: 200) that there is little testimony for independent craftsmen producing directly for the market until the end of the New Kingdom: most work seems to have been carried out by craftsmen attached to temple or palace, although specialists did supplement their income by doing work for private customers.

In the Kuba kingdom of the eighteenth and nineteenth centuries, *matoon* villages, populated by prisoners of war or groups facing collective punishment, worked fields to provide the daily needs of the court, and tended the sovereign's sheep. In addition each village in the centre of the realm cultivated a special field for the king (Vansina 1964: 140-142). Small payments of tribute were collected from the people at the death and accession of kings, and in the centre of the realm all villages paid to the court token quantities of skins, meat, or tusks. But this was of little economic value. When iron or cloth or ivory were specially required in the capital, and this happened often, the particular functionary in charge of that product visited the producing villages, established a levy, and saw to the dispatch of the material to the capital (Vansina 1964: 140-142, 1962a: 193).

A good description of a working state sector is given by Evans-Pritchard (1971: 197-200) for the Zande kingdoms of equatorial Africa in the nineteenth century. The kingdoms were ruled by the Avongara, initial conquerors of the region. Each small kingdom, extending say 160 km in both directions and with a population of 50,000 to 100,000, had the ruler's court at its centre, a complex of round mud huts (residences of the royal family, court warriors and slaves), and a large pillared assembly hall enclosed by a mud wall. Each district was administered by royal sons or commoner governors on behalf of the king, and these district rulers were the chief agency for the dissemination of Zande culture and institutions among the autochthonous Ambomu and numerous groups of later migrant people.

While the kings of the Azande received tribute from their subjects via their governors (long caravans could bring to the capital edibles, tusks, pottery, spears, bark cloth, and war captives) (*ibid.* 169 ff), and also took fees in iron spears for consulting oracles at court (*ibid.* 167, 185), the

kingdom was divided into units for the mobilization of labour. Groups of subjects were put to work on the king's lands (which were extensive) to clear fields, hoe, weed, and store grain in the royal granaries. The arrival and departure of different work teams in succession was systematically ordered. Each team was housed, fed, and equipped with tools during its stay at the capital. 'Azande say that a youth's labour belongs to his father and that his father gave it to the king....' (*ibid.* 198).

Around Great Zimbabwe in southern Africa there developed, between A.D. 1200 and 1500, a state with an economy based on agriculture and cattle herding, iron technology, and trade in gold and ivory to the coast in return for textiles and beads. In the sixteenth century a Portuguese traveller wrote of one of the successor states, '... they have a system of service instead of tribute'. The people served the ruler 'in the cultivation of his fields or other work, seven days in every thirty' (Huffman 1986: 295). This may not have been the literal truth (see Beach 1980: 92, 97), but the principle is clear.

Let us also recall the pyramids of Old Kingdom Egypt, silent but powerful testimony to the recruitment of the labour of thousands of men at a time, over several years, and the evidence from Minoan Crete (2000 to 1450 B.C.) for the palace as owner of agricultural lands and herds, and the organizer of craft production and trade. Halstead (1981) points out that storage space in the Knossos and Phaistos palaces could comprise 20 to 30 per cent of the total area, so that goods stored in the palaces could not have been for elite consumption alone, but to provision those who worked in various capacities for the palace.

The state sector in its most developed form, however, appears among the Incas (see Murra and Morris 1976; Murra 1982; Rowe 1982; D'Altroy and Hastorf 1984; D'Altroy and Earle 1985). The Inca state (A.D. 1430 to 1530) was founded on a very simple technological base. There was a limited use of bronze, no plough or wheeled vehicles, no animal riding, and no writing (*quipu* were the only mnemonic devices). Yet at its widest extent the Inca state covered an area of more than 984,000 km², an area much larger than the Harappan region, and one of high mountain chains and intermontane valleys abutting on a narrow and arid strip of coastline.

The Inca economy has been characterized as a two-tier economy. Local kin groups, holding agricultural lands and llama herds jointly in lineage tenure, were basically self-sufficient in food and craft products, and engaged in some intercommunity exchange, especially along the coast. In the second tier, the state was involved in production. State agricultural lands were created by territorial appropriations from local or conquered groups, by terracing, or by bringing tracts under irrigation. Inca kings owned enormous royal estates, for which commoners provided the labour. People

were transported into newly created agricultural estates to work on the lands. For example, in the Cochabamba valley, the local population was expelled and a vast area of land was organized for maize production, some 14,000 agriculturists being brought in to work this land from other regions. The cultivators were granted small plots for their own use or were given provisions from state granaries. The state also took over the organization of llama herding, metallurgy and craft production, not to speak of road building and the construction of hillside terraces.

For the manufacture of textiles, pottery, silver, and bronze artefacts, workers were settled, each for a limited period, in 'artisan islands' for production in workshop conditions. Every kin group surrendered a portion of its people to work for the state on a rotating basis. Some kin groups, compulsorily resettled in new areas, could also have become craft-producing groups. A Spanish source gives interesting figures about one ethnic community of 4,000 households in the Huanuco region: this group provided for the Inca state about 1,000 fighting men, and about 1,200 persons to work on construction, agriculture or weaving (Murra 1986: 53), so that every second household must have contributed at least one member for state service. Goods produced in the state sector were stored in local warehouses, and were drawn out to pay state functionaries, provision travelling officers, for use in times of shortage, and to provision further state labour: for while a person worked for the state, all his needs (food, clothes, pottery) were provided by the state (Morris 1986; Morris 1974: 67 – comment by Murra).

Control over the production of wealth goods was more centralized. Fine textiles, silver ('the tears of the moon') and gold ('the sweat of the sun') were the visible markers of social status (Earle 1987: 73). At the time of their conquest the Spanish discovered huge Inca stores of fine textiles, silver and gold. Silver and gold sheets covered the walls of the palaces and were used for statuary, ornaments, and ritual vessels. Fine cloth (*kumpi*) was also a true prestige item, worn and presented at all *rites de passage*, and used in burial furniture and to wrap idols. The Inca king presented visiting officers and local aristocrats with fine cloth, which was for the receiver a rare privilege. 'No political, military, social, or religious event was complete without textiles being volunteered or bestowed, burned, exchanged, or sacrificed' (Murra 1962: 722). While hundreds of workers were recruited in textile *mitimae* to produce ordinary cloth in various places, elite households maintained skilled makers of *kumpi*, so that spindle whorls and needles are more common in elite houses than in ordinary ones. The state could also organize the production of *kumpi* by specially recruited or 'chosen' women in workshops in the regional capitals, such as at the structure excavated in Huanuco Pampa (Morris 1974). At Cuzco, the

capital, there were full-time and hereditary craft specialists producing especially metal items for the elite. Meanwhile, silver and gold mining were carried out either by recruited labour or under traditional methods by local leaders, who sent the metal to the Inca as gift or tribute (Berthelot 1986; Earle 1987).

Thus surplus mobilization in the Inca state took the form of labour levies rather than a tax on individual or community production. The Inca state was involved in the organization of production on a scale unparalleled elsewhere, and this while local communities remained largely self contained, and no money or market systems prevailed.

Let us pause at this juncture and consider the theoretical implications of the importance of the state sector in the earliest states. We have little established work to go on. The important implications of Diakonoff's theoretical position on Mesopotamia have not been realized by scholars working on the problem of the early state in general. Mesopotamia, in fact, finds no place in the volumes of early state studies put together by Claessen and Skalnik. The latter did attempt to distinguish between 'inchoate', 'typical', and 'transitional' forms of the early state, but these distinctions, involving more of one element or less of another, have not been productive. Perhaps the earliest kinds of states could not be accurately characterized when the approach was to consider pre-contact Tahiti as well as the Mauryan empire as the same category of state; when there was little attempt to distinguish taxation from either tribute or labour levies; and when there was inadequate emphasis on the social structure of the population at large, namely, the survival of kinship groupings and of many of the old functions of kin groups.

In asking why production in the state sector is so important in the simplest state structures, one can first suggest that it is essentially connected with a preceding tribal past. There is little development of private property in basic resources, and land is still, for the most part, collectively held by kin groups. (In Mesopotamia, land purchases had begun in the Early Dynastic period, when members of the ruling elite bought tracts, large or small, from kin groups in return for food items, copper, or textiles. But no agricultural land sales are known in the Ur III period.) This means that class divisions were not yet well entrenched – that the ruling elite was not securely rooted in economic privilege. The lack of money and market-system economies rendered impossible any system of ramifying networks of impersonal exchanges based on the exchange-values of goods, and rural communities were as yet self-sufficient in many respects. We had

noted in Chapter 2 that the rulers of early states assume sacral roles, conducting the national rituals on behalf of their people. In such a situation tribute and labour for the king (in formal terms, for the gods or temples) would be ideologically and practically more feasible than systems of computing and collecting a particular proportion of output throughout the realm in the form of tax or rent.

When discussing the problem of urbanization we had suggested that specialization and the division of labour are not, in the bronze age context, a matter of full-time and exclusive production activity arising from expanding markets and the need for economies of scale. Rather, it was emergent ruling elites, with their new needs, who posed new levels of 'demand' for wealth. So it appears that continuities of some forms of tribal organization, tribal land tenure, an inchoate division of labour, sacral kingship, and the burgeoning of production for new needs under state auspices, are inextricably interconnected elements in the structures of the earliest states.

We have seen that the state sector can take various forms. Subjects may labour on the estates of public and central institutions such as the Mesopotamian temple or the Inca royal estate, or they may produce regularly for the royal court in their own villages as in the Kūba state, or, as in the case of Inca *kumpi* production, they may work in individual elite households. Rulers may sponsor particular projects like the quarrying of a particular stone, or labour in the state sector may be an ongoing process of herding or agricultural production. The state sector can incorporate subsistence production, building projects, craft work, mining, external trade, or the creation of monumental works of art. It could demand special skills, or none at all. Labouring individuals could include subjects as well as war captives.

In spite of the very pronounced development of the Inca state sector, archaeologically very few architectural units can be distinguished as craft loci. A rare instance at the provincial capital of Huanuco Pampa was a large planned complex with fifty independent architectural units, which yielded hundreds of spindle whorls and jars, as well as bone tools and women's ornaments. Morris (1974) suggests that this was a locus where the *aqlla* or 'chosen women', who usually performed ritual services, resided and produced fine cloth. But not many such centres have been identified. And no Mesopotamian temple, to my knowledge, has yielded dozens, leave alone hundreds, of spinning and weaving tools although the temple ration texts indicate that large numbers of people were engaged in textile production in the temple workshops. So we cannot arrive at any formula for the material culture correlates of the state sector. In Harappan archaeology, implanted settlements and the metal and stone-blade tools may well be the

best evidence for state organized production and distribution.

We had begun this section with a discussion of the MH 'granaries' and 'warehouse'. In the Inca empire there was an emphasis on the creation of storage facilities. Huanuco Pampa, for example, had almost 500 storehouses. Storage complexes consisted of one or more rows of single structures of standardized size, round or rectangular. Textual evidence indicates that they held metal, food, cloth, fuel wood, straw, and other items, but there is usually little habitation debris or pottery at these sites. They are not protected by surrounding walls. (See Morris 1972; Earle and D'Altroy 1982; D'Altroy and Hastorf 1984; D'Altroy and Earle 1985).

But we have seen that storage facilities are certainly not a conspicuous feature of the MH settlement pattern. While we listed the difficulties in interpreting the structure at Mohenjo-daro as a grain storage centre, we still expect, at this pre-eminent centre, the existence of a granary, a large structure, and not simply an adjunct to an elite residence, which stored the produce of state lands. Or else the state agricultural lands were widely dispersed and grain was disbursed or distributed at the threshing floors and was not centrally stored. A third possibility is that state service involved work for individual elite households within the largest city rather than for public institutions like a temple or palace. It is not impossible either that we have not yet found the MH granaries, that we are looking for the wrong kinds of structures or in the wrong locations. Considering what we know from the cuneiform texts about the Mesopotamian temple economy, here too the identified storage buildings are surprisingly few. But we know from the texts that the temple did not always have centralized storage. Tablets from the Sin temple at Khafaje indicate that people often collected their grain not from a granary in the town, but from a nearby place, although the records of the transactions were maintained at the town temple.

[It may also be noted that Inca storage is not proven to be a function of the state sector alone. Browman (D'Altroy and Earle 1985: 197-199) argues that Inca stores were used as buffers against harvest failures. In regions like the southern Andes, there could be only one good harvest in seven years. Murra (*ibid.* 200) holds that stores in one area of high productivity like the Mantaro valley could have been dispersed to other regions where scarcities were felt. And then Dillehay (1985) observes that the largest Inca storage complexes occur in the Mantaro valley and Xauxa region, where there was a very harsh lean season when no subsistence production was possible: on the coasts, where seasonality is less marked, the Incas built no storage complexes.]

If MH implanted settlements and metal and stone tools are considered evidence for the state sector of production and distribution, we have to ask if parallel phenomena are detected in Shang China or third-millennium

Sumer or in Inca Peru. We do not have much material with which to answer the question. Certainly there are the Shang storage pits with hundreds of uniform agricultural tools, and Chang (1983: 15-35) makes a case for Shang towns being a result of political action rather than the development of regional exchanges.

In the case of the Incas, we know that more than a hundred new settlements were created, large or small. Even when populated by local people or deportees, these centres were provided with an infrastructure of Cuzco-style buildings and ceramics (Morris 1972). The larger settlements like Cuzco, Huanuco Pampa, and Hatunqolla were urban centres. There were many planned settlements with trapezoid blocks laid out on a grid, and with standardized architecture (Bonavia 1978; Julien 1983).

Where the comparability of material culture patterns is concerned, much would depend on the scope and size of the state sector in a particular case. For example, what proportion of metallurgical output in a Mesopotamian city can we expect to have taken place under temple and palace direction? Much would also depend on the previous history of the region in question. The Inca state was successor to earlier centralized polities on the coast and in the highlands. Keatinge and Conrad (1983: 257) and Schreiber (1987) suggest that where Inca rule incorporated a strong and centralized polity, they left most of its internal organization and local leadership to function with relatively little change. It was in hitherto politically undeveloped areas that Inca rule seems to have left its strongest mark.

In summary, we have sought to establish in this section that a state sector is of importance in the structure of an early state; and that the MH storage facilities are marks not of taxation systems, but of the state sector in operation. The facility at Lothal was significantly disproportionate to the size of the settlement and the known Harappan population in the region, and this bears eloquent testimony to the operation of a state sector.

11

*The unicorn:
Lineage organization and
the mode of political expansion*

We had referred in the previous chapter to the well-known fact that tribal groupings and identities do not necessarily disappear once early states have emerged. 'The state is revealed, in its simplest form, as soon as a kinship group acquires the permanent power to direct the collectivity and to impose its will', this group being 'a specialized group, extricating itself from the relations established by kinship' (Balandier 1970: 130-131). In a state society, of course, political relations and institutions are not reducible to kinship relations and many of the functions of kin groups are replaced by state institutions. But kin groupings do not dissolve altogether. Lineages may survive as localized communities, or functionally specialized groups, or as land-holding entities, membership in which determines an individual's rights to basic resources.

In third millennium Sumer kings did not refer to their tribe or clan names or origins, but descent group identification was still current. A palace text from Early Dynastic Fara (Jacobsen 1957: 94) refers to some palace personnel as '537 descendants of 7 **im.ru.a** [clans]'. Centuries later, Gudea, a king of Lagash, narrates how various **im.ru.a** appeared to build his temple for the god Ningirsu, each group behind its **šu.nir** or its emblem or totem (Gelb 1979: 94). Early Dynastic royal inscriptions from Lagash mention the prince of an enemy state marching to war ahead of his **šu.nir** (Sollberger and Kupper 1971: 55, 58). More important, land sale contracts of the Early Dynastic and Akkadian periods testify to the survival of descent-group tenure, as the sellers in the texts are groups of related individuals and rarely single persons (Diakonoff 1954; Gelb 1979). Adams (1966: 86) therefore believes that lineage organization continued to be 'both powerful and

important' well after the emergence of the Mesopotamian states.

In Shang China it appears that 'lineages incorporated features of both kin and class' (Wheatley 1971: 53). Remote ancestors of the ruling clan were offered sacrifices (Chang 1980a: 166), and the sovereign and his immediate kin ruled over a complex structure of ramaging and internally stratified kin groups. There appears to have been no private property in land but a process of fissioning in which royal individuals moved away from ancestral settlements in the company of people in kin groups, to establish new towns named after their descent group. Thus each town was the seat of a particular descent group. Kinsmen formed the units of military recruitment, agricultural labour, and craft work (Chang 1980a: 158-165; 1983: 125-129). Many clan emblems of the Shang period, as identified on ritual bronzes or oracle bones, were 'pictographs derived from animal symbols' and in one view (Chang 1980a: 165) Shang clans were 'totemic'.

In Inca society the *ayllu* or descent groups held land corporately and professed as common ancestors either a person or an animal or a holy place (Katz 1972: 266). In the highlands descent groups controlled diverse ecological niches and were self-sufficient in food and crafts. Even in Cuzco, the urban capital, each descent group occupied a distinct block of the residential area (Bonavia 1978: 400).

With these examples illustrating a general state of affairs we move on to consider a possible interpretation of the field symbols on the MH seals and sealings.

Mahadevan (1977: appendix II) gives a list of 98 types of field symbols occurring on all MH inscribed objects. Of these, 47 types are single animals, fabulous animals, hybrids, rows of animals, reptiles, fish, birds, trees or leaves, and the sacred brazier (to be discussed later). There are 35 kinds of symbols with human or divine figures occurring singly or in action scenes, and 16 kinds of geometric motifs. If, however, we make a frequency count of the symbols, we find that single animals occur 1516 times, two animals or rows of animals occur 8 times, composite animals 41 times, the sacred brazier 19 times, and birds, fish, reptiles, or trees a total of 100 times. This gives a grand total of 1684, as against 60 occurrences of human figures and scenes, and 162 occurrences of geometric motifs.

That is, of a grand total of 1906 occurrences of field symbols listed, about 88 per cent (1684) are such natural phenomena as function in some early societies as totems or are objects associated with totems.

Ferreira (1965: 47-48) considers totemism to be 'the development of ritual relations between human beings and animals, plants, and objects' into

'emotional relations with ritual undertones and social overtones between social units and species of animals and plants and other classes of objects'. Groups identify with their totems, have myths of descent from or parallel relationship with their totem, base their names and emblems on their totems, observe taboos of avoidance of them, and inherit their totem identification either through the male or the female line. Ferreira notes (*ibid.* 24) that totems are often not so much objects of worship as entities held in reverential awe, and quotes Lowie's observation that the totem can 'shrink into a heraldic emblem distinguishing one kin group from the rest...' (*ibid.* 46).

While it is suggested here that the MH seal symbols were the emblems of Harappan descent groups, other interpretations are of course possible. For example, it could be suggested that the symbols represent various Harappan towns or districts. But we rule this out, because there is no geographic pattern in the distribution of the symbols to indicate distinct provenances. Instead, the greatest range of symbols comes from Harappa and Mohenjo-daro. Could the symbols have been the emblems of guilds? A reference to guilds would imply that the makers of, say, beads in Lothal and Chanhudaro had a common organization, a guild head who was their representative to the rulers, and distributed materials and finished goods. We have seen how difficult it is to assume full-fledged specialization and economies of scale in the bronze age, and guild organization would be anachronistic in this context. In any case, if there were guilds that stamped their emblems on seals, we would expect a very limited range of symbols from a site like Kalibangan where few crafts are in evidence, and a much larger range at the craft production centres of Lothal and Chanhudaro. But at Kalibangan there occur 16 types of symbols, and at Lothal and Chanhudaro only 9 each (Mahadevan 1977: 777-779, table VIII). And 98 kinds of field symbols would then mean the existence of 98 Harappan craft and merchant groups – this is surely too large a number. For the same reason, we should also discount the possibility that the symbols were the marks of particular administrative or military offices or titles. As we will discuss later, early states do not have specialized state offices or differentiation of political roles into ritual, judicial, and administrative functions. But we still need to develop an argument that the seal symbols were the emblems of descent groups.

First, we have seen that the overwhelming majority of symbols are natural phenomena, and could be totemic symbols: we are not arguing for totemism in the Harappan civilization, but for its outward form, a 'heraldic emblem distinguishing one kin group from the rest'.

Second, there are occurrences at MH sites of clay figurines of animals (or animal heads) with perforations at their base, which would allow for their

attachment to nails or poles. Atre (1986: 323-324) suggests that figurines with movable limbs and heads were toys, but they could have had a ritual or symbolic function. At Chanhudaro, Majumdar (1934:38, 41, pl.XXI.4) found a small terracotta of a one-horned (or large eared?) animal, sketchily modelled and toylike, with a vertical hole in its belly. At Harappa (Vats 1940: 300-309) occurred a few bulls' heads with socket holes at the base, either for fixing on to bodies, or possibly on to poles. There is also a steatite rhinoceros figurine with a pin-hole on the underside. From Mohenjo-daro (Mackay 1938: 300-301, pl. LXXIV.18) comes a superbly modelled *cire perdue* figure of a seated goat which has a long and thick tang projecting vertically from its base. Also at Mohenjo-daro (*ibid.* 288-289, pls. LXXIV.8, LXXVIII.6, LXXIX.22,23) occur bulls' heads which are either hollow or have deep holes near the back, which could take rods. An unidentifiable metal animal from the same site (*ibid.* 284, pl.LXXIX.19) stands on a horizontal bar, below which a ring is fitted vertically. A small hole at the back of a monkey figurine from Mohenjo-daro (Marshall 1931: 550, not illustrated) also suggests attachment to a stick or nail. There are more such examples, for instance pierced terracotta animal heads from Lothal (Rao 1985: 494-496). And it may be noted that the bull, the 'goat' with horizontal spiral horns and the rhinoceros are animals depicted on seals (though not the monkey).

These perforated figurines may indicate that animal emblems had some symbolic function and could have been fixed to walls with the use of nails, or else attached to the tops of poles. Moreover, Mackay (1938: 285) points out that some of the Mohenjo-daro animal figurines, in shell, paste, or steatite, were worn as amulets. Let us not forget either that at Mohenjo-daro some stone figures of animals on cubical pedestals were found.

There is also evidence for the holding of processions, with people carrying staffs or poles with animal figures on top of them. Two identical

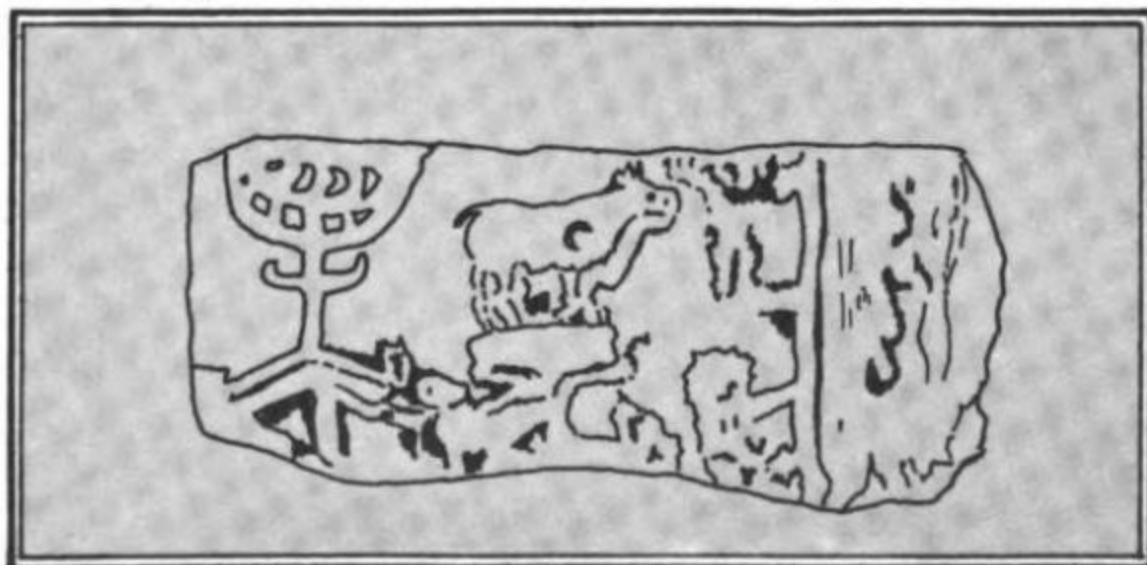


Fig. 27 : Mohenjo-daro seal impression showing procession (after Marshall 1931).

but incomplete sealings made from the same mould from Mohenjo-daro (Marshall 1931: 384, pls. CXVI.5, 8, CXVIII.9) show a row of four human figures carrying tall poles, on top of which stand a 'sacred brazier', a unicorn, and a banner respectively, the fourth standard being damaged. This led Marshall to infer (*ibid.* 384) that 'at least one animal was worshipped as a god itself, or ... as a manifestation of a god', and that some of the seal animals represented deities. On a rectangular clay sealing from Harappa (Vats 1940: 332, pl. XCIII. 309) is depicted a human figure holding (?) a tall pole on which stands the 'sacred brazier'. In addition there are three copper/bronze pieces from Chanhу-daro, identified by Mackay (1943: 187) as 'stave-heads'. These were cast objects, with hollow cavities allowing them to be fitted on to the ends of tubular rods or 'ceremonial staves'.^{*} The poles would not have been very large: the cavity is about 1 cm in diameter in each case. Two of these pieces have a very elaborate shape and moulding, in great contrast to the elementary forms of most MH metal artefacts.^{**}

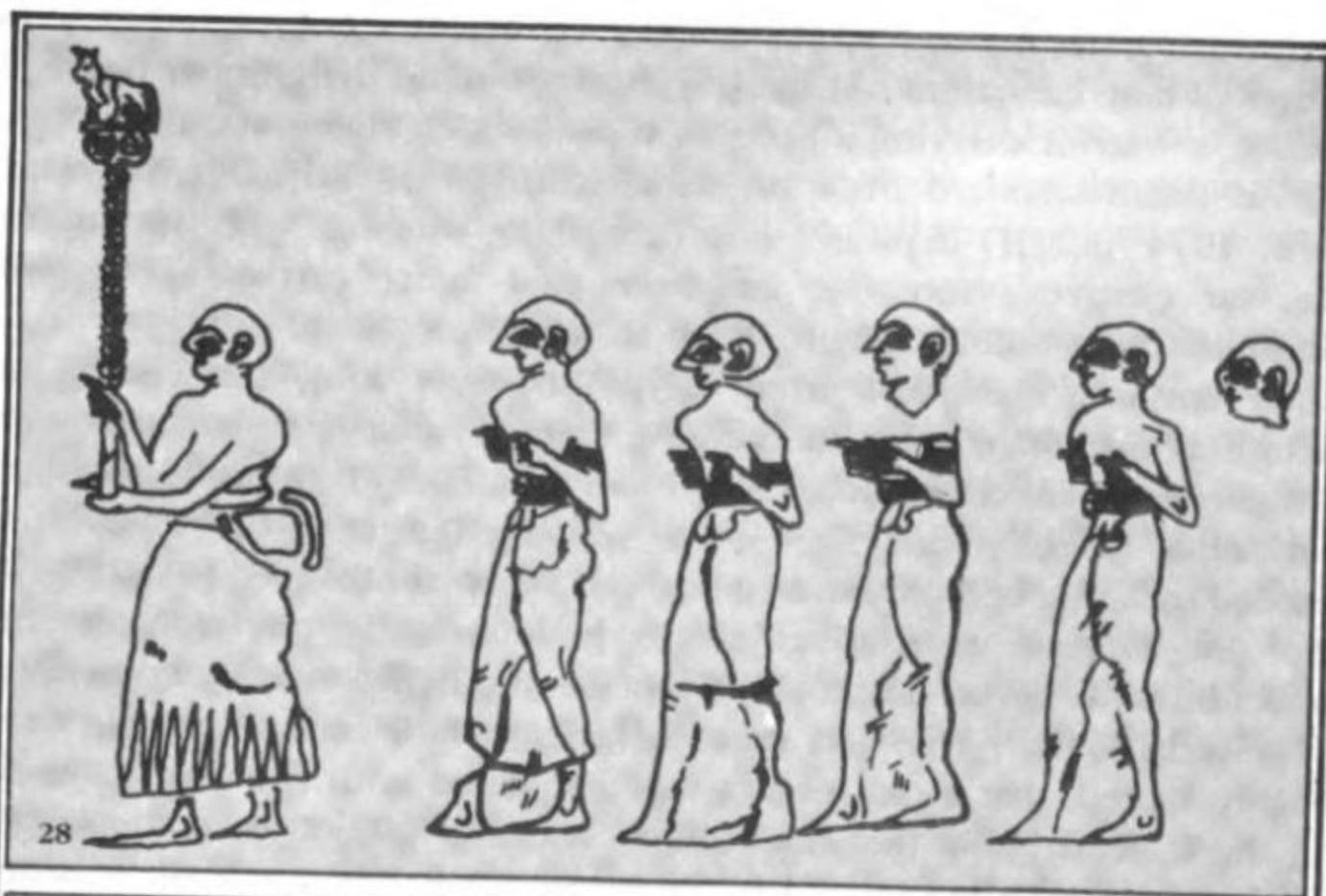
There is also the case of the famous bronze "Dancing Girl" from Mohenjo-daro. One suspects that the British excavators used this term to mean a temple or "nautch" girl, for she is not actually dancing. She is nude, and wears several ornaments. An important feature for us is noted by During Caspers (1982: 100): her left hand rests just above her knee, it is 'disproportionately large', and closes in such a way as to enclose a cavity. During Caspers wonders if this hand could have held a "standard, sceptre, or wand" – which would have been supported at the base by the left leg. She points out that on a similar piece from the same site, the right hand is held in front of the body and is also curved to take some object.

That processions constituted an important public activity is also revealed by the architectural provisions in the Harappa and Kalibangan Citadels, discussed in a previous section. We had referred to the diagonal paved path across the residential part of the Kalibangan Citadel leading to the southern platforms section, and to the four post holes near the southern entrance to the latter. We had also referred to the possible 'assembly area' and processional way along the western periphery of the Harappa Citadel.

In this context, corroborative evidence from other cultures and later periods of Indian history can also be quoted. We have mentioned the textual reference to a Sumerian ruler marching to war with his *šu.nir*

* The shape of three shell objects from Lothal (Rao 1985: 138) is intriguing. Number 15 recalls the shape of the Chanhу-daro stave heads. But 15 and 13 are solid pieces. Only number 12, a simpler version, is hollow. These too are small objects.

** Note that in the *Mahabharata* the wooden poles supporting emblems were decorated with bands or other ornaments made of gold wire or gold sheet (Lal 1983: 36-37).



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Fig. 28 : Mari – inlay standard (after Parrot 1974).
Fig. 29 : Egypt – 'scorpion' macehead (after Aldred 1965).
Fig. 30 : Egypt – Narmer palette.

accompanying the military formation. On the monumental carved Stele of Vultures of king Eannatum of Lagash is shown, behind the gigantic figure of the king, a warrior carrying a pole on top of which stands the figure of a bird. An inlaid standard from the Ishtar temple at Early Dynastic Mari (Parrot 1974: pl.XIII) depicts a line of walking warriors with bound and nude war captives. Here one *kaunakes*-clad figure carries a tall pole surmounted by a bull-like figure, itself resting on a stand.*

The Scorpion Macehead from Egypt shows a king supervising an agricultural rite. Standing with the king are men carrying standards with bird figures or banners (Aldred 1965: 46-47, ill. 36,37). On the obverse of the Narmer Palette (*ibid* 43-45, ill. 32) the figure of the Pharaoh is preceded by a row of four standard bearers. Marshall observed (1931: 385), 'I do not suggest that Mohenjo-daro had anciently any considerable connection with Egypt. But in some aspects the beliefs of the two peoples were clearly similar. The facts that at Mohenjo-daro certain animals were probably sacred, that a cult object was associated with the chief of them [viz., the Unicorn], and that both animal and cult object were sometimes carried on standards in procession, are strongly reminiscent of the practice of ancient Egypt, where cult objects were always associated with the sacred or "*nome*" animals carried there on standards.'

In later periods of history the pictorial insignia of kingship were the *cbbatra* or umbrella, the *camara* fan, the *dvaja* or staff, and so on (Lad 1978: 335). At Bharhut in the first century B.C., a royal procession is depicted in which two standard bearers carry a Garuda-like figure on a *dvaja*. *Dvajas* carrying bird or animal figures are rare in art, but there are several literary references to them. In the *Mahabharata*, king Jayadratha of the Sindhus has a *dvaja* surmounted by the gold figure of a boar. Other animal and bird figures on *dvajas* mentioned in the *Mahabharata* are the eagle, crocodile, elephant, peacock and bull. Although Lad (1983: 37) cautions us that in the *Mahabharata* these animal insignia are not associated with particular descent groups – a father and son can have different emblems – it is possible that these once originated as clan or tribal emblems. The bull shown recumbent and usually facing right, sometimes flanked by two lamps, was the emblem of the Pallava dynasty, occurring on royal seals. Royal epithets such as 'he whose sign is the bull' or 'one who has a bull flag' were in use. At his coronation Nandivarman Pallavamalla was invested with 'all the insignia of royalty: the royal umbrella, the *shankh*, the *kbatvanga* flag, and the bull crest.' (Minakshi 1977: 53-58; Mahalingam 1969: 142). In this late period (the 7th to 9th centuries A.D.) the bull and

* Lad (1983: 36-37) describes events in the *Mahabharata* when warriors aimed their weapons at the enemy's emblem pole in order to gain a psychological advantage.

khaṭvāṅga of course had obvious Saivite connotations; but we may note that the Pandyas had the fish emblem, the Cholas the tiger, and the Chalukyas the boar. Moreover, Mahalingam (1969: 23-24) suggests that the Pallavas and the Salankayanas, neighbouring dynasties using the same kinds of names and the same bull crest, were branch lines originating from a common stock.

In the recent past totemism or its vestiges are observable only among tribal groups or some groups which appear to have been absorbed as lower castes into the Hindu fold, and such survivals are for the main part confined to peninsular India (Ferreira 1965: 258). Ferreira argues that in the ancient past totemistic practices prevailed not among the Dravidian or Sanskrit language speakers, but among the Munda speaking peoples (*ibid.* 258-262) and soon acquired a formal social character. 'Formal, social totemism' is in his scheme a stage following on clan totemism proper, when totemic traits serve various social functions but when clans are not so strongly identified with totems.

Perhaps a similar development can be noticed in other cultures. In the pre-Islamic shamanistic religion of Central Asian Turks there was no animal worship as such (animal sacrifices were made to the gods on mountain tops), but when called, the beneficent spirits appeared to men in animal form: as a bear, wolf, hawk, goose, fish or eagle (Czaplicka 1918: 28 ff). [One cannot avoid recall the heraldic eagle, so prominent on late bronze age seals of Central Asia.] The animal symbols on MH seals need not be interpreted only in the narrow sense of clan crests. On the Shang ritual bronze vessels the predominant motifs are also animals; just as the MH unicorn is a mythical or composite beast (discussed later), here too several of the emblems are like the phoenix or dragon, or consist of a quadruped with reptilian head. Whether or not these were nature spirits, these animals were 'endowed with an aura of mystery' (Chengyuan 1980: 5-10).

Let us also consider the Zande totems. There were some 188 patrilineal, non-localized clans throughout the land of the Azande. These clans had totemic emblems, mostly mammals, birds, and reptiles (Evans-Pritchard 1956; 1961: 1959; Kandert 1978). Occasionally, a particular clan had more than one totem or two clans shared the same totem. Yet for our purposes it is significant that the totem of the ruling Avongara clan was always the leopard, and that no one outside this clan claimed the leopard as their totem. Some Zande clans were large and their totems spread wide, whereas other totems were restricted to small localities, but the numerical preponderance of the leopard totem is striking, and reflects the proliferation of the ruling clan. Also of great importance for our context is the fact that the Azande 'pay little, if any, attention to the totem animal itself'; individuals have often not even seen their totem, and when this is an

imaginary creature like the crested water snake, this is in any case impossible. Zande clans had few corporate functions, the political structure was not based on the clan structure, and totemism itself was non-existent. So we know that totemic emblems can be used in a society which has no totemistic practices, and the totems themselves can be mythical creatures.

In sum, our argument here has been as follows. The external forms of totemism are known to survive in societies well beyond the early farming stage; descent-group identification is known to survive the emergence of class divisions in early state societies, even though the political structure was no longer based on the kinship structure; descent groups may be identified by totem-type emblems even when totemism itself does not exist; animal representations may well have been carried on poles in ceremonial processions in Harappan ritual; in later India and in other cultures animal standards functioned as the insignia of royal houses; thus the animal symbols on MH seals are interpreted as the emblems of various descent groups.*

There is one difficulty with this interpretation. In Mohenjo-daro in house I of the HR-A area (where occurred the hasty burial of the well adorned individual and the fragments of two mutilated statues), were found 11 seals. Of these, 5 have only inscribed signs, but the other 6 all carry one symbol, namely the unicorn. This is, however, an exceptional instance. In many cases, seals bearing different animal symbols occur in the same house. The reports do not state which seals came from floors, and which from fill, and the exact contemporaneity of such groups of seals is not established. Nevertheless, the occurrence of multiple symbols in the same house does require explanation, which I cannot at this juncture provide, except to remind the reader of the large size of many of the houses and the possibility that the elite owners of such houses had clients or dependents residing or working in their houses.

The Unicorn symbol occurs on 1156 out of a total of 1755 seals and sealings found at MH sites (see Mahadevan 1977: 780-782), that is, on 66 per cent of all seals and sealings. This animal is shown with one horn, although the Harappan seal carver knew how to depict two horns on animals like the bull. The Unicorn is often shown with something like a cloth (?) draped over its shoulders, and with bands or stripes around neck or muzzle. On about 84 per cent of the Unicorn seals and sealings, the 'sacred brazier' is also depicted. This object has a close association with the Unicorn and only on stray examples does it occur with the short-horned

* Pande (1986), in his analysis of the copper tablets unique to Mohenjo-daro, finds some degree of correlation between inscriptions and symbols, and gives some credence to the symbol-lineage linkage I had suggested in an earlier study.

bull, rhinoceros, or antelope. If the torso and legs of the Unicorn are like those of an ox, its neck and muzzle are not. The Unicorn is different from the other seal animals in that it is a mythical beast.

The Unicorn is numerically the most frequent seal symbol, as well as the most widely dispersed seal symbol at MH sites. Thus we infer that people who identified with the Unicorn were those who had the most frequent need for seals, marks of identity or authority or state office. Those who identified with the Unicorn must have been the descent group most extensively involved in state activities or trade, and thus it is inferred that the Unicorn was the emblem of the Harappan ruling elite.

The presumably ritual object so often depicted under the muzzle of the Unicorn has been variously interpreted as a 'sacred brazier', an 'incense burner', or a *soma* filter (Mahadevan 1981-83). This object occurs by itself on one seal, 14 sealings, and 4 miniature seals/tablets from Harappa. Most of the latter come from the lowest strata at Harappa and tend to be earlier than the standard MH seal form. The Unicorn does not occur on these miniature seals/tablets, and thus the 'sacred brazier' antedates the Unicorn as a symbol.

To my knowledge there is no sculpture at any MH site which can with certainty be identified as the Unicorn, although animal heads with single horns do occur at Chanhudaro, Lothal, and Kalibangan. On a gold head ornament from house XIV in the VS area at Mohenjo-daro occurs, at either end, an engraved motif resembling in outline the sacred brazier (Marshall 1931: 527, pl. CXVIII.14). That a personal ornament in precious material carried this emblem would indicate that the emblem had elite associations, and we may recall the royal *patta* of kings in later periods.*

The Unicorn occurs on seals and sealings at the following MH sites: Harappa, Mohenjo-daro, Lothal, Chanhudaro, Kalibangan, Banawali, Allahdino, Balakot, Kot Diji, Jhukar, Lohumjo-daro, Ropar, Surkotada, Dholavira, and Pabumath. At Amri was found a seal with a composite animal comprising a torso and the necks and heads of three animals of which one is the Unicorn. Seals and sealings from Rakhi Garhi and Desalpur bear no animal motif. The animal on the seal from Shortughai is the rhinoceros. Thus, of all MH sites where animal symbols occur on seals and sealings, Shortughai alone lacks the Unicorn.

Geographic or regional patterns are hard to discern in the spread of seal symbols. No symbol is confined to Gujarat or to the Sutlej-Jumna divide. The rhinoceros, horned tiger, ox-antelope, and goat-antelope occur more frequently at Mohenjo-daro than at any other site. So animal symbols do not

* The reader is cautioned, however, that when fillet ornaments occur on male statues (which, we have argued, were representations of royal persons), they have simple circular ornaments and no motif like a brazier. See table 3.

cluster in provinces. The reason is not far to seek if we believe that the symbols represent descent group affiliations. We expect only a fraction of the population to have owned seals, so that the emblems of many people are unknown to us. Those who owned seals would have been involved in state administration or trade, and even if they came from different clans or tribes, they would not have been confined to their place of origin.

At every site where more than a few seals and sealings have been found, the overwhelming majority bear the Unicorn. Banawali is the exception, but note that here the figures (made available by Shri R.S. Bisht) refer to seals alone. The figures are as follows :

	Objects with field symbol*	Objects with Unicorn	
Mohenjo-daro	1240	747	(60%)
Harappa	511	239	(46%)
Chanhudaro	52	43	(82%)
Lothal	67	54	(81%)
Kalibangan	65	45	(69%)
Allahdino	7	5	
Balakot	5	4	
Banawali	33 (only seals)	4	

Further, no other field symbol at any individual site has a frequency of more than 7 per cent.

If members of the ruling elite had spread over Harappan territory, does it mean that the state did not leave the administration of its various localities to local people? Let us now explore the forms which political expansion could have taken.

No state can function without the use, or the threat of the use, of force. By definition a state society is one in which the ruling stratum holds the monopoly of the legitimate use of force. Economic inequalities cannot be maintained without coercion and the ability to prevent the fissioning of the polity.

The defence provisions in the architecture of some sites, and the destruction levels at Kot Diji and Gumla, were noted earlier. Early states do not necessarily have standing armies, and troops can be quartered in tents.

* Mahadevan 1977 : Table VIII; Rao 1985: 323; personal communication, R.S. Bisht.

So we do not have to look for military cantonments or barracks in order to establish militarism.

A large number of stone mace-heads have been found at Mohenjo-daro. Often pear shaped or lentoid, when lashed on to wooden shafts they could have made formidable weapons (Marshall 1931: 459-461). Clay sling stones, large and small, have been discovered at many sites, including the Citadel parapet at Mohenjo-daro, and are especially profuse at Hisham Dheri (see B. Allchin 1982). Harappan weaponry also included copper and stone arrowheads, and spears and daggers.

We have no artefactual or pictorial evidence that the Harappans used metal helmets, leather or wicker shields, socketed axes, or chariots in war, like their Mesopotamian contemporaries (see Eichler 1983). Yet the seeming poverty of Harappan weaponry cannot be an argument for the absence of militarism. For one thing, the Harappans did not have near neighbours who used more sophisticated weapons. We need not dismiss clay missiles as useless weapons: sling stones find mention in the Vedic and epic texts of later periods (Singh 1965: 97), and Lad shows (1983: 52-54) that in the earlier portions of the *Mahabharata* the bow and arrow and the heavy mace were the main weapons.

It can further be argued that Inca metal weapons were not of a sophisticated form either. In Inca warfare there was a heavy dependence on slings, darts and bolas, thrown en masse at the enemy rather than hurled with accuracy at particular targets (Conrad and Demarest 1984: 127). And no one can doubt the military efficiency of the Inca state, with its arrangements for provisions, well built roads, and the disciplined formations in which its soldiers marched. In other words, a military machine depends not only on technology but also on efficient organization.*

Warfare however is neither a cause, nor the sole means of expansion, of early states. The oral traditions of many societies record how communities on the peripheries of a state formally requested that a royal personage be sent by the sovereign to their land to act as law-giver or the settler of disputes, or to give military protection. Such instances are recorded even in the ethnohistory of the Inca region. This was not a question of spineless subjugation, or of state propaganda alone. Subject peoples could benefit from the establishment of peace, protection from neighbours, or participation in the distribution networks of utilitarian or prestige goods. According to Horton (1972: 118-119), the folklore of African stateless

* It has also been said that the first state of Zimbabwe was not founded on militarism or force, because the massive stone architecture at Great Zimbabwe is not defensive in function. But Beach (1980: 42, 105-106) points out that at least two successor states, the Rozvi and Mutapa, though lacking military architecture, are known from other sources to have had large fighting forces, going to war under battle standards of animal form.

societies 'frequently betrays fascination with life in the great states', and those peoples who customarily referred their disputes to outsiders could ask for kings or even 'welcome such kings when they appeared unasked'.

The ruling Avongara clan entered the Zande region as conquering immigrants in the eighteenth century, and spread in all directions with their armies, uniting and dominating a diverse population by virtue of their superior political organization. The Azande were very mobile, and constant wars, migrations, displacements, and lineage fissioning led to a great dispersal of clans. The royal clan proliferated with its custom of taking many wives (Evans-Pritchard 1971: 143). In each Zande kingdom, the central area was personally ruled by the king, but the provinces were governed by his sons, and were autonomous in many respects. In minor provinces or remote districts, a royal son could settle down and there attract a following, and increase his prestige. Royal sons were in fact encouraged to settle in remote areas and found colonies which gradually became small vassal domains from where Zande customs and political institutions were disseminated (*ibid* 123, 136-137).

We had seen that in Shang China a king could send a kinsman out to build a new town, taking with him a land grant, members of certain kin groups, ritual artefacts, and a name for the new political subdivision that was to be founded (Chang 1980a: 158-163). Chang thus observes (*ibid* 159) that the building of towns was 'deliberate and planned' rather than a result of economic 'growth'.

The Shang waged frequent wars against alien states and sacrificed large numbers of prisoners-of-war in their rituals. Often, they absorbed hitherto uncultivated tracts on the peripheries, then organized field clearance, and subsequently conducted military operations. Chang (*ibid* 253-256) also mentions the intermarriages between the Shang elite and non-Shang aristocrats which led to a dispersal of emblems on ritual bronzes across political boundaries.

In Zimbabwe it is likely that the creation of patron-client relationships through cattle loans was a mechanism of political expansion. Beach (1980: 230 ff) reports a tradition about a favoured herdsman of the king of the Mutapa using his cattle wealth to build up his own following and then establish a ruling line himself.

In the Inca system of assymetrical marriage alliances, the royal patriline was dispersed. Even within the royal patriline rank seems to have depended on the mother's status, and low ranking sons of the ruler were stationed further from the capital than those of higher rank. These sons were brought up among their matrilineal kin in their mothers' villages. Thus marital exchanges and the distribution of prestige goods were both closely connected with the spatial structure of Inca polity (Friedman and Rowlands

1977: 228 ff, quoting the work of Zuidema and Morris).

An incident in the mid-nineteenth century in southern Africa will place the importance and nature of matrimonial exchanges in perspective. Mswati, the king of the Swazi, offered a royal wife to the Mavimbela chiefdom; when she was refused because of the high brideprice in cattle and a desire for political independence, Mswati attacked the chiefdom (Bonner 1980: 91).

The eastward expansion of the Lunda kingdom of Central Africa in the eighteenth century is also of interest. When attempts to expand eastward failed because of Luba opposition, the Lunda turned their attention southeastward to the upper Lualaba valley. From here, expeditions were sent a great distance east to the upper Luapula valley, for the potential of the ivory trade had now become known. In the latter region the local Bisa people had been hunting ivory for exchange with the Portuguese. At a strategic crossing of the Luapula river a Lunda explorer established a colony, became the political representative of his king, and created a court. Local people who gave him allegiance were made honorary Lunda. Agricultural innovations were introduced, trade in salt and copper developed, and Bisa traders made gifts of Asian fabrics to the Lunda agent, in return for ivory tusks (which were acquired by the agent as tribute from his new subjects) (Birmingham 1975: 379-380).

We can thus appreciate that Harappan political expansion could have taken a variety of forms: prospecting for resources and the establishment of colonies, intermarriages and royal-descent group proliferation, the geographic dispersal of the ruling descent group, the creation of patron-client partnerships, and the co-option of local peoples into the political system and status hierarchy.

At this stage we may recall the overlap strata between EI and MH levels at some sites, and the intrusive nature of MH artefacts at several transition sites. At Lothal in the earliest phase (I) where a local ceramic tradition is in evidence, there was no grid plan or Acropolis (Rao 1979: 28 ff). But three seals occur in Phase I, nos. 1760, 5371, and 989, each bearing the Unicorn (Rao 1985: 306). At Amri (Casal 1979: 107-111) baked bricks of MH type occur only in level III C, whereas MH pottery was already present in level II. At Banawali the stratum with the first evidence of MH pottery contains a house built of bricks of both Sothi and MH type (Bisht 1984: 89). Solidly built structures of MH type occur at Mitathal only from the middle levels of period II A, and Suraj Bhan (1975: 6 ff) calls the earlier levels of this stratum a 'formative phase'. It is therefore not impossible that before a local community was incorporated into the political and economic system and given a range of infrastructural facilities, social linkages were first established. Once incorporated into the state, local people would

contribute their labour in return for protection, the administration of justice, and access to non-local products or new technologies. In turn such settlements would gradually become nodes for the dissemination of the ruling elite's language, oral traditions, mythology, and concepts of law. In Chapter 2 we had noted that the entire Harappan area could not possibly have formed a single chiefdom, for chiefdoms depend on personal contacts between chiefs and their followers. But early states are not organizationally so far removed from chiefdoms that they can unite large territories only with the use of force and a fledgling administrative structure. The simplest state organizations seem to represent a kind of halfway house between the situations of 'power over people' vs 'power over resources', and no state structure would survive long unless various kinds of personal linkages were forged between the representatives of the centre and at least the elders or leaders or elites of local communities.

Finally, let us consider the case of Harappan Gujarat, perhaps a special case because we have little evidence for either widespread or long established agricultural communities in Kutch or the Rangpur-Lothal region. How did Harappan rule, with its base in an agricultural and presumably pastoral economy, establish itself here?

The sites of many hunting-gathering groups using microlithic stone tools are known in eastern Saurashtra and northern Gujarat. Some of these groups appear, on the basis of few but presumably representative C 14 dates, to have been contemporary to the Harappans. At Langhnaj (Sankalia 1965) were found weathered sherds of a handmade and badly baked black and red pottery, a few copper tools, and a quartzite ring stone or mace together with two small ground-stone axes, in association with microlithic tools. These point to contacts with technologically more advanced communities. Perhaps specific Harappan contacts are indicated by the occurrence at Langhnaj of dentalium shell beads and two small stone disk beads. Dentalium, a variety of marine shell, occurs at MH Nageshwar, Lothal and Harappa. Possehl (1980: 69-70, 73-76) has considered the implications of the extraneous objects at Langhnaj. We know from ethnographic and historical evidence (see Moore 1985, Dennell 1985) that hunter-gatherers and agriculturists can have varying kinds of relationships with one another: exchange of grain or craft products for forest produce; raids on villages by hunter-gatherers; hunter-gatherer demands for the settlement of their internal disputes at farming villages; the use of young hunters in agricultural labour; intermarriages; and, most important, the attraction of farming villages and their crafts and storable grain for members of hunting societies, and the absorption of some of the latter into the farming way of life. It is difficult to envisage successful Harappan expansion in Gujarat unless some stable relationships with hunting groups were maintained and many

hunter-gatherers induced to settle and adapt to farming at Harappan settlements.

12

Does literacy imply a bureaucracy?

Harappan objects inscribed with the signs of a script include rectangular steatite seals, copper tablets (at Mohenjo-daro), copper/bronze weapons, ivory rods, and pots. No long texts are known: if any were written, they must have been on perishable materials. The terse inscriptions (over 2,000 in number) together contain a maximum of 350 basic signs with only about thirty signs recurring a hundred or more times (Paspala *et al.* 1969: 8-9). In contrast, the earliest texts from Mesopotamia, which are about 4,000 in number, contain a total of more than 1,000 signs.

Harappan writing was logographic, with one sign standing for an entire word. Many of the signs are recognizable pictures, but not all. Scholars believe that in this writing system phonetization was already achieved: that picture signs stood both for the objects depicted and also for words with the same phonetic value, and that numerals and determinatives were also used. We will discuss briefly here the significance of the particular system of writing used by the Harappans, and the implications of literacy in general.

Writing represents a kind of intellectual revolution in which people acquire a complex set of visual symbols to represent the phonetic elements of their spoken language. Writing facilitates the keeping of intricate records, the storage of information, and the organization of complex exchanges where several participants are involved and transactions are staggered over time. And writing makes communication at long distance reliable. The authority of the written word on clay, stone, or papyrus would have given greater efficiency to the functioning of a political centre controlling a large area (see Goody 1986: 87 ff).

Let us at the same time remember that we cannot assume widespread literacy in the bronze age. Only three kings in the entire pre-Achaemenid history of Mesopotamia claimed to be able to read and write what had rapidly evolved into a cuneiform syllabary. And several ethnographic instances can be cited of non-chirographic methods of mnemonics, calculation, record keeping, or calendar keeping.

That the Harappan script did not undergo major changes and remained logographic need not necessarily indicate that the system was either underdeveloped or that it was particularly cumbersome to master. The Chinese script has also remained a logographic one until today. Boltz (1985) shows that a logographic script with the use of determinatives, phonetic complements, and secondary readings of signs based on phonetic or semantic association, is a 'fully developed, mature and versatile system' of writing. More intriguing, it has recently been pointed out that where, as in the Chinese system, a single sign stands for a morpheme which is often monosyllabic, people who are 'unable to understand one another's speech can understand one another's writing. They read off different sounds for the same [sign]' (Ong 1982:87-88). In China the spoken language has diversified into six or eight main varieties, but the script has remained the same and has 'beautifully' served the needs of all Chinese (Sampson 1985:156-158, 170-171). Most important, it is now considered absolutely untrue that it is extremely difficult to learn to read a logographic script, or that a logographic script takes longer to learn to read than an alphabet, for the former does not require a mastery of phonics (*ibid* 161-164).

We have referred to non-chirographic systems of record keeping. In our context the prime example is the Inca *quipu* system. With the use of various kinds of knotted cords, the Inca were able to maintain detailed accounts of state activities. The Azande and the Kuba did not have writing either. So while Goody (1986:91) asserts that the more or less simultaneous emergence of writing and states in many parts of the world in the bronze age cannot be a matter of simple coincidence, one cannot consider writing to have been an inextricable component of early state structures.

Ong (1986:81 ff) makes the extremely important point that the earliest writing did not entail the simplicity of handling paper and pencil as does writing today. He sees the emergence of writing systems in ancient societies as the coming of a new technology or a new craft, with its own tools and skills for placing complex signs on clay, stone, or papyrus. Bronze age scribes would have been 'specialists' in the sense that writing required special skills.

But one cannot accept the causal link often claimed between the emergence of writing and the development of 'bureaucracies'. True, in Mesopotamia the overwhelming majority of the earliest texts have to do

with the administration of a public institution. But this is not the case with Old Kingdom Egypt, where temple records are few when compared to legal, ritual, and biographical texts. And in Shang China writing was used mainly to record ritual bronze vessel dedications and the prognostications of oracles. The MH seal inscriptions can hardly be interpreted as memoranda or accounts texts. They are much more likely to contain the name, title, or office of their owners. The evolution of true bureaucracies may have depended on literacy, but the reverse does not seem to have been the case.

If a bureaucratic organization means the existence of a system of administration based on written records, a hierarchy of command, established and impersonal procedures, and each office having a distinct and specific jurisdiction (i.e., officially separated administrative functions), then the earliest states were certainly not bureaucratic structures. Skalnik (1978:613) observes that in early states 'the dominant type of functionary... is the "general" one fulfilling plural roles'. No specifically administrative buildings or offices have been found at Inca sites; state personnel here had 'multifunctional roles', economic, military, political, and ceremonial - for example, young warriors were carefully instructed in ritual matters (Morris 1982; Carrasco 1982:33). Only *quipu* record keeping may have been a separate and distinct activity.

The best argument for the lack of bureaucracy comes from Mesopotamia, where the IIIrd Dynasty of Ur organized the maximum extension of the state sector, and thousands of clay tablets were written to record the working of temples, temple agricultural lands, *bala* centres, weaving workshops, and so on. At the same time, we know that individuals could hold multiple state offices in this period.

A common pictorial theme in the seals of the highest officials of the realm was the presentation of the seal holder to the seated king, indicating that the seal holder owed his position only to his personal relationship with the king; the king's name is almost invariably mentioned in inscriptions on such seals (Winter 1987). We know, in fact, that many highly placed officials were related to the king and that there were intermarriages between the families of high officials and the king. Zettler (1987) describes how the Inanna temple at Nippur was administered in this period by a particular family. The officially appointed administrator was Ur-meme, but his close relatives were able to secure doors in the temple with their own seals, receive temple produce, and negotiate contracts, not because they had any official standing but because they belonged to the family of the administrator. As administrator, Ur-meme carried out such diverse functions as receiving goods, selling goods, entering legal proceedings, and issuing seed and fodder. Meanwhile, one branch of his family held the governorship

of the city of Nippur. Few specialized state functions are thus evident in the Ur III period. The **sukkal.mah**, probably the highest officer, handled military matters, external affairs, as well as the internal administration (Michałowski 1987:59); and one person could be both the **ensi** of a city, in charge of temple estates and production, as well as its **šakana** or military head and overseer of state lands (Steinkeller 1987: 24-27). State merchants could also act as political agents (Winter 1987:79).

The autobiography of Weni, an official of the VIth Dynasty of Old Kingdom Egypt, tells us that, when war broke out officials with such diverse titles as Seal-Bearer of the King, Friend of the Palace, and Overseer of Dragomans, were mobilized for service. Harkhuf, another official of the state, held multiple titles such as Seal-Bearer of the King of Lower Egypt, Lector-Priest, and Confidant of Royal Commands (Gardiner 1966: 94-101). These instances indicate that Old Kingdom titles were not marks of specific and different state functions, but honorifics.

From his study of Old Kingdom titles, of which there was a total of about 2,000, Baer (1960) detects the 'rise of an independent civil service' in the time of the Vth Dynasty (2500 B.C.onwards). Till then administration had largely been a prerogative of the Pharaoh's kinsmen. Yet in the time of the Vth and VIth Dynasties we see that one person could hold dozens of titles; that an individual could acquire during his career titles of increasingly high rank without necessarily taking on different work (*ibid.* 6, 37-38); that no individual held the priesthood of more than one pyramid but could hold several offices at the same pyramid (*ibid.* 257); and, therefore, that the highest titles may have been associated with certain ceremonial functions but were *not* connected with 'specific, practical functions within the administrative machinery' (*ibid.* 6).

Vansina (1964: 126 ff; 1978: 131-135) insists on the administrative complexity of the Kuba state. He points out the wide range of **kolm** titles, and says that no office was a replica of any other. Titles varied though the provinces of the realm, each carrying its own circumscribed authority. But what we find is that, while official spheres were demarcated, there was no differentiation in type of function. For example, the **kikaam** had a ritual role, led discussions at council meetings, judged certain kinds of cases brought to the capital, and also suggested candidates for **kolm**-ship. Again, the **cikl** took part in council discussions, was responsible for the royal enclosure, took charge of appellate cases and law and order, and also supervised the collection of tribute and labour levies in three specific areas. The Kuba state therefore does not appear to have been organized on truly bureaucratic lines.

We can therefore assert with reasonable confidence that the MH state could not have had an administration divided into specific and separate

tasks of policing, judicial work, labour organization, ceremonial, or movement of resources. We need not look for 'offices', or buildings with specific administrative functions in Harappan settlement remains.

This absence of bureaucratic organization enables us to better appreciate what we had said earlier, namely, that the simplest state organizations extract labour but not harvest tax from their populace. The collection of a tax on all production would have had multiple organizational requirements: extensive and low cost transportation facilities; multiple storehouses through the countryside; an efficient scheduling of grain collection; institutionalized means of preventing fraud; and mechanisms for the payment of numerous officials in charge of each stage of tax collection, which in turn would mean that only a fraction of what was taxed would actually reach the capital. It is unlikely that the earliest administrative organizations had the wherewithal to handle such complex processes.

We can also see the logical connexion between the absence of impersonal and ramifying bureaucratic organization and the mode of political expansion of the simplest state structures, which was achieved through strategic marriage alliances, sending royal persons out to borders and new settlements, the making of prestations, and patron-client relationships – in other words, through the forging of personal ties between rulers and certain members of the ruled. Such personalized linkages in a sense make up for rudimentary administrative mechanisms.

One state or several?

In different contexts we have discussed the marked similarities of material culture remains at the MH sites. Does this mean political unification of the entire MH region? Where infrastructural artefacts are concerned, we had certainly implied that this was so.

But Renfrew and others (Renfrew 1975; 1986; Cherry 1986) have suggested that it is 'peer polity interaction', not political unification, which produced similarities in monumental art, writing, recording, measuring systems, and symbols over a region. They hold that the first states to emerge in a region were not large monolithic organizations, but several Early State Modules, emerging independently; that in an early civilization there will be roughly ten chiefdoms or ESMs, with approximately equal territories, their centres located say 45 km apart. These peer polities will have sustained interaction among themselves and therefore produce specific homologies in political institutions, writing and measuring systems, language, and religious practices. Peer polity interaction involves warfare, competitive emulation in ceremonial exchange or wealth display or monument building, 'symbolic entrainment' or the rapid emulation of a well developed symbolic system in areas where this does not exist, increased flows of goods, elite matrimonial exchange, and so on. Such interactions stimulate production, nucleations of population, accumulation, and/or craft specialization, so that peer polity interaction is itself a causal factor in further political development. In the course of time one polity may come to dominate its peers and only then does a 'nation state' or empire come into being.

Fisher (1985) shows that the spatial parameters of the ESM model have little predictive value; that in some regions of the Americas the spacing of

central settlements does not conform to Renfrew's model; that peer polity interaction only in some cases culminates in state formation; and that in some areas an early state is known to have emerged without any neighbour with a comparable political organization. In this context we may quote Vansina (1978: 7) on the absence of comparable states within a radius of a hundred miles around the Kuba kingdom, and the sole exception of the Bieeng chiefdom as its southern neighbour.

Nevertheless, the concept of peer polity interaction does warn us that material culture uniformity may not necessarily imply political unification under one state system. And from a slightly different perspective Brumfiel (1985) suggests that factional competition for resources or power in a complex society will lead to vertical schisms; the proliferation of military pacts or matrimonial alliances or lineage fissioning will mean that interaction will begin to cut across political boundaries and become region-wide and that symbolic artefacts will assume an all-region style.

But does this approach give us new insights into the interpretation of archaeological finds? Cherry argues that similarities in material culture over Crete in Minoan times was due to sustained interaction between some three or five palace-centred polities, somewhat evenly spaced over the island. The argument for multiple polities rests on the spacing of the palace centres, the similarity of palace layouts and functions, the evidence in early Greek oral tradition, and the archaeological evidence for the local developmental stages of each palace centre. It is also argued that the absence of palace defences reflects the absence of warfare and warrior aristocracies in Minoan Crete, and not political unification – a theoretically unacceptable proposition, and one which also raises the question whether the two concepts of multiple polities and sustained interaction across polities can be used to explain any archaeological pattern. We should be able to predict that under political unification (say in the later Mycenaean period) the distribution of sealings and seals, or masons' marks, would take one pattern, and with multiple polities, another pattern.

One would have thought that the Mesopotamian case was ideal for investigation along these lines. What kinds of archaeological distributions do we find when there were about a dozen mutually competitive and interacting city-states in the Early Dynastic period, and how do these change when the IIIrd Dynasty of Ur achieved political unification? In the first place it is well known that during the Early Dynastic period political frontiers were constantly shifting and were not cultural boundaries: all through Sumer we see the same writing system and similar religious architecture, metallurgical techniques, cylinder seal carving styles, and so on. But the occurrence or absence of certain ceramic forms at different sites (Moon 1982); destruction levels at temple sites in Mari or Khafaje; large

palace complexes at different sites; different weight systems; and the occurrence of monumental art at several centres might point to the existence of multiple polities, if there had been no textual evidence to go by. Yet during the Ur III period too, monumental art was not confined to one centre; ziggurats were built not only at Ur but also Eridu and Uruk; and palaces were built for provincial governors at subsidiary centres, although that at Eshnunna was less than a quarter the area of Ur-nammu's palace at Ur. More definitive clues to political unification in the Ur III period would be the standardized weights, and the standardized pictorial content of the cylinder seals of high officials. The really major change observable is in settlement patterns: in the Early Dynastic period, of a total settled area of 1659 ha, 164 ha (or less than 10 per cent) comprised settlements smaller than 10 ha. In contrast, under the IIIrd Dynasty of Ur, 685 ha or roughly 25 per cent of the total settled area of 2,725 ha was occupied by settlements smaller than 10 ha in area (Adams 1981: 137-142). To what extent this change was an effect of political change, however, I do not know. The fact remains that we do not have adequate archaeological techniques to detect the presence of political frontiers.

Finally we can ask whether interaction between polities or social groups will necessarily lead to cultural similarity. For Paynter (1986), who views interaction in terms of surplus flows between frontiers and hinterlands, 'culture contact regularly creates differences'. And Hodder (1979) holds that even where there is regular interaction between groups, if these groups compete over resources, their material cultures will tend to be distinctive, because of attempts to assert group identity and exclusiveness.

I have found it much more useful, is asking whether there was one state centred on Mohenjo-daro or several mutually competing states, to derive insights from African history, replete with instances of powerful states inducing state-like processes among neighbouring societies.

Barkindo (1985: 249 ff), when discussing the expansion of the state of Borno, points out that Borno's neighbours could have exercised one of three options: flee into inaccessible areas; unite in mutual defence and ultimately face annihilation or absorption; or else, develop self-protection devices like co-operation with the powerful state so that some of the elements of the political structure of the latter would inevitably be adopted. Thus the Mandara peoples, who had been traders in food items for the iron products of hill peoples, began to supply iron as well as slaves to Borno, adopted some of its political institutions, and ultimately formed a rapidly developing state incorporating the hill settlements. We had suggested in an earlier chapter that the development of local elites would have been stimulated in the Kulli culture area because of interaction with the Harappan state.

Obayemi (1985: 260-262), while cautioning that not all small-scale states in southern Nigeria were influenced by the more powerful ones, admits the existence on the margins of the larger states of lesser polities. These could 'very much be the products of the metropolitan influence, miniature carbon copies of the metropolis', which borrowed certain elements of political procedure for reasons of prestige. This is the case with Oyo, the major Yoruba state, and its less prepossessing neighbours (*ibid.* 290).

There is also the well-known case of the Tiv, an acephalous tribe, who in the nineteenth century sent their elders to the royal court of the Jukun, their northwestern neighbours. The Tiv were not subjects of the Jukun state, but did this in order to learn rituals and acquire emblems from the Jukun (in return for a fee) (Alagoa 1985: 377).

We are not, of course, speaking of any mechanical 'diffusion' of state organization from one area to another. So far we have mentioned changes taking place when one society engaged in trade with a major political power, and when prestige accrued from the borrowing of forms of power from an eminent neighbour. The most striking instance of the latter is a tradition which recounts that the kingdom of Benin came into being when local elders sent for a ruler from Yorubaland, and that the first rulers of Benin took the Yoruba royal title and Yoruba face-markings. A Portuguese account of 1552 says that on the death of the king of Benin, the new ruler sent to the Yoruba king an ambassador laden with gifts, and the Yoruba king returned to him a staff, a head piece, and a cross-shaped object, all of brass, to confirm the succession. The Portuguese account continues, 'Without these emblems the people would consider that they did not reign lawfully, nor could they call themselves kings' (Obayemi 1985: 303-308). In time it became Benin's turn to rise to political and cultural pre-eminence and become the cultural model of smaller polities and sponsor of candidates for neighbouring thrones (*ibid.* 311).

When regions were incorporated into a large empire like Songhye (fifteenth century), while contributing to imperial revenues, they could form autonomous units and continue to be governed by local people. Yet they could themselves experience major change. When we learn (Hunwick 1985: 349) that some governors of greater Songhye enjoyed special privileges like the right to wear special apparel or enter the imperial palace on horseback or employ drummers in their retinue, we infer that in the provinces of an empire the differentiation of elites from commoners was deliberately fostered.

We must also consider migrations. On the whole we would expect people to migrate into the territories of powerful states to seek opportunity or escape from continuous local warfare. But it is also known to happen that disaffected members of a ruling elite have emigrated to neighbouring

regions. Alagoa (1985: 390-391) gives the example of the Okrika state of the Niger delta, originally populated by fisherfolk. According to an oral tradition of the region, a chief once gave refuge here to a merchant from a neighbouring state; while the chief was away on long fishing trips this immigrant began to adjudicate disputes. And when the host chief died, the merchant founded a ruling dynasty. This may not have been the literal truth, but indicates the kind of way in which a satellite state might emerge.

Thus we must bear in mind the probability that state emergence in the Indus valley, with its long history of technological development and intercultural contacts, and its long history of contacts with and across the Baluchistan mountain zone, could have induced replicating processes in adjoining areas where conditions would allow that to happen.

At this stage of knowledge, however, there are several pointers to political unification under one state :

- ▶ the absence of parallel developmental trajectories, in the centuries before the MH period, in Sind and Kutch, and the lack of evidence for contacts between these regions in the earlier periods;
- ▶ the likelihood that the Harappans established colonies (also incorporating local peoples) in Makran, Kutch, Kathiawad, and the Oxus region;
- ▶ the more marked similarities across MH sites in infrastructural elements like bricks, chert blades, metal tools, and carts than in valuables like faience containers or silver vessels;
- ▶ the lack of regional clusters in the distribution of any animal symbol on the seals;
- ▶ the ubiquitous occurrence of the Unicorn and its exceptionally high frequency of occurrence at Mohenjo-daro and Harappa;
- ▶ the absence of any building at a MH site other than Mohenjo-daro like the Great Bath or the Pillared Hall;
- ▶ the occurrence of stone statues of men at Mohenjo-daro alone;
- ▶ the exceptionally large size of the storage facility at Lothal in relation to the size of this settlement, and the comparative sizes of the facilities at the two immensely larger cities of Harappa and Mohenjo-daro;
- ▶ the uneven distribution of MH sites in our 'three circles', the lack of medium-sized sites on the edges of the circles, and the locations of large sites like Harappa and Rakhi Garhi near the northern and eastern fringes of the Harappan settled area, so that it is unlikely that the largest MH centres performed like functions or were in political or economic competition;

- the uneven distribution of citadel sites, and their bunching in zones outside the 'three circles', but at varying distances of 45 to 120 km between neighbouring citadels in the Divide.

While the rich and varied anthropological and historical data on emulation and replication processes indicate that in future, with more archaeological information at our disposal, we may have to consider a range of possibilities, at this stage of knowledge it appears to me that we are dealing with a veritable Harappan 'empire'

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The problem of ideological unification

Hitherto we have been seeking the structural principles of the organization of the earliest states, and must now consider whether we can include the religious factor into the scheme. But are particular religious beliefs and practices essentially connected with particular social conditions? Can we expect certain specific forms of religious practice in early state societies? Certain established views concerning such correspondences are not easy to accept *in toto*. If, for instance, we were to follow the approach of Eliade that the religion of all human societies must be studied *as religion*, we would expect few neat correlations. For Eliade, '...religious forms are non-temporal; they are not necessarily bound to time. We have no proof that religious structures are created by certain types of civilization or by certain historical moments'. Historical developments only furnish opportunities for the appearance or development of particular religious forms (Eliade 1975:178). It appears that this assertion largely owes to Eliade's belief that the religion of a society is not reducible to one or other key form, for instance that it would be crass to characterize modern European society as just monotheistic and Christian: '...religious life has rarely been monopolized by one single "principle"; rarely has it given itself up to the veneration of a single god or a single goddessnowhere do we find a "pure and simple" religion, reducible to one form or structure' (*ibid* 189).

It is certainly not our aim here to provide a discourse on Harappan religion. The reader may refer to the interpretations of Marshall (1931: 48-78) and Atre (1987). All we will say here is that Harappan religion is likely to have involved gods, ancestor-beings, and demons; shamans, priests,

and kings; animal spirits as well as a supreme being and earth mother; and rejuvenation rituals based on mythologies of creation as well as other ritual practices, symbols, and metaphors.

What is of importance to this study, however, is the role of religious practice and ideology in the political life of an early state. Obviously, existing rituals, myths, and symbols will be manipulated to legitimize kingship, impose sanctions, and justify the social order. It has been said that when ruling elites emerge, religion will take on the function of social control rather than ecstatic experience. Ideologies may function now to reinforce new social values.

It is also possible that a priesthood may emerge in an early state society, distinct from the figure of the shaman or specialist in ecstatic experience, who is able to re-enter the primordial state with the aid of dance or drums, sacred trees or posts, fire rituals or drugs. The shaman is specially equipped to heal and to divine because he is one of the few in society who gains particularly intense experience of the sacred. Shamans are specialists only in the sense of being especially gifted persons able to commune with benevolent spirits. In ancient China it was claimed that the king could fly like a bird. According to Eliade (1975: 100), this was not a fabrication of an emergent ruling elite, but a reflection of existing shamanistic traditions. In the earliest Chinese states shamanism played a central political role, with the king himself as chief diviner and procurer of fertility, aided by other gifted individuals. Here shamanistic rituals involved the drinking of alcohol, the use of bronze vessels with animal motifs, and animal sacrifices (Chang 1983: 44-72).

The priest is another kind of religious practitioner. He lacks the gift of speaking to animal spirits or entering a trance. He may represent the gods and be ritually pure, but he is not a medium. Priests conduct the ritual and guard the religious tradition through mastery of ritual knowledge. It is priests rather than shamans who are the 'full-time specialists'. In an early state there may be a hierarchy of priestly positions in order of power and sanctity, and a priesthood in this sense may well be possible only in complex societies, although shamanism may continue to function.

The point is that the emergence of a specialist priesthood implies that the populace is distanced at least by one stage from the performance of major rituals or from the divine presence. We see in Early Dynastic Mesopotamia how temple plans evolved so that the ordinary worshipper entering the precinct did not have immediate or direct access to the deity installed in the cella. We also see that by the Early Dynastic period the activities of priests were not confined to matters we would call purely sacral, but priests administered the temple fields, herds, and storehouses.

The prolific depictions of animals in stone statuary, in clay figurines, and

on seals, the occasional occurrence of drummers on seals, and seal carvings showing tree spirits or groups of persons around trees, may indicate that Harappan religion incorporated shamanistic practices. But we know nothing about a priesthood – it is unlikely that archaeological evidence can tell us anything on this matter. But let us move on to another aspect of religion.

It has been said that with the emergence of a state the 'moral order' can be 'reorganized' (Redfield 1968: 67) and religion is 'now a way of making citizens' (*ibid.* 74). There is a new emphasis on kingship in its sacral garb, so that the rituals of sovereignty become increasingly elaborate (Skalnik 1978: 606-607). In order to be effective this aspect of religion may now draw on several local cults and symbols, so that the emergent pantheon and cosmology are syncretic in content, presumably finding acceptance among the diverse communities incorporated in the polity. Among the Inca, the sovereign was the Son of the Sun, and temples to the Sun were raised in different parts of the Empire. At the same time, images of the local deities of conquered peoples were brought to Cuzco to ensure the political loyalty of the conquered, or else were carried on annual pilgrimages to the capital. And the sons of conquered chiefs were educated in the Inca ritual and language (see Rowe 1982).

An early second millennium text, *Enuma elish* (Heidel 1951), narrates how the god Marduk became pre-eminent in the Mesopotamian pantheon. This text uses older mythological material concerning the established pantheon in order to create a place for Marduk, deity of the recently immigrant Amorite dynasties. The story of Marduk's achievement of supremacy over the universe is told in terms of a king's rise to the throne: when there is a serious conflict amongst the gods in the uncreated universe, the young Marduk is given, in the course of a solemn assembly, supreme command to lead one section in battle. On Marduk are bestowed the royal insignia. After his brilliant victory in the war 'his fathers rejoiced and sent Marduk dues and greeting-gifts'. The process of creation of stars, moon, and calendar began, and finally mankind was created to serve the gods 'so that they may be at rest'.

In recognition of these achievements a second divine assembly was called to proclaim Marduk supreme *en*, shepherd of the black-headed people. Among the epithets now bestowed on him were 'creator of riches and plenty', 'establisher of furrows and regulator of the arable land and pasture, the canal and its embankment'. The cosmos had indeed been organized out of chaos, on the model of a state.

This association of a king with fertility and prosperity is literally represented in the annual Sacred Marriage ceremony of Sumer in which the king, representing the god Dumuzi, acted as husband of Inanna (the goddess of fertility) represented by a high ranking priestess. 'Inanna gazed on all the

people, called Dumuzi to the godship of the land'. Texts describe how the priestess bathed, anointed herself with good oil, wore a special garment, 'arranged the lapis lazuli at her neck, and grasped her seal in her hand', to be ready for the ceremony. Meanwhile, in the temple, the 'fruitful bed, lapis-bedecked', was prepared. A priest took the king by his right arm 'towards the lap of Inanna' and asked her to bless him: 'Give him a reign favourable and glorious, Give him a throne of kingship on an enduring foundation, Give him the people-directing sceptre, staff and crook ... May he exercise the shepherdship of the black-headed people wherever they dwell, May he make productive the fields like a farmer, May he multiply the sheep-fold like a trustworthy shepherd At the river may there be overflow, in the marsh may the fish and birds make much chatter, In the palace may there be long life' (Kramer 1963).

To return to the Harappan scene, the foregoing indicate that we should explore the evidence for royal or public ritual (as distinct from domestic worship or wayside shrines), as well as for a fairly ubiquitous spread of religious elements or symbols. If ritual behaviour is regularly repeated behaviour following a set of prescriptive rules, we need to consider artefacts or fixtures (benches, altars, sacrificial pits, pillars, ritual vessels, figurines, celestial symbols, and so on) which occur in specific contexts or have formal characteristics and may be viewed as symbols summarizing concepts. We must also search for buildings which show common elements of plan or orientation or special facade decoration, and some degree of monumentality.

We will now argue that there is substantial evidence for a public ritual at Mohenjo-daro, but that the evidence for rituals or symbolic elements common to many Harappan towns or communities is disturbingly sparse.

Earlier we had referred to the architectural provisions for processions in the Citadels of Harappa and Kalibangan. The Great Bath on the Citadel of Mohenjo-daro, however, may be the most striking available evidence for state ceremonials.

That this structure probably had a special importance among the buildings on the Citadel is indicated by the fact that it is the only known free-standing structure on the site, that it has a 2 m wide enclosure wall, and that its fenestrated courtyard is an architectural feature which occurs in only one other known MH building, the 'College of Priests'.

In the centre of this structure, the basin, with an exceptionally well sealed floor (involving a rare use of bitumen) and an outlet drain, was obviously a tank containing water. This had a maximum depth of 2.4 m and in area it was about 12.5 m by 7 m. That it was the intention that people should enter the tank is clear from the flights of steps and platform which lead into the tank at both the north and the south ends.

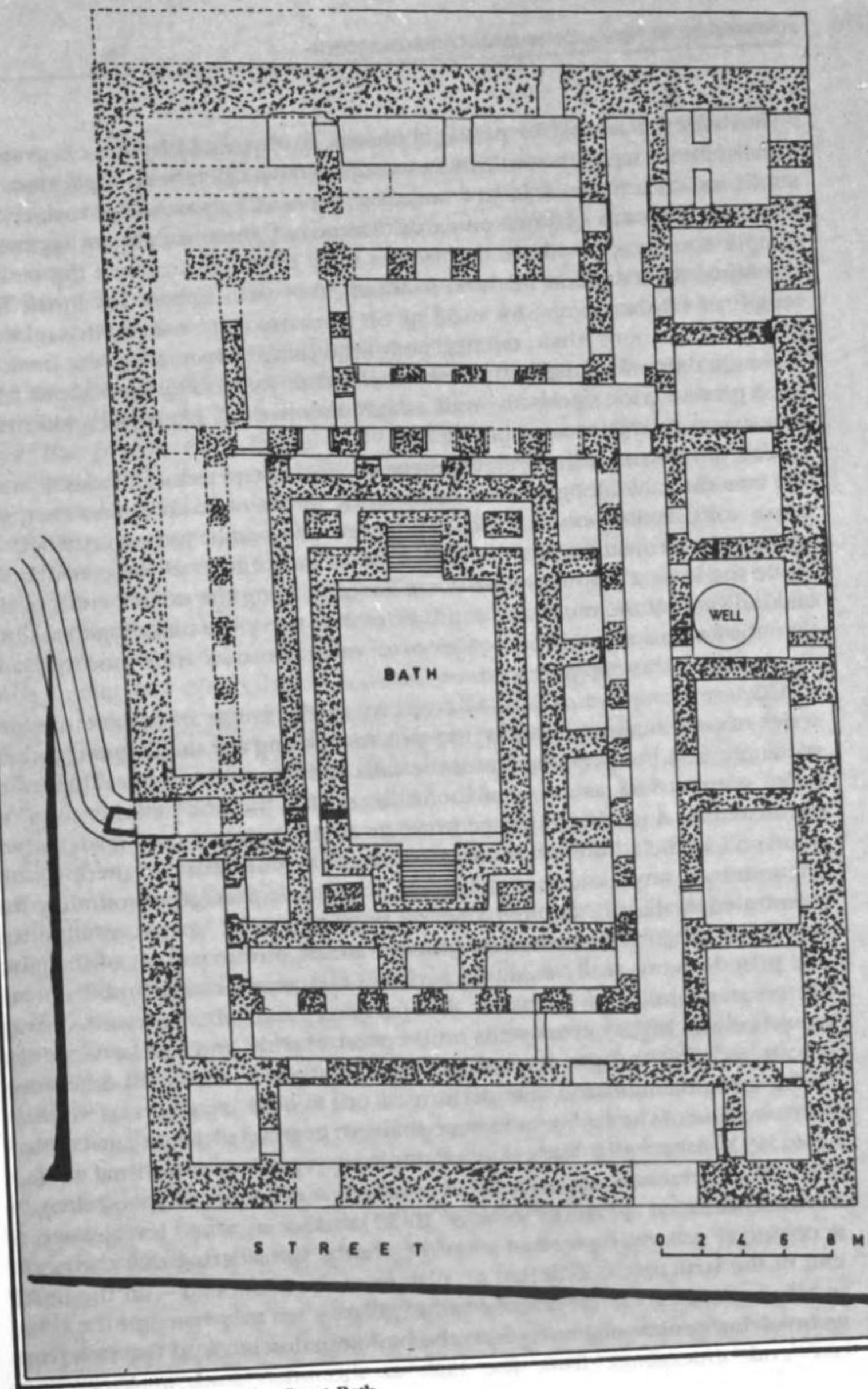


Fig. 31 : Mohenjo-daro – the Great Bath.

But was this a tank for public ablutions, as suggested by the excavators? Parallels with tanks in south Indian temples have often been suggested, but south Indian temple tanks are very late, a post-Chola development, dating from the fifteenth century onwards. Moreover, these lie amidst sprawling temple complexes, and are themselves truly large. For instance the tank in the Minakshi temple at Madurai is about 50×36.6 m and that in the Siva temple at Chidambaram, 84×53 m. So these two late and public tanks are respectively more than twenty and fifty times larger than the tank at Mohenjo-daro. We might also ask why a tank for public use should have been given a wide enclosure wall as at Mohenjo-daro. Let us then infer that this structure was not for public use.

Also of interest is the way the steps were constructed. At Madurai, steps led into the tank along all four of its sides. At Mohenjo-daro, however, the steps were built only at the two short ends, and were contained in rectangular projections extending out from the centres of these two sides, while the lowest step was a platform running along the entire width of the tank on each of the north and south sides. It is therefore tempting to assume that the intention was for a person to enter the tank from one end and climb out at the opposite end.

Ardeleanu-Jansen *et al* (1984) conceive of the entire Bath structure as a series of concentric rectangles, the tank itself being the smallest and central rectangle, and the periphery wall the fifth and largest rectangle. This series is not symmetrical, as a row of rooms lies within the east periphery wall of the structure. A double entrance from the south periphery wall leads to two doorways in the additional southern wall (at the northern end there is only one entrance way), and thence there is access to a passage surrounding the fenestrated wall, or, through one of the fenestrated apertures into the second rectangular enclosure and thence to the southern steps of the tank. The plan does not really contain a series of concentric circumambulatories, for circumambulation between the periphery and the fenestrated wall would be blocked by cross walls on the western side, and that between the fenestrated wall and the second rectangle, by cross walls on all four sides. And if circumambulation was performed one would imagine that steps in only one side of the tank would have sufficed. In fact Ardeleanu-Jansen *et al* (*ibid* 49) observe that 'the circumambulatory provided mere visual contact with the central area through the fenestrated wall [Marshall found the sills of the fenestrated apertures to be 35 to 53 cm above ground level] whereas access to it was only possible from the south'. Considering that the north end of the structure is different on plan from the south end – on the north is a 'transparent zone' (*ibid*) of rows of pillars – we may visualize the ritual as involving ceremonial entry into the building; descent into the tank from one end; emergence from the tank at the other end; another ritual

procedure; and final exit by a ritually transformed personage from the opposite end of the building. Perhaps only royal persons immersed themselves, in a semi-public ritual, watched by but formally distanced from others who officiated at the ceremony and probably stood beyond the clerestory.

If this is acceptable, then the ritual was one in which the royal person underwent a renewal or rebirth of his spiritual forces so that the fertility of his land and people were likewise regenerated.

In the historical period we have no evidence that kings actually immersed themselves in rituals. The royal *abhisēka* involved the pouring of holy fluids over the person (see Inden 1977). But the Vedic *rājasūya* or royal consecration (Heesterman 1957) may not be totally irrelevant to our argument. This ritual involved the making of several Soma sacrifices and food offerings, animal sacrifices, a chariot drive, a ceremonial dice game, prestations, and rites of unction (*abhisēka*). Several centuries separate the Harappan period and the earlier portions of the *Yajur Veda*, which is not in any case a text that took its form at one point of time. And the *abhisēka* here does not involve immersion, leave alone architectural provisions for such immersion. Nevertheless, certain points emerge from Heesterman's analysis which to my mind reinforce the above interpretation of the Mohenjo-daro Bath as the locus of a royal rejuvenation ceremony.

In the first place, Heesterman finds that the *rājasūya* as described in the texts is a combination of originally diverse cults and rituals. More important, he finds that the *rājasūya* must have originally been an annual ritual of regeneration, not simply the inauguration ritual it had become when it reached its final form in the texts – that it was in essence a consecration ritual. The '*rājasūya* seems to be an abridgement of what originally must have been an unremitting series of yearly ceremonies with the object of rejuvenating the universe' (*ibid.* 10). And the core of this ritual was the unction with pure or holy water from diverse sources such as the Sarasvati river, west-flowing water, rain water caught while the sun is shining, and so on. The unction symbolized the bestowal of strength and radiance, the regeneration of the king, and hence of life. In fact Heesterman holds that the term *rājasūya* originally meant anointment water, and that it is best translated as 'king-engendering' (*ibid.* 86). The unction provided 'regenerating contact with the primordial waters, the source of existence; the unction ... is the new birth itself' (*ibid.* 117). Finally, it is also observed that the *rājasūya* was not a truly public ritual involving the populace at large.

Let us now consider the early Buddhist tradition about Vaishali, capital of the powerful Licchavi chiefdom in the middle Ganges plain. 'In those days Vaishali enjoyed marvellous prosperity ... In that city there were always

7707 *rājās* to govern' (the *Ekapanna-Jataka*- see Cowell 1897: no.149). The *Bhadda-Sāla-Jataka* (*ibid.* no.465) relates how a couple went to Vaishali because the pregnant wife craved to 'go and bathe and drink the water of the tank of Vaishali where the families of kings get water for the ceremonial sprinkling'. 'At the tank there was set a strong guard, within and without; above it was spread an iron net; not even a bird could find room to get through'. The husband has to put the guards to flight so that his wife can indulge her craving, and this act of desecration causes anger to the Licchavi *rājās* who give chase to the couple. From this story the inference has been made (J.P. Sharma 1968: 104 ff) that men who were elected to become *rājās* of Vaishali were anointed at a tank. [Sinha and Roy (1969: 2-14) suggest that this was the Kharauna tank to the northwest of the site, but I am not entirely convinced. Because of later brick robbing no walls and no steps were found.]

I therefore suggest that the Great Bath of Mohenjo-daro held water from a special source (the excavators were unable to locate this source), and that Harappan rulers annually and ceremonially immersed themselves in this water; that the construction of the tank allowed for symbolic passage through the primordial, cosmic womb, or for symbolic regeneration. In brief, the Great Bath may have been the locus of a royal cult.

We do not find tanks in fenestrated courtyards at other MH sites. The reason may be, as suggested in the previous chapter, that Mohenjo-daro was the political centre. Or else, as suggested by Romila Thapar, that it was a ritual centre where heads of different places converged to undergo ceremonial purification and rejuvenation.

Few other architectural units or elements can be easily associated with ritual activities at MH sites. No individual structure is unambiguously a temple (see Atre 1987 for five possible temples at Mohenjo-daro). This is not particularly surprising, as the structural temple is a comparatively late phenomenon in India and because it is not impossible that Harappan worship was either epiphanic in content, or focussed on sacrifice, with special or temporary structures or altars built for each major ritual occasion. But even where we can identify possible 'altars', the evidence is not particularly straightforward.

Several 'fire altars' were found in the southern part of the Kalibangan Citadel. On one platform in this area lay 7 altars, each a clay lined pit containing ash, charcoal, and terracotta cakes, and a central clay column. Near by, the base of a jar was sunk into the floor, and contained more ash and charcoal. On the same platform also lay a paved patch and a drain. On another platform a well and a fire altar were associated with a brick-lined pit containing bones and antlers of 'bovines'. The association of animal sacrifice, fire ritual, and water ablutions calls to mind the nature of

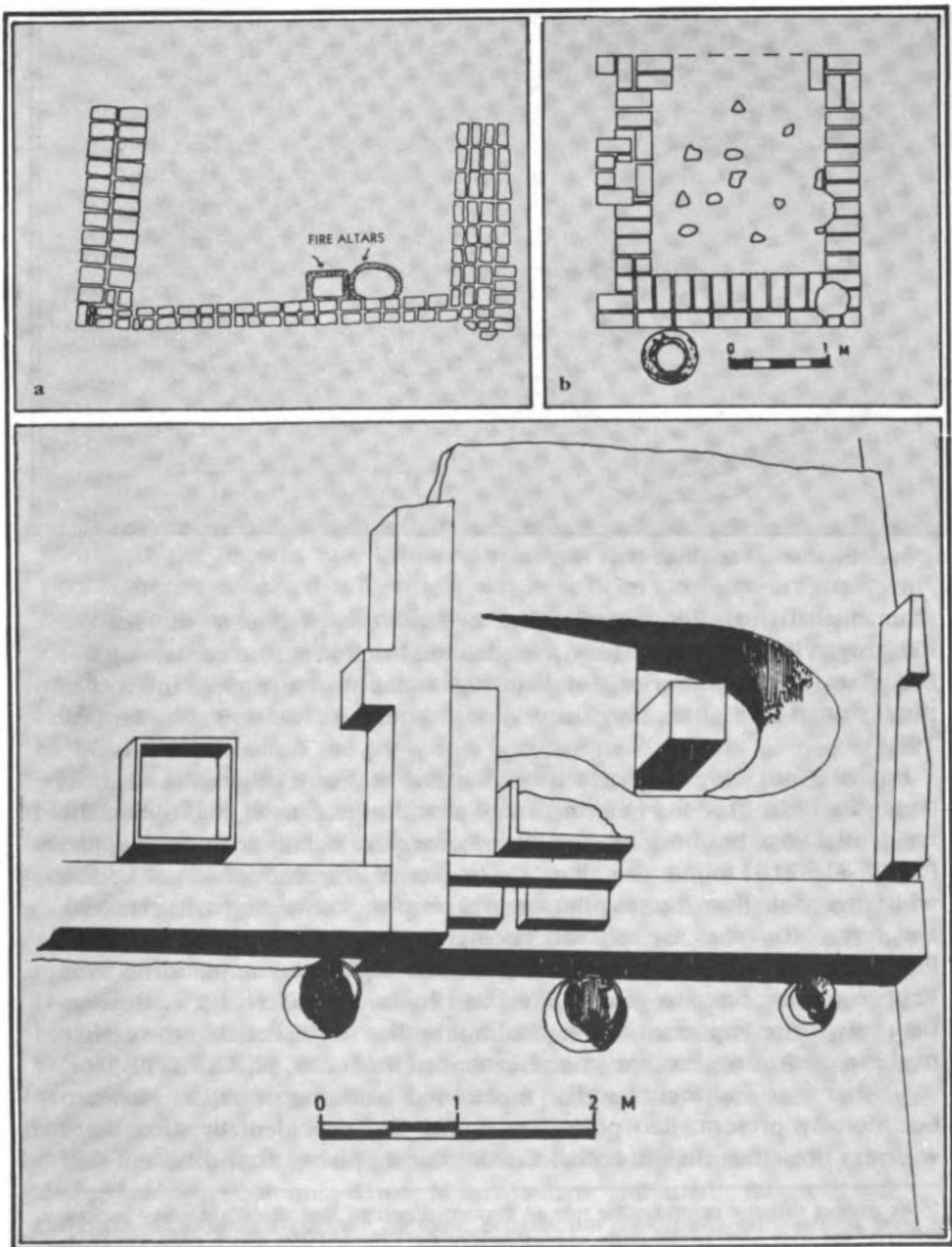


Fig. 32a & b : Fire altars at Lothal (after Rao 1985).

Fig. 33 : Fire altar (?) at Amri (after Casal 1964).

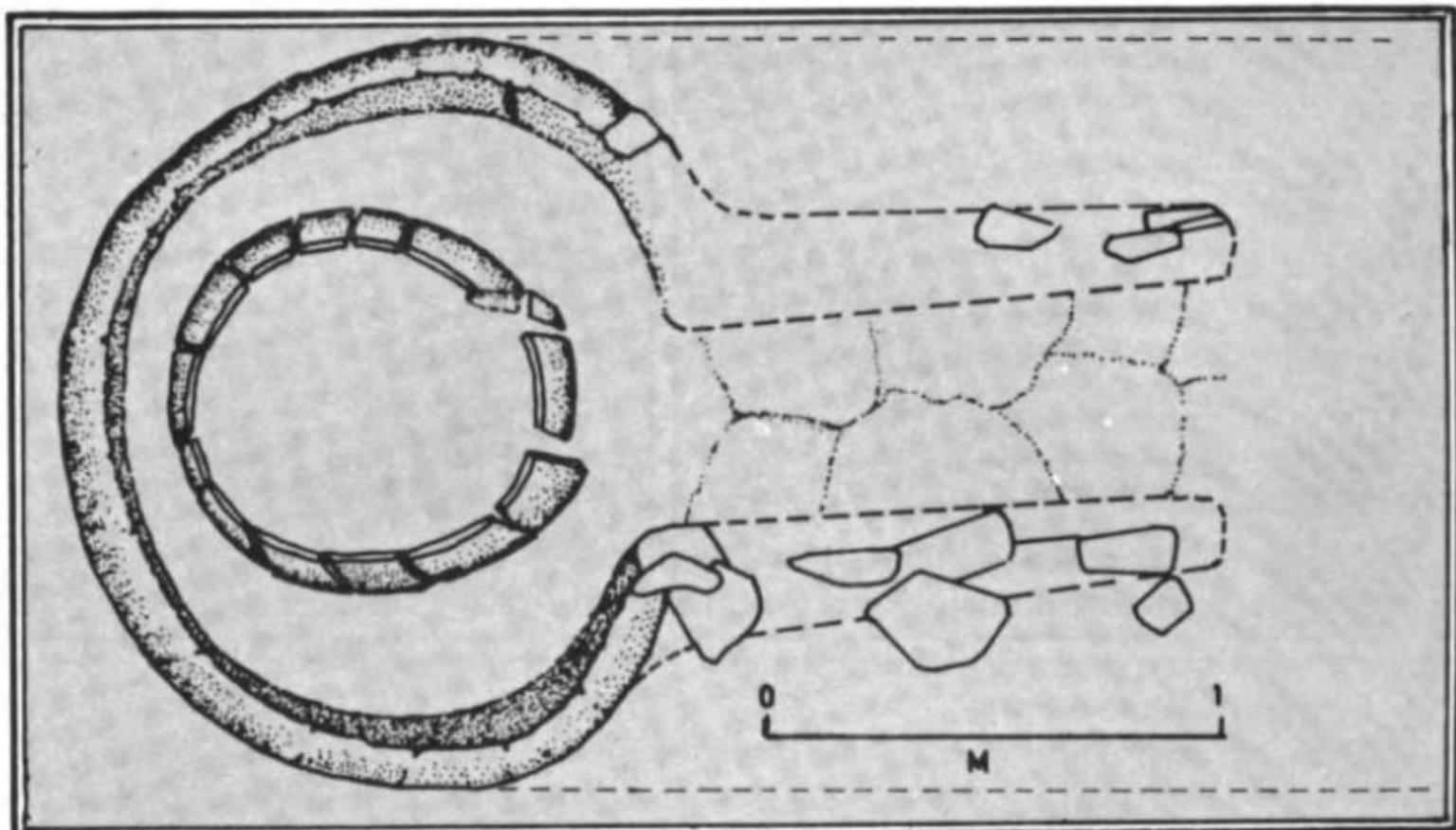


Fig. 34 : Fire altar at Nageshwar (after Hegde *et.al.* 1984-85).

shamanistic rituals in general. Also, beyond the perimeter wall of the Kalibangan lower town we have a single mud brick structure containing five fire altars. If the southern Citadel and this latter structure were the loci of public ritual, fire altars also occur inside houses of the lower town (Lal 1984).

But it is not easy to locate the fire ritual at many other MH sites. At Banawali, Bisht (1984: 94) found a 'fire altar' in the Citadel, and one in the residential area, but both locate within houses. No details are available. Rao (1979: 216-218) found 'fire altars' in houses or at street corners at Lothal, which were shallow, rectangular or oval on plan, containing ash, charcoal, and terracotta cakes, or ash and potsherds. But these features at Lothal, lined with brick and mud plaster, instead of being placed on platforms as at Kalibangan, are often at ground level and look more like brick enclosures than pits. More important, no vertical mud pillar was erected in the centre of these enclosures, except in one instance (*ibid.* 218, pl. LXXXVI.B).*

Neither are adjacent wells mentioned, although water jars are occasionally present. Rao points out (*ibid.* 217), incidentally, that there were no fire altars on the Lothal Citadel during phases II and III and that

* We expect that the central pillar was an important part of 'fire altars' : in many ancient religions the tree, post, or mountain are symbols of the Cosmic Pillar which connects earth and heaven; the reader is referred to the Vedic association of the sacrificial stake with the axis mundi, and to John Irwin's theory of the antiquity and sacred symbolism of the Asokan pillars.

therefore 'no state religion involving fire-worship or animal sacrifice existed in phases II and III'. At Amri, Casal (1964: 46-47) found a shallow oval pit sunk into a MH floor. The pit was full of ash, and rising from its centre was a rectangular clay pillar. To the south of one of the walls of the room (?) containing this feature, was a row of jars, partially embedded in the floor. That these were water jars is indicated by the occurrence of a scoop near by. At Nageshwar (Hegde *et al.* 1984-5: 9, fig.4) an earth enclosure, 65 cm deep, took the form of an open rectangular passage leading to a circular pit, in the centre of which stood a tapering round clay mound. A small pot and much ash occurred in this feature.

While the Kalibangan fire pits were on average 75 × 55 cm, with 30 to 40 cm high pillars, the Amri pit was more than twice as large, about 1.8 × 1.7 m at base and its rectangular pillar about 70 cm high. The Lothal structures were on the whole about 45 cm in diameter, or 45 × 30 cm, but two street altars were upto 2.8 m wide and upto 1 m deep. The Nageshwar structure was 1.65 m in diameter but its central upright only 22 cm high.

Thus there are only five MH sites where a possible fire ritual may be identified; the fixtures vary in dimensions and detail; only at two of these sites is there evidence that the ritual may have been a community affair; and only at Kalibangan is the fire altar associated with animal sacrifice.

We have the same problem with the clay figurines of women. These are profuse at Mohenjo-daro, occurring within houses and on streets. Often coloured with a red wash, the figures are usually standing, wearing a cloth or bead girdle around the hips, and peculiar head dresses or hair styles which are fan shaped and rise vertically from the back of the head. Mackay (1938: 258-259) thought that these figurines were not votive in function, as they were not found in clusters: they do not occur in numbers at cross roads or at public wells, for example.

Female figurines of this type are not reported from Allahdino, Kalibangan, Mitathal, Sutkagen-dor, Rangpur, Surkotada, or Desalpur. On the whole, they appear to be confined to Sind, although a clay female torso published by Dutta (1984: fig.5.44), nude above the waist and wearing a hip girdle with buckle in the Sind fashion, comes from Ropar. About ten clay figurines of women from Lothal do not have the characteristic Sind headgear and ornaments: only one head and torso has a pinched clay 'ornament' at each side of the head.

Bull figurines are reported from Ali Murad, Kot Diji, Amri, Jhukar, Ghazi Shah, Lakhio, Lohumjo-daro, Mohenjo-daro, Mitathal, Banawali, and Harappa. At Lothal a copper figurine represents a bull seated with its legs folded under. At Mohenjo-daro (Marshall 1931: 346 ff) it is the bull of the short-horned variety, without hump, which is more common, whereas at Harappa (Vats 1940: 301) it is the long-horned variety which occurs more

often. No comprehensive study has been made of these figurines, and it cannot be assumed that they represent cult objects rather than toys. But the portrayal of animals on seals and copper tablets always facing in the same direction, the depiction of garlands around the necks of some animals on seals or in stone statues, and the occurrence of animal figures in stone, on two occasions on stone pedestals, indicate that that animal symbols, if not specifically the bull symbol, were important in Harappan culture. The bull itself may have been an object of worship or a symbol of the sacred, but it is not a ubiquitous symbol.

It has been suggested that about a hundred copper tablets at Mohenjo-daro, inscribed on both sides or containing an inscription on one side and an animal figure on the other, were votive objects because of the highly repetitive inscriptions they can carry. These do not occur in clusters except that 4 of them come from late levels from the shell working area (the L area) of the Citadel. Two with identical inscriptions come from the same house, but different rooms, in the DK area. Marshall and Mackay, however, firmly believed that these were amulets. Whatever their symbolic function, the fact of interest is that such tablets occur only at Mohenjo-daro, just as the intriguing seals with the 'proto-Shiva', bull man, 'tiger woman' and 'tree spirit' are largely confined to Mohenjo-daro or to just a couple of MH sites. So these artefacts also do not help in our search for the ideological elements linking diverse communities incorporated into the MH state.

What are we to make of the negative results of this survey? In the first place it is possible that our starting assumptions about the spread of dominant ideologies through stratified societies are flawed. Conrad and Demarest (1984: 100), in their discussion on Inca ideology, note that far from appearing clear-cut to us, the ideology was 'fluid' and 'confused', with many discrepancies and deities with ambiguous attributes. We may recall that the transition from the EI to the MH period was marked by signs of social upheaval and dislocation. We might well ask if the establishment of a ruling elite necessarily creates a period of stability, or whether it would be a time of marked social change, crises, changing values, and therefore new cults and a great pluralism of religious beliefs (see Burger 1988).

It may also be that archaeologists only look for literal identifications of ideological elements in the ground, for 'mother goddesses', astral motifs, and so on, when elite values could equally have spread in the form of epiphanies, ceremonial processions, immersions of idols in rivers, or through the recitations of myths, epics, and genealogies. And we may recall that there *is* an archaeologically identifiable and widespread MH mystical symbol, the Unicorn, and that this symbol to date has no previous history in the Indus plains – it appears to have been forged in the period of state emergence.

15

Synthesis

This study has contended with limitations at varying levels. Important aspects of state organization such as the interdigitation of military power and sacrality in the institution of kingship, or the mode of recruitment to state office and the economic benefits thereof, are not traceable in archaeological remains. Then we have seen that organizational elements like labour mobilization can be represented by very different kinds of tangible remains: in Egypt by pyramids, in Shang China by hoards of agricultural tools in pits. Also, we have suggested that some aspects of material culture (temples, lavish elite burials, monumental representations of rulers) may not be particularly significant in their absence. And then there are some aspects of Harappan material culture for which we have not been able to give definitive interpretations in social or political terms: the three storage facilities, the vandalized stone sculptures, and so on.

Nevertheless, in the process of making comparative studies, it became evident that the earliest kinds of states, no matter how they contrast in environmental setting, in historical time, or in their individual culture traditions, can be subjected to some generalizations. In contrast to the approach of Claessen and Skalnik, which is, I think, far too inclusive, I shall try to narrow down the focus to the outline structure of the simplest kind of state, represented in varying degrees of completeness by Old Kingdom Egypt, third-millennium Sumer, Shang China, the Inca empire, the Kuba and Zande states, and, by inference, the Harappa culture. In previous chapters we have repeatedly drawn comparisons between the known features of these diverse societies. Now, however, it will be stressed that comparability in itself is not particularly significant: more important is the observation that

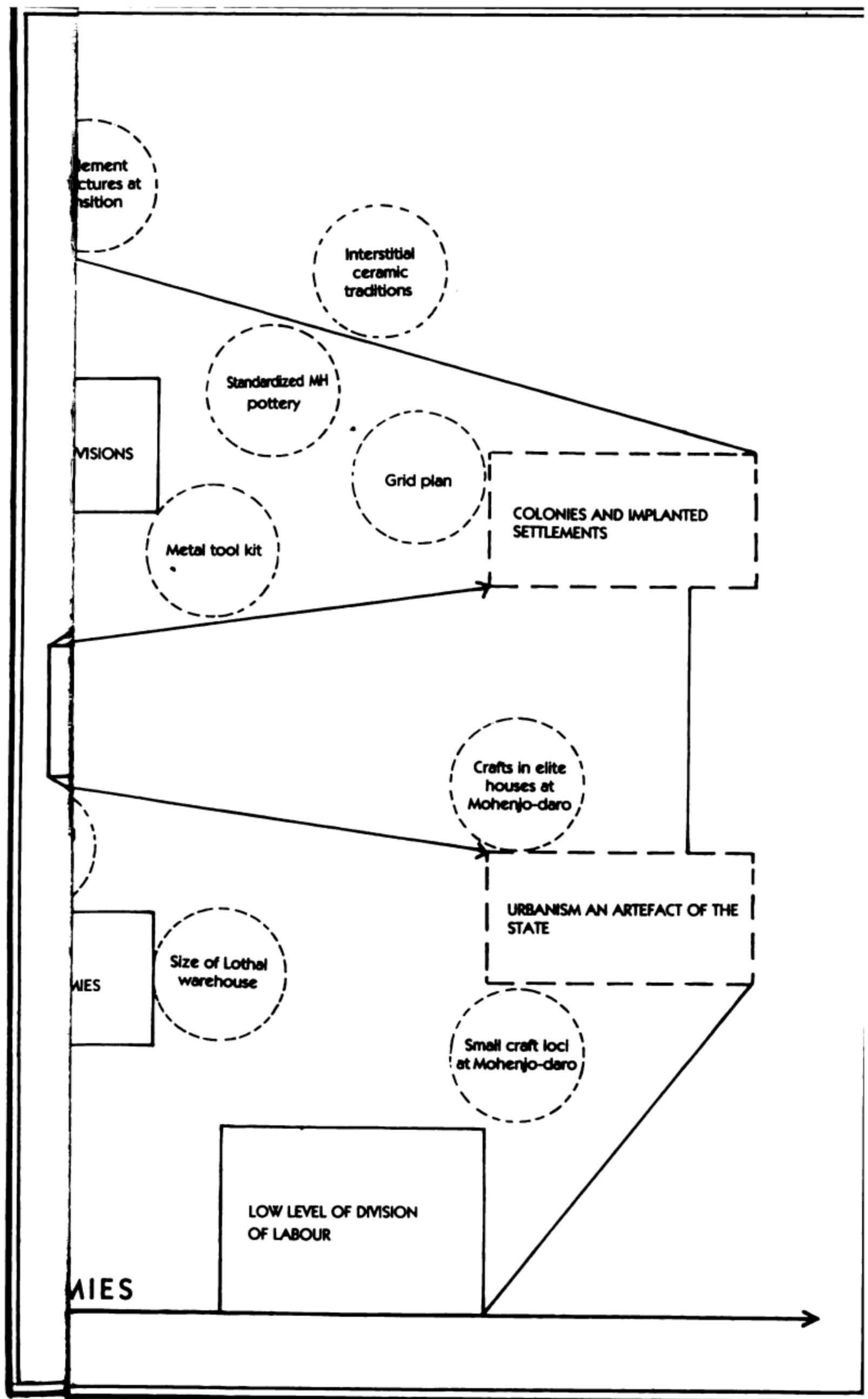
the elements known to be common to these societies have the same function to play in the total political structure. Hence the model.

In all the cases, the economic context is the use of simple technologies and the absence of money and market systems. Commodity production and the exchangeability of goods had restricted scope. Small-scale barter at urban centres or periodic markets, kinship networks, and prestations would have been the main channels for exchange.*

It is in this context that communal tenure and the survival of kinship institutions find their place at the base of the model. At the opposite end of the vertical axis lies sacral kingship, and the two are 'mediated' by labour service, the major form of surplus mobilization. Relations between rulers and ruled, although to our eyes exploitative, were viewed in terms of reciprocities typical of antecedent social systems, and symbolically represented by the rituals of sovereignty. We are therefore dealing with 'class societies' *sui generis*, or societies transitional between those structured on kinship and those on class. A relatively small section of society had acquired the power to direct political affairs and make laws incumbent on all, to prevent the populace from waging war amongst itself or in its own right, and to extract economic advantage through means other than its own labour. Yet all the features of tribal society, from which early states emerged, had not been completely obliterated. While kin groups lost their political coherence and relationships between non-kin proliferated, kin relationships continued to play an important function in resource holding, subsistence production, inter-household exchange, or the recruitment of people for state service. Private property in land had emerged in the case of Mesopotamia, but does not seem to have proliferated – there are no contracts about the sale of agricultural land in the Ur III period – thus land had not yet become the foundation for a schism between rulers and ruled.

The importance of communal resource ownership and management as

* By the late third millennium silver played the role of primitive money in Mesopotamia. Properties were evaluated in terms of silver, merchants' accounts listed incomings and outgoings in terms of silver values, or the merchandise carried by a temple trader was evaluated in silver. Though the standard unit of account, silver was not, however, the universal medium of exchange. Goods evaluated in silver could be paid for in barley. Land sale texts of the E.D. and Akkad periods record that the 'price' and 'gifts' were given in foodstuffs and copper. Silver was imported from Anatolia and circulated within Mesopotamia by a bewildering variety of routes, but it was not the amount of silver in circulation which determined grain prices in the country. And silver equivalencies did not function like market prices in the sense of determining the allocations of land or labour, or producing a feedback into the subsistence sphere. Some scholars have insisted that market mechanisms did prevail in the Assyria-Anatolia trade, but we would suggest, for the reason just cited, that this was what students of Polanyi would call a 'peripheral markets' situation.



the base of the model cannot be overemphasized. Before we proceed with its structural implications, however, it should be pointed out that descent-group collectivities as localized, residence groups are in evidence in Mesopotamia, the Inca realm, and Shang China, but not among the Kuba and Azande. What are we to make of this? The clan or lineage as the significant grouping in tribal society has recently been dismissed by a few scholars. But we cannot deny that such groupings played a function. In many parts of Africa low population densities and post-marital residence rules as well as periods of invasion and conquest may be factors behind the absence of the corporate character of the descent group. In the nineteenth century the Kuba population density was less than $8/\text{km}^2$ (Vansina 1978: 179). Moreover, the Kuba descent system was matrilineal but men did not live after marriage with their mothers' people until their fathers had died (Vansina 1964: 48 ff; 1978:6-7). Thus the matrilineage did not become a residence group. But what is important is that the village, composed of several lineage segments, was a highly corporate group enjoying common usufruct of its lands, ultimately the property of the Kuba king (Vansina 1963: 355-356). Among the patrilineal Azande, too, population density was only about $6/\text{km}^2$ (Kandert 1978: 514); clans were geographically dispersed, but the village was the corporate land-holding unit – an individual had access to land by virtue of residence in a particular village and his subordination to the local representative of the Zande ruler (Biebuyck 1963: 86-91). So in both our African cases, we do have communal tenure, even if the rural community was not a descent group.

Joint tenure in basic resources is inextricably connected with a recent tribal past and a simple economy in which commodity production and commodity exchange were inchoate. For it is difficult to visualize goods being produced for the market on inalienable ancestral lands. Correspondingly, in the earliest phases of state formation we expect a low level of division of labour, and little full time specialization in secondary or tertiary activities. In turn, these factors are linked with the emergence of the ruling elite as sponsors of craft production and external trade, at least in the first instance. In all the cases cited the populace laboured for its king and the religious institutions controlled by the king – for particular projects or sustained production, as skilled workers or unskilled labour. It seems that personal and voluntary tribute to the ruler, an expression of relations of reciprocity, was of secondary economic importance.

Perhaps labour mobilization was the earliest form of surplus extraction because relations between ruler and ruled were couched in terms of reciprocity, and because communities retained effective control over their subsistence resources. Regular state taxation as a portion of the harvest of individual producers, on the other hand, would have meant that the state

had gained direct control over production. Further, fledgling states would not have had the wherewithal to take on all the functions of descent groups, such as providing local irrigation works, or succour to the unfortunate or impoverished, or settlement of local disputes, or management of marriage exchanges – corporate rural groups could have served vital functions in the informal interstices of the public economy (see Wolf 1966). We might view labour service to the state as a disguised or indirect form of exploitation by the ruling elite. We had emphasized at the start of this study that early kingship always had a sacral content; rulers were ritually responsible for the well being of their land and people. Service to the ruler may then have been understood as inseparable from service to the gods, and hence as part of a reciprocal relationship. Evans-Pritchard on the Azande emphasizes another angle (1971: 215-216) : '...we would not, I think, be justified in speaking of what was presented to a prince as "tax" in kind; nor can the labour in his cultivations be regarded as a *corvée*. This was not at all the way the Azande looked at the matter They realized that they themselves were incapable of organizing justice, administration, and defence, ... they therefore took the view that their rulers should be helped by them to maintain their services. There is a kind of paradox here, that those who appeared to have not merely an aristocratic position but autocratic sway, should be regarded by commoners as needing their assistance, but there was an understanding on both sides that this was a mutual exchange of services.'

The functionalist view point is obvious here, and Evans-Pritchard does not refer particularly to the ritual role of Zande kingship, but his point is important. We had seen the role of kingship in the Mesopotamian Epic of Creation, and the annual Sacred Marriage ritual, and the formally expressed view that mankind was created explicitly to serve the gods. The Kuba ruler was believed to be so replete with life and vitality that he did not cross a field, or sit on the ground for long, lest the ground be burned; and each time he sneezed, he was applauded (Vansina 1978: 209).

Connected with the linkages along the vertical axis of the model is the lack of truly bureaucratic organization of the state apparatus. State functionaries would not have had clearly distinguished functions or separate terms of reference. They would not have carried out their duties according to a set of impersonal rules and regulations. Instead, they would have functioned on the personal fiat of the ruler. They would have individual relationships with the king, either blood or affinal relationships, or ties of clientship or personal dependence, to which relationships they owed their official position. Neither could early rulers have dispensed with the forging of some kind of personal ties – through intermarriages, sending members of the ruling group to live in outlying areas, returning the children

of elite-commoner marriages back to their commoner villages, or bringing up the children of provincial elites in the royal capital where they would absorb the culture and values of the dominant group – with the subject communities at large. Prestations of goods of symbolic value would give material expression to these personalized, though hierarchic, ties. It follows that neither state consolidation nor expansion could depend entirely on military subjection or an impersonal administrative machinery.

Personalized linkages between rulers and ruled, and sacral kingship, however, can only mask the pre-emption by rulers of the legitimate use of force and coercion. This element would have related as both cause and effect with the state's role as organizer of production and distribution. Thus the growth of regional economies, the role of the state as the provider of infrastructural facilities for production, transport, and storage – which would reinforce the development of regionalized economies – and infrastructural civic amenities, apart from the occurrence in some states of colonies or implanted settlements.

The explanation of variation

There are differences between our early state societies. Of these, differences in territorial size and in the use or absence of literacy are not as striking as differences in the occurrence or absence of compulsory settlements and of urbanism.

In the Inca, Shang, and Harappan systems the creation of new settlements appears to have been important, but there is little evidence for the use of this strategy in Mesopotamia. The difference may have had something to do with geography and previous history or the existing level of cultural development. The Euphrates plains are a mosaic of irrigable lands, marsh, and higher tracts which afford pasture. Lacking timber, stone, and metal resources, they provide no further resource contrasts, except where bitumen seepages occur. We should also remember that the nature of Inca domination in various regions differed according to the existing political organization at the time of conquest. One can guess that implanted settlements would be a strategic necessity where there were culture contrasts, or local political opposition, or where autochthonous communities had not begun to exploit particular local resources – leaving the state with few exchange routes to capture or resource flows to divert.

The reader will have noticed that urbanism does not have a central position in the model. In two of our cases there were no urban centres. The royal capital of the Kuba had a population of only 4,000 (Vansina 1964: 85) and there were no cities in Zande states either. But there was precocious urban development in third millennium Mesopotamia. We need to explain

this difference.

We had referred to the low population densities in the Zande and Kuba realms in the nineteenth century, densities largely determined by the nature of the crops, the use of the hoe, and generally poor soils. Among the Kuba, agricultural innovations had indeed taken place, but still forest and savannah fields required long fallows, say for about five years after one of cultivation (*ibid.* 13 ff). Zande fields were cultivated for two or three years and then left fallow for six or seven (Kandert 1978: 514). The density figures we had cited amount to 12.8/mile² for the Kuba and 10/mile² for the Azande – an enormous contrast to densities in 1881 in Larkhana district (the region of Mohenjo-daro) with 95/mile², or, if we remove the population of 13,188 of Larkhana town, 93/mile² (Pithawalla 1939:9, 26-27). Or we can make another kind of comparison. On traditional agricultural methods 1 ha of land in southern Mesopotamia, producing anything from 300 to 1200 kg of barley, can on average support one or two adults; moreover, despite labour constraints at harvest, one man here can cultivate upto 6 ha in the year (Wright 1969: 13-14, 21-22). Such a situation is impossible in Africa where, on the whole, one person needs 7 ha of land [although with better levels of input this may be brought down to 2 or 3 ha (see Shaw 1987: 150-151)].

More important, we had inferred in Chapter III that bronze age urbanism is not explained by 'economic growth' in the sense of an expansion of markets or rise in effective demand, or proliferation of commodity production and marketing networks, and that urbanism thus was not causally connected with the need for new economies of scale. We had also discounted the role of Central Place functions for bronze age cities. Instead, we had suggested that it was the new requirements of an emergent ruling class which lay behind the proliferation of craft production as states emerged.

For Shang China, Chang (1983: 15-35) too discounts the role of developing regional networks as a cause for the growth of towns. We had seen in Chapter 11 that these were political creations. As for the Inca state, it created some 170 settlements, large cities like Huanuco Pampa as well as small way stations, between A.D. 1450 and 1530, with architecture and pottery in the imperial Cuzco type (Morris 1972; Murra and Morris 1976; Bonavia 1978; Carrasco 1982). Morris (1982: 165) remarks that these state settlements 'appear intrusive in the local settlement pattern' as if 'the state was almost still a separate structure'. If they 'appeared suddenly' during Inca rule, they were correspondingly rapidly depopulated after the Spanish conquest (Morris 1972), for often it was the state apparatus alone which had made agriculture feasible in their vicinity (Bonavia 1978: 401). We had referred to marked settlement disruption as the Inca state expanded: abandonment of existing habitations, accompanied by the creation of new

ones, in Chile, the Mantaro valley, and the Lake Titicaca region (D'Altroy and Hastorf 1984; Charlin 1978; Julien 1983). Thus D'Altroy and Hastorf write of a 'dual settlement system', a 'planned series of Inca administrative and logistical sites superimposed over the resettled communities'.

Among the Azande only iron smiths were full-time specialists in the sense that they did not owe agricultural labour to the king (Kandert 1978: 513). And among the Kuba (Vansina 1964: 18-22) there were no craft specialists who did not engage in food production also. Vansina, moreover, (1978: 184-196) is categorical that in the Kuba realm craft production and the division of labour were a response to '*political demand*' : as the non-producing elite grew in numbers, as exports of ivory or raffia cloth increased so that more copper, cowries, and beads could be acquired, and as rivalries at court stimulated new levels of conspicuous display and feasting, the levels of sumptuary demand rose.

Although Andreev (1989) believes in the essentially integrative and redistributive role of cities for their hinterlands, he argues on lines similar to ours. He calls the bronze age city a 'proto-city' because it contained only to a small degree the ingredients of true urbanism, viz., social and economic heterogeneity and political, ideological, and military functions. The difference is for him a matter of degree rather than of kind, as most city dwellers still engaged in agriculture. He too believes that bronze age urban crafts and trade were largely sponsored by the state. More important, Andreev questions whether, during this early stage of cultural development, we can have a clear separation between subsistence and non-subsistence production, or whether such separation is possible only when tribalism has totally disintegrated and class stratification has developed more fully.

Thus, in my understanding, the absence of urbanism does not constitute a structural difference among the simplest state organizations. It is not really a difference of the division of labour. Instead it has to do with a subsistence economy unable to sustain long term population nucleations at particular nodes on the landscape. In such cases the state sector would be organized to be dispersed and segmented over the realm rather than concentrated at least in part at the political capital. Where urban centres did develop, the way to economic transformation (via the growth of individual enterprise and exchanges between individuals) may have been available, but that is another story.

In this extended essay I have tried to show that the concurrent examination of Harappan archaeological remains and historical/anthropological material from comparable political organizations gives us a fairly coherent, if outline, picture of the 'earliest' kinds of states. These appear as somewhat enigmatic structures, based as they were on the ability to organize production as well as personal (rather than institutionalized)

linkages, on elites who were less a land-owning class than people able to command labour and deploy to their own advantage the fruits of that labour, who managed the sacral but also pre-empted the legitimate use of force, and on a populace which would have had to manage successfully relations within their own communities as well as loyalties to their rulers. One can only guess that the success of these polities would have depended on the balance of such opposing forces.

Bibliography

- Abélès, M. 1981. ' "Sacred Kingship" and the formation of the state', in H.J. Claessen and P. Skalnik (éds.), *The Study of the Early State*. The Hague : Mouton. pp.1-13.
- Adams, R. McC. 1966. *The Evolution of Urban Society*. Chicago : Aldine.
- , 1981. *Heartland of Cities*. Chicago : University Press.
- Alagoa, E.J. 1985. 'The Niger states and their neighbours to c. 1800', in J.F.A.Ajayi and M. Crowder (eds.), *History of West Africa I*. New York : Columbia University. pp. 372-411.
- Aldred, C. 1965. *Egypt to the End of the Old Kingdom*. London : Thames and Hudson.
- Allchin, B. 1979. 'Stone blade industries of early settlements in Sind', in M. Taddei (ed.), *South Asian Archaeology 1977*. Naples : Istituto Universitario Orientale. pp.173-211.
- , 1982. 'Substitute stones', in G. Possehl (ed.), *Harappan Civilization : a Contemporary Perspective*. Delhi : Oxford and IBH. pp.233-238.
- Allchin, F.R. 1982. *Antecedents of the Indus Civilization*. London : British Academy. (Proceedings of the British Academy, 1982: pp 136-160.)
- , 1984. 'The northern limits of the Harappan cultural zone', in B.B.Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi : Books and Books. pp 51-54.
- D'Altroy, T. and T.K. Earle, 1985. 'Staple finance, wealth finance and storage in the Inka political economy', *Current Anthropology*, 26: 187-206.
- D'Altroy, T. and C. Hastorf, 1984. 'The distribution and contents of Inca state storehouses in the Xauxa region', *American Antiquity*, 49: 334-339.
- Andreev, Y.V. 1989. 'Urbanization as a phenomenon of social history', *Oxford Journal of Archaeology*, 8: 167-177
- Ardeleanu-Jansen, A. 1984. 'Stone sculptures from Mohenjo-daro', in M.Jansen and G.Urban (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports, I*. Aachen: Forschungsprojekt Mohenjo-daro. pp 139-158.

- Ardeleanu-Jansen A., U. Franke, and M. Jansen, 1984. 'An approach towards the replacement of artefacts into the architectural context of the Great Bath', in G.Urban and M.Jansen (eds.), *The Architecture of Mohenjo-daro*. Delhi: Books and Books. pp.43-69.
- Atre, S.M. 1986. Harappan Religion. Ph.D. Dissertation, University of Poona.
- , 1987. *The Archetypal Mother: a Systemic approach to Harappan Religion*. Pune: Ravish Publishers.
- Baer, K. 1960. *Rank and Title in the Old Kingdom*. Chicago: University Press.
- Balandier, G. 1970. *Political Anthropology*. Harmondsworth: Penguin.
- Banerji, R.D. 1984. *Mohenjo-daro: a Forgotten Report*. Varanasi: Prithvi Prakashan.
- Bannerman, J.H. 1982. Ecological and other factors in the rise and fall of the Zimbabwe state. Conference in Zimbabwean History : Progress and Development. Harare.
- Barkindo, B. 1985. 'The early states of the Central Sudan', in J.F.A. Ajayi and M. Crowder (eds.), *History of West Africa I*. New York : Columbia University. pp 225-254.
- Barrelet, M.-T. 1974. 'La figure du roi dans l'iconographie et dans textes', *XIXème Rencontre Assyriologique Internationale*. Paris. pp 27-137.
- Bartel, B. 1989. 'Acculturation and ethnicity in Roman Moesia Superior', in T.C. Champion (ed.), *Centre and Periphery*. London : Hyman. pp 173-185.
- Bascom, W. 1958. 'Yoruba urbanism', *Man*, 58: 190-191.
- Basham, R. 1978. *Urban Anthropology : The Cross-Cultural Study of Complex Societies*. Palo Alto: Mayfield.
- Beach, D.N. 1980. *The Shona and Zimbabwe, 900-1850*. Harare: Mambo Press.
- , 1983. 'Oral history and archaeology in Zimbabwe', *Zimbabwe Prehistory*, 19: 8-11.
- , 1984. *Zimbabwe Before 1900*. Harare: Mambo Press.
- Berlev, O. 1987. 'A social experiment in Nubia', in M.Powell (ed.), *Labour in the Ancient Near East*. New Haven: American Oriental Society. pp 143-158.
- Berthelot, J. 1986. 'The extraction of precious metals at the time of the Inka', in J.V.Murra, N. Wachtel, and J.Revel (eds.), *Anthropological History of Andean Polities*. Cambridge: University Press. pp 69-88.
- Bhowmik, S. 1987. 'Evidences of ancient foundry and metal technology at Lothal', in Lokesh Chandra and P.Jain (eds.), *Jayakar Seventy* (Pupul Jayakar Festschrift). Delhi: Agam Kala. pp 35-43.
- Biebuyck, D. 1963. 'Systèmes de tenure foncière du Congo', in D. Biebuyck (ed.), *African Agrarian Systems*. London: Oxford University Press. pp 83-100.
- Birmingham, D. 1975. 'Central Africa from Cameroun to the Zambezi', in *Cambridge History of Africa Volume IV*. Cambridge: University Press. pp 325-383.
- Bisht, R.S. 1978. 'Banawali', *Man and Environment*, 2: 86-88.
- , 1982. 'Excavations at Banawali', in G.Posschl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi : Oxford and IBH. pp 113-124.
- , 1984. 'Structural remains and town planning at Banawali', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi : Books and Books. pp

- 89-97.
- Bisht, R.S. and S. Asthana, 1979. 'Banawali and some other recently excavated sites', in M.Taddei (ed.), *South Asian Archaeology 1977*. Naples : Istituto Universitario Orientale. pp 223-240.
- Boltz, W. 1985. 'Early Chinese writing', *World Archaeology*, 17: 420-436.
- Bonavia, D. 1978. 'Ecological factors affecting the urban transformation in the last centuries of the pre-Columban era', in D. Browman (ed.), *Advances in Andean Archaeology*. The Hague: Mouton. pp 393-410.
- Bondioli, L., M. Tosi, and M. Vidale, 1984. 'Craft activity areas and surface survey at Mohenjo-daro', in M.Jansen and G.Urban (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports, I*. Aachen: Forschungsprojekt Mohenjo-daro. pp 9-37.
- Bonner, P. 1980. 'Classes, production and the state in pre-colonial Swaziland', in S.Marks and A. Atmore (eds.), *Economy and Society in Pre-industrial South Africa*. London: Longman, pp 80-101.
- Brumfiel, E.M. 1989. 'Factional competition in complex society', in D. Miller, M. Rowlands, C. Tilley (eds.), *Domination and Resistance*. London: Hyman. pp 127-139.
- Brumfiel, E.M. and T.K.Earle, 1987. 'Introduction', in E.M. Brumfiel and T.K.Earle (eds.), *Specialization, Exchange and Complex Societies*. Cambridge: University Press. pp 1-9.
- Burger, R.L. 1988. 'Unity and heterogeneity within the Chavin horizon', in R.W. Keatinge (ed.), *Peruvian Prehistory*. Cambridge: University Press. pp 99-144.
- de Cardi, B. 1983. *Archaeological Surveys in Baluchistan*. London : Institute of Archaeology.
- Carrasco, P. 1982. 'The political economy of the Inca and Aztec states', in G. Collier, R. Rosaldo and J. Wirth (eds.), *The Inca and Aztec States 1400-1800*. New York:Academic Press. pp 23-40.
- Carter, H. 1975. *The Study of Urban Geography*. London : Edward Arnold.
- , 1983. *An Introduction to Urban Historical Geography*. London : Edward Arnold.
- Casal, J.-M. 1964. *Fouilles d'Amri*. Paris: Librairie Klincksieck.
- , 1966. 'Nindowari', *Pakistan Archaeology*, 3: 10-21.
- , 1979. 'Amri', in D.P.Agrawal and D.K. Chakrabarti (eds.), *Essays in Indian Protobistory*. Delhi : B.R. Publ. Corp. pp 102-111.
- Chang, K.C. 1974. 'Urbanism and the king in ancient China', *World Archaeology*, 6: 1-14.
- , 1975. 'Ancient trade as economics or as ecology', in J.A. Sabloff and C.C. Lamberg-Karlovsky (eds.), *Ancient Civilization and Trade*. Albuquerque : University of New Mexico. pp 211-224.
- , 1976. *Early Chinese Civilization: Anthropological Perspectives*. Cambridge, Mass.: Harvard University Press.
- , 1980a. *Shang Civilization*. New Haven: Yale University Press.
- , 1980b. 'The Chinese Bronze Age : a modern synthesis', in Wen Fong (ed.), *The Great Bronze Age of China*. New York : Metropolitan Museum. pp 35-50.

- , 1983. *Art, Myth and Ritual : the Path to Political Authority in Ancient China*. Cambridge, Mass. : Harvard University Press.
- Charlin, J.I. 1978. 'Manifestations of Inca culture in two provinces of Chile', in D. Browman (ed.), *Advances in Andean Archaeology*. The Hague: Mouton. pp 443-448.
- Cheng Te-kun. 1960. *Archaeology in China II : Shang China*. Cambridge : W.Heffer.
- Chengyuan, Ma. 1980. 'The splendour of ancient Chinese bronzes', in Wen Fong (ed.), *The Great Bronze Age of China*. New York : Metropolitan Museum. pp 1-19.
- Cherry, J.F. 1986. 'Polities and palaces: Minoan state formation', in C. Renfrew and J.F. Cherry (eds.), *Peer Polity Interaction and Socio-Political Change*. Cambridge : University Press. pp 19-45.
- Chitalwala, Y.M. 1982. 'Harappan settlements in the Kutch Saurashtra region', in G.Possehl (ed.), *Harappan Civilization : a Contemporary Perspective*. Delhi : Oxford and IBH. pp 197-202.
- , 1984. 'The problem of class structure in the Indus civilization', in B.B. Lal and S.P.Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi : Books and Books. pp 211-215.
- Claessen, H.J. 1978. 'The early state: a structural approach', in H.J. Claessen and P.Skalnik (eds.), *The Early State*. The Hague: Mouton. pp 533-596.
- Claessen, H.J. 1984. 'The internal dynamics of the early state', *Current Anthropology*, 25: 365-379.
- Clarke, D.L. 1978. *Analytical Archaeology*. New York : Columbia University. Second edition.
- Cleland, J.H. 1986. 'Lithic analysis and culture process in the Indus region', in J.Jacobson (ed.), *Studies in the Archaeology of India and Pakistan*. Delhi : Oxford and IBH. pp 91-116.
- Cohen, A. 1969. 'Political anthropology : the analysis of the symbolism of power relationships', *Man*, 4: 215-235.
- Collier, D. 1955. *Cultural Chronology and Change as Reflected in the Ceramics of the Virú Valley*. Chicago: Natural History Museum.
- Conrad, G.W. and A.A. Demarest, 1984. *Religion and Empire: the Dynamics of Inca and Aztec Expansion*. Cambridge: University Press.
- Cowell, E.B. 1897. *The Jātaka*. London: Luzac Society. (reprinted 1969).
- Czaplicka, M.A. 1918. *The Turks of Central Asia*. Oxford: Clarendon.
- Dales, G.F. 1962a. 'Harappan outposts on the Makran coast', *Antiquity*, 36: 86-92.
- , 1962b. 'A search for ancient seaports', *Expedition*, 4: 3-10.
- , 1977. 'Shifting trade patterns between the Iranian plateau and the Indus Valley', in J.Deshayes (ed.), *Le Plateau Iranien et l'Asie Centrale*. Paris: CNRS. pp 67-78.
- , 1979a. 'The Balakot project', in M.Taddei (ed.), *South Asian Archaeology 1977*. Naples: Istituto Universitario Orientale. pp 241-273.
- , 1979b. 'The Balakot project', *Man and Environment*, 3: 45-53.
- , 1981. 'Reflections on four years of excavations at Balakot', in A.H.Dani (ed.), *Indus Civilization : New Perspectives*. Islamabad: A.H. Dani. pp 25-32.

- Dales, G.F. and J.M. Kenoyer, 1977. 'Shell working at ancient Balakot', *Expedition*, 19: 13-19.
- , 1986. *Excavations at Mohenjo-daro: the Pottery*. Philadelphia: University Museum.
- , 1988. Preliminary Report on the Third Season of Research at Harappa. (manuscript)
- , 1989. Preliminary Report on the Fourth Season of Research at Harappa. (manuscript)
- Dani, A.H. 1970-71. 'Excavations in the Gomal valley', *Ancient Pakistan*, 5.
- Dar, S.R. 1983. 'Khadian-wala', *Journal of Central Asia*, 6: 17-34.
- Denbow, J.R. 1983. Cows and kings: a spatial and economic analysis of a hierarchical early iron age settlement system in eastern Botswana. Conference of the South African Association of Archaeologists, at Gabone.
- Dennell, R.W. 1985. 'The hunter-gatherer/agricultural frontier in prehistoric Europe', in S.W. Green and S.M. Perlman (eds.), *The Archaeology of Frontiers and Boundaries*. Orlando: Academic Press. pp 113-139.
- Dhavalikar, M.K. 1977-78. 'An early warehouse on the western coast', *Puratattva*, 9: 100-103.
- , 1979. 'Early farming cultures of central India', in D.P. Agrawal and D.K. Chakrabarti (eds.), *Essays in Indian Protobhistory*. Delhi : B.R. Publ. Corpn. pp 229-245.
- Diakonoff, I.M. 1954. 'Sale of land in pre-Sargonic Sumer', *Papers of the XXIIIrd International Congress of Orientalists*. Moscow.
- , 1972. 'Socio-economic classes in Babylonia', in D.O. Edzard (ed.), *XVIIIème Rencontre Assyriologique Internationale*. Munich. pp 41-48.
- Dickinson, R.E. 1964. *City and Region*. London: Routledge and Kegan Paul.
- Dikshit, M.G. 1950. 'Excavations at Rangpur', *Bulletin of the Deccan College Postgraduate and Research Institute*, 11: 3-55.
- Dillehay, T. 1985. 'On Inca finance', *Current Anthropology*, 26: 524-525.
- Durante, S. 1979. 'Marine shells from Balakot, Shahr-i Sokhta and Tepe Yahya', in M.Taddei (ed.), *South Asian Archaeology 1977*. Naples: Istituto Universitario Orientale. pp 317-343.
- During Caspers, E.C.L. 1987. 'Was the dancing girl from Mohenjo-daro a Nubian?' *Annali*, 47: 99-105.
- Durrani, F.A. 1981. 'Rehman Dheri and the birth of civilization in Pakistan', *Bulletin of the Institute of Archaeology*, 18: 191-208.
- , 1988. 'Excavations in the Gomal valley I : Rehman Dheri', *Ancient Pakistan*, 6.
- Dutta, B.C. 1984. *Rupar*. Calcutta : B.C. Dutta.
- Earle, T.K. 1976. 'A nearest neighbour analysis of two formative settlement systems', in K.V. Flannery (ed.), *The Early Mesoamerican Village*. New York : Academic Press. pp 196-223.
- , 1987. 'Specialization and the production of wealth', in E.M. Brumfiel and T.K. Earle (eds.), *Specialization, Exchange and Complex Societies*. Cambridge : University Press. pp 64-75.
- Earle, T.K., T.N. D'Altroy, et al, 1980. 'Changing settlement patterns in the upper

- Mantaro valley', *Journal of New World Archaeology*, 4: 1-49.
- Earle, T.K. and T.N.D'Altroy, 1982. 'Storage facilities and state finance in the upper Mantaro valley', in J.E. Ericson and T.K. Earle (eds.), *Contexts for Prehistoric Exchange*. New York: Academic Press. pp 265-290.
- Eichler, B. 1983. 'Of slings and shields, throw-sticks and javelins', *Journal of the American Oriental Society*, 103: 95-112.
- Eisenstadt, S.N. and A. Shachar, 1987. *Society, Culture and Urbanization*. Beverly Hills: Sage.
- Ekholm-Friedman, K. 1985. ... Sad stories of the death of kings', *Ethnos*, 50: 248-272.
- Eliade, M. 1975. *Myths, Dreams, and Mysteries*. New York : Harper and Row.
- Evans-Pritchard, E.E. 1956. 'Zande totems', *Man*, 56: 107-109.
- , 1957. 'The origin of the ruling clan of the Azande', *Southwestern Journal of Anthropology*, 13: 322-343.
- , 1959. 'The distribution of Zande clans', *Man*, 59: 21-25.
- , 1961. 'Zande clans and totems', *Man*, 61: 116-121.
- , 1963. 'The Zande state', *Journal of the Royal Anthropological Institute*, 93: 134-158.
- , 1971. *The Azande*. Oxford: Clarendon Press.
- Eyre, C.J. 1987. 'Work and the organization of work in the New Kingdom', in M.Powell (ed.), *Labour in the Ancient Near East*. New Haven: American Oriental Society. pp 167-221.
- Fabri, C.L. 1934-35. 'The Cretan bull-grappling sports and the bull sacrifice in the Indus Civilization', *Annual Reports of the Archaeological Survey of India*. pp 93-101.
- Fairservis, W.A. 1967. 'The origin, decline and character of an early civilization', reprinted in G.Possehl (ed.), *Ancient Cities of the Indus*. Delhi: Vikas Publishing House. 1978. pp 66-89.
- , 1971. *The Roots of Ancient India*. New York : Allen and Unwin.
- , 1982. 'Allahdino', in G.Possehl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi: Oxford and IBH. pp 107-112.
- Fallers, L.A. 1965. *Bantu Bureaucracy*. Chicago: University Press.
- Fentress, M. 1979. 'Indus charms and urns: religious diversity at Harappa and Mohenjo-daro', *Man and Environment*, 3: 99-104.
- , 1984. 'The Indus "granaries"', in K. Kennedy and G.Possehl (eds.), *Studies in the Archaeology and Palaeoanthropology of South Asia*. Delhi : Oxford and IBH. pp 89-97.
- Ferreira, J.V. 1965. *Totemism in India*. Bombay: Oxford University Press.
- Finley, M.I. 1977. *Early Greece: the Bronze and Archaic Ages*. London: Chatto and Windus.
- , 1981. *Economy and Society in Ancient Greece*. Harmondsworth: Penguin.
- Fisher, A.R. 1985. 'The early state module: a critical assessment', *Oxford Journal of Archaeology*, 4: 1-8.
- Francfort, H.-P. 1984. 'The Harappan settlement of Shortughai', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp

- 301-310.
- Francfort, H.-P. and M.H. Pottier, 1978. 'Sondages préliminaire sur l'établissement de Shortughai', *Arts Asiatiques*, 34: 29-79.
- Frankfort, H. 1970. *The Art and Architecture of the Ancient Orient*. Harmondsworth: Penguin. (Fourth Edition).
- Frazer, I.C. 1958. Report on a Reconnaissance Survey of the Landforms, Soils and Present Land-Use of the Indus Plains. Toronto: a Columbo Plan Co-Operative Project.
- Frenchman, K.N. 1972. Prehistoric Pottery Industries along the 'Lost' Sarasvati River. Ph.D. Dissertation, University of Poona.
- Friedman, J. and M.J. Rowlands, 'Notes towards an epigenetic model of the evolution of civilizations', in J. Friedman and M.J. Rowlands (eds.), *The Evolution of Social Systems*. London: Duckworth. pp 201-276.
- Gardiner, A. 1966. *Egypt of the Pharaohs*. London : Oxford University Press.
- Garlake, P.S. 1978. 'Pastoralism and Zimbabwe', *Journal of African History*, 19: 479-493.
- Gelb, I.J. 1979. 'Household and family in early Mesopotamia', in E.Lipinski (ed.), *State and Temple Economy in the Ancient Near East*. Leuven: Katholieke Universiteit. Volume I. pp 1-97.
- Ghosh, A. 1953. 'Exploration in Bikaner', *East and West*, 4: 31-34.
- Gleave, M.B. 1963. 'Hill settlements and their abandonment in western Yorubaland', *Africa*, 33: 343-352.
- Goddard, S. 1965. 'Town-farm relationships in Yorubaland', *Africa*, 35: 21-29.
- Goedicke, H. 1981. 'Harkhuf's travels', *Journal of Near Eastern Studies*, 40 : 1-20.
- Goldman, I. 1970. *Ancient Polynesian Society*. Chicago: University Press.
- Goody, J. 1971. *Technology, Tradition and the State in Africa*. Cambridge: University Press.
- , 1986. *The Logic of Writing and the Organization of Society*. Cambridge: University Press.
- Graham, J.W. 1962. *The Palaces of Crete*. Princeton: University Press.
- Gupta, S.K. 1977. 'Holocene silting in the Little Rann', in D.P. Agrawal and B.M. Pande (eds.), *Ecology and Archaeology of Western India*. Delhi: Concept Publishers. pp 201-205.
- Gupta, S.P. 1974. 'Two urbanizations in India', *Puratattva*, 7: 53-60.
- Halim, M.A. and M. Vidale, 1983. 'Kilns, bangles and coated vessels', in M. Jansen and G. Urban (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports*, I. Aachen: Forschungsprojekt Mohenjo-daro. pp 63-98.
- Halstead, P. 1981. 'From determinism to uncertainty: social storage and the rise of the Minoan palace', in A. Sheridan and G. Bailey (eds.), *Economic Archaeology*. Oxford: BAR no. 196. pp 187-213.
- Harris, R. 1955. 'The archive of the Sin temple in Khafaje', *Journal of Cuneiform Studies*, 9: 31-88, 91-120.
- Heesterman, J.C. 1957. *The Ancient Indian Royal Consecration*. The Hague: Mouton.
- Hegde, K.T.M. 1977-78. 'Ancient Indian pottery kilns', *Puratattva*, 9: 109-111.

- Hegde, K.T.M., Kuldeep Bhan, and V.H. Sonawane, 1984-85. 'Excavations at Nageshwar', *Journal of the M.S. University, Baroda*, 33-34: 3-12.
- Heidel, A. 1951. *The Babylonian Genesis*. Chicago: University Press.
- Hodder, I. 1978. 'Social organization and human interaction: some tentative hypotheses in terms of material culture', in I. Hodder (ed.), *The Spatial Organization of Culture*. London: Duckworth. pp 199-269.
- , 1979. 'Social and economic stress and material culture patterning', *American Antiquity*, 44: 446-454.
- Hodges, H. 1970. *Technology in the Ancient World*. Harmondsworth: Penguin.
- Hoffman, M. and J. Shaffer, 1973. 'The Harappan settlement at Allahdino', in K. Kennedy and G. Possehl (eds.), *Ecological Backgrounds of South Asian Prehistory*. New York : Cornell University Press. pp 94-117.
- Horton, R. 1985. 'Stateless societies in the history of West Africa', in J.F.A. Ajayi and M.Crowder (eds.), *History of West Africa Volume I*. New York : Columbia University Press. pp 78-119.
- Huffman, T. 1986. 'Iron age settlement patterns and the origins of class distinction in southern Africa', *Advances in World Archaeology*, 5: 291-338.
- Hunwick, J.O. 1985. 'Songhay, Bornu and the Hausa States', in J.F.A. Ajayi and M.Crowder (eds.), *History of West Africa Volume I*. New York: Columbia University Press. pp 323-371.
- Inden, R. 1977. 'Ritual, authority, and cyclic time in Hindu kingship', in J.F. Richards (ed.), *Kingship and Authority in South Asia*. Madison: University of Wisconsin. pp 28-56.
- Jacobsen, T. 1953. Review of L. Legrain, *Business Documents of the Third Dynasty of Ur (UET III)* in *American Journal of Archaeology*, 57: 125-128.
- , 1957. 'Early political development in Mesopotamia', *Zeitschrift für Assyriologie*, 18: 91-140.
- Jansen, M. 1979. 'Architectural problems of the Harappa culture', in M. Taddei (ed.), *South Asian Archaeology 1977*. Naples: Istituto Universitario Orientale. pp 405-431.
- , 1984. 'Theoretical aspects of structural analyses', in M. Jansen and G.Urban (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports, I*. Aachen: Forschungsprojekt Mohenjo-daro. pp 39-63.
- , 1984a. 'Architectural remains in Mohenjo-daro', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 75-88.
- , 1984b. 'Preliminary results of two years' documentation at Mohenjo-daro', in B.Allchin (ed.), *South Asian Archaeology 1981*. Cambridge: University Press. pp 135-153.
- , 1987. 'Preliminary results of the "forma urbis" research', in M. Jansen and G.Urban (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports, II*. Aachen: Forschungsprojekt Mohenjo-daro. pp 9-22.
- Janssen, J.J. 1978. 'The early state in Egypt' in H.J. Claessen and P. Skalnik (eds.), *The Early State*. The Hague: Mouton. pp 213-234.
- Jarrige, J.A. 1973. 'La fin de la civilisation Harappéenne', *Paleorient*, 1: 263-287.
- Johnson, G.A. 1980. 'Rank-size convexity and system integration: a view from

- archaeology', *Economic Geography*, 56: 234-247.
- Joshi, J.P. 1972a. 'Fresh light on the archaeology of Kutch', in S.B. Deo (ed.), *Archaeological Congress and Seminar Papers*. Nagpur: University Press. pp 21-35.
- , 1972b. 'Exploration in Kutch and excavation at Surkotada', *Journal of the Oriental Institute, Baroda*, 22: 98-144.
- , 1973. 'Excavation at Surkotada', in D.P. Agrawal and A.Ghosh (eds.), *Radiocarbon and Indian Archaeology*. Bombay: TIFR. pp 173-181.
- , 1974. 'Surkotada', *Puratattva*, 7: 34-38.
- , 1979. 'The nature of settlement at Surkotada', in D.P. Agrawal and D.K. Chakrabarti (eds.), *Essays in Indian Protobiology*. Delhi : B.R. Publ. Corpn. pp 59-64.
- Joshi, J.P. and Madhu Bala, 1982. 'Manda', in G.Possehl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi: Oxford and IBH. pp 185-195.
- Julien, C.J. 1983. *Hatunquolla: a view of Inca Rule from the Lake Titicaca Region*. Berkeley: University of California.
- Kandert, J. 1978. 'Zande', in H.J. Claessen and P. Skalnik (eds.), *The Early State*. The Hague: Mouton. pp 511-529.
- Katz, F. 1972. *The Ancient American Civilizations*. London: Weidenfeld and Nicolson.
- Keatinge, R.W. and G.W. Conrad, 1983. 'Imperialist expansion in Peruvian prehistory', *Journal of Field Archaeology*, 10: 255-283.
- Kemp, B.J. 1972. 'Temple and town in ancient Egypt', in P.J. Ucko, R. Tringham, and G.W. Dimbleby (eds.), *Man, Settlement, and Urbanism*. London: Duckworth. pp 657-680.
- Kenoyer, J.M. 1983. Shell Working Industries of the Indus Civilization. Ph.D. Dissertation, University of California, Berkeley.
- , 1984a. 'Shell industries at Mohenjo-daro', in M.Jansen and G.Urbani (eds.), *Reports on Field Work at Mohenjo-daro: Interim Reports, I*. Aachen: Forschungsprojekt Mohenjo-daro. pp 99-118.
- , 1984b. 'Shell working industries of the Indus civilization', *Paléorient*, 10: 49-63.
- , 1984c. 'Chipped stone tools from Mohenjo-daro', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 117-129.
- Kesarwani, A. 1984. 'Harappan gateways: a functional reassessment', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 63-73.
- Khan, A.R. 1981. 'Kot Kori', in A.H. Dani (ed.), *Indus Civilization: New Perspectives*. Islamabad: A.H. Dani. pp 43-45.
- Khan, F.A. 1965. 'Excavations at Kot Diji', *Pakistan Archaeology*, 2: 11-87.
- Kirch, P.V. 1984. *The Evolution of the Polynesian Chiefdoms*. Cambridge: University Press.
- Klass, M. 1980. *Caste: the Emergence of the South Asian Social System*. Philadelphia: Institute for the Study of Human Issues.
- Kochakova, N.B. 1978. 'Yoruba city-states', in H.J. Claessen and P. Skalnik (eds.), *The Early State*. The Hague: Mouton. pp 495-510.

- Krishna Deva and D. McCown, 1949. 'Further exploration in Sind', *Ancient India*, 5: 12-30.
- Kramer, S.N. 1963. 'The Sumerian Sacred Marriage texts', *Proceedings of the American Philosophical Society*, 107: 485-527.
- Kuldeep Bhan and J.M. Kenoyer, 1984. 'Nageshwar: a mature Harappan shell working site', *Journal of the Oriental Institute, Baroda*, 34: 67-80.
- Lad, G. 1978. Archaeology and the Mahabharata. Ph.D. Dissertation, University of Poona.
- , 1983. *Mahabharata and Archaeological Evidence*. Pune : Deccan College.
- Lal, B.B. 1981. 'Some reflections on the structural remains at Kalibangan', in A.H. Dani (ed.), *Indus Civilization : New Perspectives*. Islamabad: A.H. Dani. pp 47-54.
- , 1984. 'Some reflections on the structural remains at Kalibangan', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 55-62.
- Lambrick, H.T. 1964. *Sind: a General Introduction*. Hyderabad: Sindhi Adabi Board.
- , 1973. *Sind Before the Muslim Conquest*. Hyderabad: Sindhi Adabi Board.
- Lampard, E.E. 1955. 'The history of cities in the economically advanced areas', *Economic Development and Cultural Change*, 3: 81-136.
- Langdon, S. 1924. *Excavations at Kish*. Volume I. Paris: P. Geuthner.
- Lechevallier, M. 1979. 'L'industrie lithique d'Amri', *Paleorient*, 5: 281-295.
- Lewis, I.M. 1961. *A Pastoral Democracy*. London: Oxford University Press.
- , 1962. 'Lineage continuity and modern commerce in northern Somaliland', in P. Bohannan and G. Dalton (eds.), *Markets in Africa*. Evanston: Northwestern University Press. pp 365-385.
- , 1965. 'The northern pastoral Somali of the Horn', in J.L. Gibbs (ed.), *Peoples of Africa*. New York: Holt, Rinehart, Winston. pp 319-360.
- Li Chi, 1977. *An Yang*. Seattle: University of Washington.
- Limet, H. 1979. 'Le rôle du palais dans l'économie néo-Sumérienne', in E. Lipinski (ed.), *State and Temple Economy in the Ancient Near East*. Leuven: Katholieke Universiteit. pp 235-248.
- Lloyd, P.C. 1965. 'The Yoruba of Nigeria', in J.L. Gibbs (ed.), *Peoples of Africa*. New York: Holt, Rinehart, Winston. pp 547-582.
- , 1967. 'The traditional political system of the Yoruba', in R. Cohen and J. Middleton (eds.), *Comparative Political Systems*. Austin: University of Texas. pp 269-292 (first published 1954).
- , 1973. 'The Yoruba: an urban people?' in A. Southall (ed.), *Urban Anthropology*. New York: Oxford University Press. pp 107-123.
- Lloyd, S. and F. Safar. 1948. 'Eridu', *Sumer*, 4: 115-130.
- de la Lone, D. 1982. 'The Inca as a non-market economy', in J.E. Ericson and T.K. Earle (eds.), *Contexts for Prehistoric Exchange*. New York: Academic Press. pp 291-316.
- Mackay, E. 1935. *The Indus Civilization*. London: Lovat Dickson and Thompson.
- , 1938. *Further Excavations at Mohenjo-daro*. Delhi: Govt. Press.
- , 1943. *Chanhu-daro Excavations 1935-36*. New Haven: American Oriental

- Society.
- Maekawa, K. 1987. 'Collective Labour Service in Girsu', in M.A. Powell (ed.), *Labour in the Ancient Near East*. New Haven: American Oriental Society. pp 49-71.
- Mahadevan, I. 1977. *The Indus Script: Text, Concordance and Tables*. Delhi: Archaeological Survey of India.
- , 1981-83. 'The cult object on unicorn seals', *Puratattva*, 13-14: 165-186.
- Mahalingam, T.V. 1969. *Kancipuram in Early South Indian History*. Bombay: Asia Publishing House.
- Majumdar, N.C. 1934. *Explorations in Sind*. Delhi: Archaeological Survey of India.
- Malik, S.C. 1968. *Indian Civilization: the Formative Period*. Simla: Indian Institute of Advanced Study.
- , 1984. 'Harappan social and political life', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 201-209.
- Mallowan, M.E.L. 1971. 'The Early Dynastic period in Mesopotamia', in *The Cambridge Ancient History*. Volume I.2. Cambridge: University Press. pp 238-314.
- Mann, M. 1986. *The Sources of Social Power*. Volume 1. Cambridge: University Press.
- Marshall, J. 1931. *Mohenjo-daro and the Indus Civilization*. London: A. Probsthain.
- , 1951. *Taxila*. Cambridge: University Press.
- Masson, V.M. 1988. *Altyn-depe*. Philadelphia: University Museum.
- Matz, F. 1973a. 'The maturity of Minoan civilization', in *The Cambridge Ancient History*. Volume II.1. Cambridge: University Press. pp 141-164.
- , 1973b. 'The zenith of Minoan civilization', in *The Cambridge Ancient History*. Volume II.1. Cambridge: University Press. pp 557-581.
- McMillan, D.E. 1987. 'The social impact of planned settlement in Burkina Faso', in M. Glantz (ed.), *Drought and Hunger in Africa*. Cambridge: University Press. pp 297-322.
- Michalowski, P. 1987. 'Charisma and control: on continuity and change in early Mesopotamian bureaucratic systems', in M. Gibson and R.D. Biggs (eds.), *The Organization of Power : Aspects of Bureaucracy in the Ancient Near East*. Chicago: Oriental Institute. pp 55-68.
- Miller, D. 1985. 'Ideology and the Harappan Civilization', *Journal of Anthropological Archaeology*, 4: 34-71.
- Minakshi, C. 1977. *Administration and Social Life under the Pallavas*. Madras: University Press.
- de Montmollin, O. 1987. 'Forced settlement and political centralization in a classic Maya polity', *Journal of Anthropological Archaeology*, 6: 220-262.
- Moon, J. 1982. 'The distribution of upright-handled jars and stemmed dishes in the Early Dynastic period', *Iraq*, 44: 39-69.
- Moore, J.A. 1985. 'Forager/farmer interactions', in S.W. Green and S.M. Perlman (eds.), *The Archaeology of Frontiers and Boundaries*. Orlando: Academic Press. pp 93-112.
- Morris, C. 1972. 'State settlements in Tawantinsuyu : a strategy of compulsory

- 'urbanism', in M. Leone (ed.), *Contemporary Archaeology*. Carbondale: Southern Illinois University. pp 393-401.
- , 1974. 'Reconstructing patterns of non-agricultural production in the Inca economy', in C.B. Moore (ed.), *Reconstructing Complex Societies*. New Haven: BASOR supplement 20. pp 49-68.
- , 1982. 'The infrastructure of Inca control in the Peruvian central highlands', in G. Collier *et al.* (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 153-171.
- , 1986. 'Storage, supply and redistribution in the Inka state', in J.V. Murra *et al.* (eds.), *Anthropological History of Andean Polities*. Cambridge: University Press. pp 59-68.
- Mughal, M.R. 1970. *The Early Harappan Period in the Greater Indus Valley and Northern Baluchistan*. Ph.D. Dissertation, University of Pennsylvania.
- , 1980. *Archaeological Surveys in Bahawalpur*. Karachi: Dept. of Archaeology and Museums. Unpublished manuscript.
- , 1981. 'New archaeological evidence from Bahawalpur', in A.H. Dani (ed.), *Indus Civilization: New Perspectives*. Islamabad: A.H. Dani. pp 33-48.
- , 1984. 'Current research trends in the rise of the Indus civilization', in G. Urban and M. Jansen (eds.), *The Architecture of Mohenjo-daro*. Delhi: Books and Books. pp 13-20.
- , 1990. 'Further evidence of the Early Harappan Culture', *South Asian Studies*, 6: 175-199.
- Murra, J.V. 1962. 'Cloth and its functions in the Inca state', *American Anthropologist*, 64: 710-728.
- , 1982. 'The *mit'a* obligations of ethnic groups to the Inca state', in G. Collier *et al.* (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 237-262.
- , 1986. 'The expansion of the Inka state', in J.V. Murra *et al.* (eds.), *Anthropological History of Andean Polities*. Cambridge: University Press. pp 49-58.
- Murra, J.V. and C. Morris, 1976. 'Dynastic oral tradition, administrative records, and archaeology in the Andes', *World Archaeology*, 7: 269-279.
- Murvar, V. 1969. 'Some tentative modifications of Weber's typology: Occidental versus Oriental city', in P. Meadows and E. Mizruchi (eds.), *Urbanism, Urbanization, and Change*. Reading, Mass.: Addison Wesley. pp 51-63.
- Nadel, S.F. 1935. 'Nupe state and community', *Africa*, 8: 257-303.
- , 1940. 'The Kede', in M. Fortes and E.E. Evans-Pritchard (eds.), *African Political Systems*. London: Oxford University Press. pp 165-195.
- , 1942. *A Black Byzantium: the Kingdom of Nupe in Nigeria*. London: Oxford University Press.
- Netting, R. McC. 1972. 'Sacred power and centralization', in B. Spooner (ed.), *Population Growth: Anthropological Implications*. Cambridge, Mass.: M.I.T. Press. pp 219-244.
- Nissen, H. 1985. 'The archaic texts from Uruk', *World Archaeology*, 17: 317-334.
- Oates, D. and J. Oates, 1976. 'Early irrigation agriculture in Mesopotamia' in

- G.Sieveking *et al.* (eds.), *Problems in Economic and Social Archaeology*. London: Duckworth. pp.109-135.
- Obayemi, A.M. 1985. 'The Yoruba and Edo-speaking peoples and their neighbours', in J.F.A. Ajayi and M.Crowder (eds.), *History of West Africa I*. New York: Columbia University. pp 255-322.
- Ong, W. 1982. *Orality and Literacy*. London: Methuen.
- Pande, B.M. 1986. 'Inscribed copper objects from Mohenjo-daro', Paper read at the seminar of the Bihar Puravid Parishad, Patna.
- Pandya, S. 1982. 'Kotado', in R.K. Sharma (ed.), *Indian Archaeology: New Perspectives*. Delhi: Agam Kala. pp 127-130.
- Pant, R.K. 1979. 'Functional studies on stone blades: microwear patterns', *Man and Environment*, 3: 83-85.
- Parpola, A. *et al.* 1969. *Decipherment of the Proto-Dravidian Inscriptions of the Indus Civilization*. Copenhagen: Scandinavian Institute for Indian Studies.
- Parrot, A. 1974. *Mari: Capitale Fabuleuse*. Paris: Payot.
- Paynter, R. 1985. 'Surplus flow between frontiers and hinterlands', in S.W. Green and S.M. Perlman (eds.), *The Archaeology of Frontiers and Boundaries*. Orlando: Academic Press. pp 163-211.
- Pease, F. 1982. 'The formation of Tawantinsuyu: mechanisms of colonization', in G.Collie *et al.* (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 173-198.
- Piggott, S. 1952. *Prehistoric India*. Harmondsworth: Penguin.
- Piotrovsky, B. 1969. *Urartu*. New York: Cowles.
- Pithawalla, M.B. 1939. *Settlements in the Lower Indus Basin (Sind)*. Karachi: M.B.Pithawalla.
- Possehl, G.L. 1980. *Indus Civilization in Saurashtra*. Delhi: B.R. Publ. Corp.
- , 1986. *Kulli*. Durham: Carolina Academic Press.
- Possehl, G.L. and M. Raval. 1989. *Harappan Civilization and Rojdi*. Delhi: Oxford and IBH.
- Poulter, A.G. 1980. 'Rural communities and their role in the organization of the Itmes of Moesia Inferior', in W.S. Hanson and L.J.F. Keppie (eds.), *Roman Frontier Studies, 1979*. Oxford: BAR 71. pp 729-744.
- Rao, S.R. 1962-63. 'Excavations at Rangpur and other explorations in Gujarat', *Ancient India*, 18-19: 5-207.
- , 1979. *Lothal: a Harappan Port Town*. Delhi: Archaeological Survey of India.
- , 1985. *Lothal 1955-62*. Delhi: Archaeological Survey of India.
- Rapoport, A. 1976. 'Socio-cultural aspects of man-environment studies', in A.Rapoport (ed.), *The Mutual Interaction of People and Their Built Environment*. The Hague: Mouton. pp 7-35.
- Ratnagar, S. 1981. *Encounters*. Delhi: Oxford University Press.
- , 1982. 'The location of Harappa', in G.Possehl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi: Oxford and IBH. pp 261-264.
- , 1986. 'An aspect of Harappan agricultural production', *Studies in History*, n.s. 2: 137-153.
- , 1987. 'Pastoralists in the prehistory of Baluchistan', *Studies in History*, n.s. 3:

- 137-154.
- Redfield, R. 1968. *The Primitive World and its Transformations*. Harmondsworth: Penguin. (first published 1953)
- Renfrew, C. 1975. 'Trade as action at a distance', in J.A. Sabloff and C.C. Lamberg-Karlovsky (eds.), *Ancient Civilization and Trade*. Albuquerque: University of New Mexico. pp 3-59.
- , 1986. 'Introduction', in C. Renfrew and J.F. Cherry (eds.), *Peer Polity Interaction and Socio-Political Change*. Cambridge: University Press. pp 1-18.
- Rickman, G. 1971. *Roman Granaries and Store Buildings*. Cambridge: University Press.
- Rickman, G. 1980. *The Corn Supply of Ancient Rome*. Oxford: Clarendon.
- RIIC 1903: *Report of the Indian Irrigation Commission 1901-1903: Appendix*. Calcutta: Govt. Press.
- Rowe, J.H. 1982. 'Inca politics and institutions relating to the cultural unification of the empire', in G. Collier et.al. (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 93-118.
- Roy, B. and S. Merh, 1977. 'Geomorphology of the Rann of Kutch', in D.P. Agrawal and B.M. Pande (eds.), *Ecology and Archaeology of Western India*. Delhi: Concept. pp 195-200.
- Roy, A.K. 1978. *History of Jaipur City*. Delhi: Manohar.
- Royal Commission on Agriculture in India. 1928. *Report*. Bombay: Govt. Press.
- Sampson, G. 1985. *Writing Systems*. London: Hutchinson.
- Sankalia, H.D. 1965. *Excavations at Langbnaj* Part I. Pune: Deccan College.
- Saxe, A. 1977. 'State formation in the Sandwich Islands', in J. Hill (ed.), *The Explanation of Prehistoric Change*. Albuquerque: University of New Mexico. pp 105-151.
- Schreiber, K.J. 1987. 'Conquest and consolidation: a comparison of the Wari and Inka occupations of a highland Peruvian valley', *American Antiquity*, 52: 266-284.
- Schwartz, G.M. 1987. 'The Ninevite V period and the development of complex society', *Paléorient*, 13: 93-100.
- Shaffer, J. 1981. 'The protohistoric period in eastern Punjab', in A.H. Dani (ed.), *Indus Civilization: New Perspectives*. Islamabad: A.H. Dani. pp 65-102.
- , 1982. 'Harappan culture: a reconsideration', in G. Possehl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi: Oxford and IBH. pp 41-50.
- Sharma, J.P. 1968. *Republics in Ancient India, c. 1500 B.C.-500 A.D.* Leiden: E.J.Brill.
- Sharma, Y.D. 1955-56. 'Past patterns of living as unfolded by excavations at Rupar', *Lalit Kala*, 1-2: 121-129.
- , 1982. 'Harappan complex on the Sutlej', in G.Possehl (ed.), *Harappan Civilization: a Contemporary Perspective*. Delhi: Oxford and IBH. pp 141-165.
- Sinclair, P. 1984. 'Some aspects of the economic level of the Zimbabwe state', *Zimbabwe*, 1: 48-53.
- Singh, S.D. 1965. *Ancient Indian Warfare with Special Reference to the Vedic Period*. Leiden: E.J. Brill.
- Sinha, B.P. and S.R. Roy. 1969. *Vaisali Excavations*. Patna: Directorate of

- Archaeology and Museums.**
- Shaw, T.M. 1987. 'Towards a political economy of the African crisis', in M. Glantz (ed.), *Drought and Hunger in Africa*. Cambridge: University Press. pp 127-147.
- Skalnik, P. 1978. 'The early state as a process', in H.J.Claessen and P.Skalnik (eds.), *The Early State*. The Hague: Mouton. pp 597-618.
- Smith, C. 1976. 'Regional economic systems', in C. Smith (ed.), *Regional Analysis* Volume I. New York: Academic Press. pp 3-60.
- , 1982. 'Modern and premodern urban primacy', *Comparative Urban Research*, 11: 79-86.
- Sollberger, E. and J.-R. Kupper. 1971. *Inscriptions Royales Sumériennes et Akkadiennes*. Paris: Editions du Cerf.
- Soundararajan, K.V. 1984. 'Kutch Harappan: a corridor of the Indus phase', in B.B.Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization*. Delhi: Books and Books. pp 217-226.
- Srivastava, K.M. 1979. *Community Movements in Prehistoric India*. Delhi: Agam Kala.
- Stacul, G. 1969. 'Excavation near Ghalighai and chronological sequence of protohistoric cultures in the Swat valley', *East and West*, 19: 44-99.
- Stanislawski, D. 1962. 'The origin and spread of the grid pattern town', in P.L.Wagner and M.W. Mikesell (eds.), *Readings in Cultural Geography*. Chicago: University Press. pp 318-329.
- Stebbing, E.P. 1962. *The Forests of India*. Volume IV. (ed. by H.Champion and F.C.Osmaston). London: Oxford University Press.
- Stein, A. 1931. *An Archaeological Tour in Gedrosia*. Calcutta: Archaeological Survey of India.
- Steinkeller, P. 1987. 'The administrative and economic organization of the Ur III state: the core and the periphery', in M.Gibson and R.D. Biggs (eds.), *The Organization of Power: Aspects of Bureaucracy in the Ancient Near East*. Chicago: Oriental Institute. pp 19-41.
- Suraj Bhan, 1973. 'Sequence and spread of prehistoric cultures in the upper Sarasvati basin', in D.P. Agrawal and A.Ghosh (eds.), *Radiocarbon and Indian Archaeology*. Bombay: TIFR. pp 252-263.
- , 1975. *Excavation at Mitatbal (1968) and Other Explorations in the Sutlej-Jumna Divide*. Kurukshetra: University Press.
- Suraj Bhan and J.G. Shaffer, 1978. 'New discoveries in Haryana', *Man and Environment*, 2: 59-68.
- Tadros, H.R. 1976. 'Problems involved in the human aspects of rural resettlement schemes in Egypt', in A. Rapoport (ed.), *The Mutual Interaction of People and their Built Environment*. The Hague: Mouton. pp 453-482.
- Tainter, J.A. 1988. *The Collapse of Complex Societies*. Cambridge: University Press.
- Thapar, B.K. 1973a. 'Synthesis of multiple data from Kalibangan', in D.P. Agrawal and A. Ghosh (eds.), *Radiocarbon and Indian Archaeology*. Bombay: TIFR. pp 264-271.
- , 1973b. 'New traits of the Indus civilization at Kalibangan', in N.Hammond (ed.), *South Asian Archaeology*. New Jersey: Noyes. pp 85-104.

- Thapar, Romila. 1984. *From Lineage to State*. Delhi: Oxford University Press.
- Tosi, M. 1984. 'The notion of craft specialization and its representation in the archaeological record of early states in the Turanian basin', in M.Spriggs (ed.), *Marxist Perspectives in Archaeology*. Cambridge: University Press. pp 22-52.
- Trigger, B., B. Kemp, and D. O'Connor, 1983. *Ancient Egypt: a Social and Economic History*. Cambridge: University Press.
- Tusa, S. 1979. 'The Swat valley in the 2nd and 1st millennia B.C.' in M.Taddei (ed.), *South Asian Archaeology 1977*. Naples: Istituto Universitario Orientale. pp 675-695.
- Udai Vir Singh and Suraj Bhan, 1982. 'A note on the excavations at Balu', in R.K.Sharma (ed.), *Indian Archaeology: New Perspectives*. Delhi: Agam Kala. pp 124-126.
- Vanderlinden, J. 1963. 'Problèmes posés par l'introduction de nouveaux modes d'usage des terres chez les Zande Vungara', in D. Biebuyck (ed.), *African Agrarian Systems*. London: Oxford University Press. pp 331-347.
- Vansina, J. 1962a. 'Trade and markets among the Kuba', in P.Bohannan and G.Dalton (eds.), *Markets in Africa*. Evanston: Northwestern University Press. pp 190-210.
- , 1962b. 'A comparison of African kingdoms', *Africa*, 32: 324-334.
- , 1963. 'Les régimes fonciers Ruanda et Kuba', in D.Biebuyck (ed.), *African Agrarian Systems*. London: Oxford University Press. pp 348-363.
- , 1964. *Le Royaume Kuba*. Tervuren: Musée Royal de l'Afrique Centrale.
- , 1966. *Kingdoms of the Savannah*. Madison: University of Wisconsin.
- , 1978. *The Children of Woot*. Madison: University of Wisconsin.
- Varma, Supriya. 1985. Changing patterns of Settlement in Kathiawar from the Harappan to the Early Historical Period. M.Phil. Dissertation, Jawaharlal Nehru University.
- Vats, M.S. 1934-35. 'Trial excavations at Rangpur', *Annual Report of the Archaeological Survey of India* pp '34-38.
- , 1935-36. 'Explorations in Khairpur state', *Annual Report of the Archaeological Survey of India* pp 36-38.
- , 1940. *Excavations at Harappa*. Delhi: Govt. Press.
- Vernon-Jackson, H. 1960. 'Craft work at Bida', *Africa*, 30: 51-61.
- Vincent, J. 1978. 'Political anthropology: manipulative strategies', *Annual Review of Anthropology*, 7: 175-194.
- Wachtel, N. 1982. 'The *mitimas* of the Cochabamba valley', in G.Collier *et al* (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 199-235.
- Ward-Perkins, J.B. 1974. *Cities of Ancient Greece and Italy: Planning in Classical Antiquity*. London: Sidgwick and Jackson.
- Webb, M.C. 1975. 'The flag follows trade', in J.A.Sabloff and C.C.Lamberg-Karlovsky (eds.), *Ancient Civilization and Trade*. Albuquerque: University of New Mexico. pp 155-210.
- Webster, D. 1976. 'On theocracies', *American Anthropologist*, 78: 812-828.
- Wheatley, P. 1971. *The Pivot of the Four Quarters*. Edinburgh: University Press.
- Wheeler, R.E.M. 1947. 'Harappa 1946', *Ancient India*, 3: 58-130.

- , 1962. *Charsada*. Oxford: Oxford University Press.
- , 1966. *Civilizations of the Indus Valley and Beyond*. London: Thames and Hudson.
- , 1968. *The Indus Civilization*. Cambridge: University Press.
- Winter, I. 1987. 'Legitimation of authority through image and legend', in M.Gibson and R.D. Biggs (eds.), *The Organization of Power: Aspects of Bureaucracy in the Ancient Near East*. Chicago: Oriental Institute. pp 69-116.
- Wirth, L. 1938. 'Urbanism as a way of life', *American Journal of Sociology*, 44: 1-24.
- Wolf, E. 1966. 'Kinship, friendship, and patron-client relations in complex societies', in M. Banton (ed.), *The Social Anthropology of Complex Societies*. London: Tavistock. pp 1-22.
- Woolley, C.L. 1939. *Ur Excavations V: the Ziggurat and its Surroundings*. London: British Museum.
- , 1956. *Ur Excavations IV: The Early Periods*. London: British Museum.
- Wright, H.T. 1969. *The Administration of Rural Production in an Early Mesopotamian Town*. Ann Arbor: University of Michigan.
- Wright, H.T. and G.A. Johnson, 1975. 'Population, exchange and early state formation in southwestern Iran', *American Anthropologist*, 77: 267-289.
- Zettler, R. 1987. 'Administration of the temple of Inanna at Nippur', in M.Gibson and R.D. Biggs (eds.), *The Organization of Power: Aspects of Bureaucracy in the Ancient Near East*. Chicago: Oriental Institute. pp 117-137.
- Zuidema, R.T. 1982. 'Bureaucracy and systematic knowledge in Andean civilization', in G.Coller *et.al* (eds.), *The Inca and Aztec States 1400-1800*. New York: Academic Press. pp 419-458.

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Other titles from Ravish

THE FIRST FARMERS OF THE DECCAN
M. K. DHAVALIKAR

This work represents the Dr. Anand Coomaraswamy lectures delivered at the Prince of Wales Museum, Bombay; and presents an overview of the socioeconomic life of the early farming communities of the Deccan in the framework of new paradigms in Archaeology. It demonstrates how environment was responsible for shaping the lifestyle of the first farmers and seeks to explain the different aspects of genesis, efflorescence and decline of the chalcolithic cultures of central and southwestern India. This has enabled the author to explain the various stages of cultural development in terms of ecological variation. It describes their environment, agriculture, settlement pattern, sociopolitical organisation, exchange networks, etc.

THE FIRST FARMERS OF THE DECCAN delineates the culture process; it is thus a work in 'processual' or new archaeology – the first of its genre in India. The author here attempts to lift Indian Archaeology from the morass of time-space systematics.

STONE AGE HUNTER-GATHERERS
an ethno-archaeology of Cuddapah region, south-east India
D. R. RAJU

This investigation looks at Stone Age sites in the Cuddapah region from the perspective of an ecological and settlement system approach and in the light of an ethnographic study of contemporary hunter-gatherer groups in the region. It departs radically from earlier culture-historical studies and breaks a new ground.

Dr. Raju during the course of his exploration located several new Palaeolithic sites; and the Upper Palaeolithic sites that he discovered are amongst the richest and best preserved in the country. The author also carried out an excavation at Vodikalu and exposed an Upper Palaeolithic occupation floor on a fine sedimentary deposit. Besides, he made a detailed study of the subsistence strategies of the Yanadis, a primitive fisher-hunter-gatherer group in the area and made judicious use of this ethnographic information in interpreting the archaeological data. **STONE AGE HUNTER-GATHERERS** "is innovative in looking at Pleistocene human adaptations. The study succeeds in demonstrating the ecological potentiality and carrying capacity of the Gunjana valley for supporting considerable human populations during Late Pleistocene" (V. N. Misra).

THE ARCHETYPAL MOTHER

a systemic approach to Harappan religion
SHUBHANGANA ATRE

This work is based on the evidence of artefacts from Harappan sites and the 'conjunctive' method has enabled the author to relate artefacts to structures which also throws light on their function. Giving up the traditional approach of studying the different aspects of the religion such as male and female divinities, animism, plant worship and so on in isolation, she views it as a system, the integral parts of which are interrelated to constitute a coherent whole. She has, thus adopted the systemic approach to the Harappan religion.

Dr. Atre's principal contribution is the identification of the chief divinity, the 'Lady of the Beasts', which was formerly taken to be the 'Lord of the Beasts' or *Pasupati*. This identification could be possible because of the new evidence from excavations. The Goddess combined in her human and animal features which connect her with the ubiquitous unicorn, which again is a composite animal. Fire played an important role in the Mother Goddess's worship. In this connection the terracotta female figurines and the author's identification of the cult object occurring on seals as a fire altar assume significance. The Vesta, the sacred fire, was burning in every Harappan house.

With the identification of religious structures and some rituals, such as the virgin sacrifice which must have played an important role in the religious life of the Harappans, THE ARCHETYPAL MOTHER brings out Mohenjodaro into sharp focus as a ritual centre.