Annu. Rev. Anthropol. 1990. 19:261–82

REVOLUTION IN THE URBAN REVOLUTION: The Emergence of Indus Urbanization

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KEY WORDS: archaeology, South Asia, state formation, prehistory, Indus civilization

INTRODUCTION

There is a formidable record of recent archaeological work on the Indus or Harappan Civilization (7, 15, 50, 54). This wealth of data makes it impossible fully to review ancient India's earliest cities, and perhaps its first state. I therefore focus on two themes. Following a short statement on geography and basic bibliography, I review the beginnings of the village farming tradition on which the Harappan Civilization rests. I then discuss a recent theoretical position on the rise of the ancient cities of the Indus.

The Urban Phase of the Indus or Harappan Civilization (Figure 1) stands out from other complex societies of the Bronze Age of Asia in several ways. The first of these has emerged from recent work in Pakistan. The roots of sedentism and the village farming community have now been documented in the seventh millennium BC, at the site of Mehrgarh on the Kachi Plain of the central Indus Valley. The beginnings of food production and the village farming way of life, on which the Indus Civilization rests, were once thought to be relatively recent, implying a short period of gestation leading to the Harappan Civilization (6; 351). This gestation period has now been shown to have been very long and deep, but punctuated at its terminus by a very rapid transition to urbanization encompassing something on the order of 100–150 years. Thus the rise of the ancient cities of the Indus presents archaeologists

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and culture theorists with a challenge to the "uniformitarian" model of cultural change. Rather than emerging from a long, slow period of gradual and constant cultural growth and modification leading to a slowly emerging pattern of urbanization and social complexity, the Harappan Civilization seems to have resulted from a very short period of transformation, a veritable revolution within the urbanization process. Space does not permit a bibliographic review of either the state formation literature (1, 73a) or the Harappan Civilization generally (3, 5, 24, 73).

The discovery of the "ancient cities of the Indus," Mohenjo-daro and Harappa, was an exercise in pure archaeological discovery (49, 57). There was no hint in the historical literature of the Indian subcontinent that an historical era had predated the Mauryan Empire of the third century BC. In fact, prior to the 1924 publication of the article announcing the excavations at Mohenjo-daro (41) the earliest secure date in ancient Indian history was the spring of 326 BC and Alexander the Great's raid into the northwestern borders of the region. There is still no useful historical record to provide archaeologists with significant insights into those aspects of Harappan life and history that are difficult to elucidate from the archaeological record. We do not know what these peoples called themselves or their cities, towns, and villages. We have no king lists, no internal chronology, no historical sense of the provinces and districts of the civilization. There is no historical record of commerce, production, consumption, or technological skills and processes. And what is perhaps most important, there is no historical record of the internal social organization of these peoples—their "lineages," "clans," "sodalities," or "guilds." We have from history alone no sense of the role of the "state" as opposed to the religious institution in the operation of Harappan life—a theme central to understanding the historical dynamics of the other ancient civilizations of Asia. As will be seen, this is an area of Harappan scholarship within which there is interesting potential from both a study of the Indus writing system and the historical record of Mesopotamia. At the moment it can only be observed that while the Indus peoples were certainly literate, and therefore had their own historical record, those who study this culture are left with the disadvantage of having to study it within the confines of "protohistory."

The lack of a true historical record does not mean that interesting and important insights into the Harappan Civilization are beyond the archaeologist's grasp. Indeed, if we judge by the amount of excavation, study, and writing on this topic, much of new worth is being accomplished.

GEOGRAPHY AND BIBLIOGRAPHY

Here we will be concerned for the most part with the northwestern portions of the great subcontinental land mass dominated by the modern nation states of

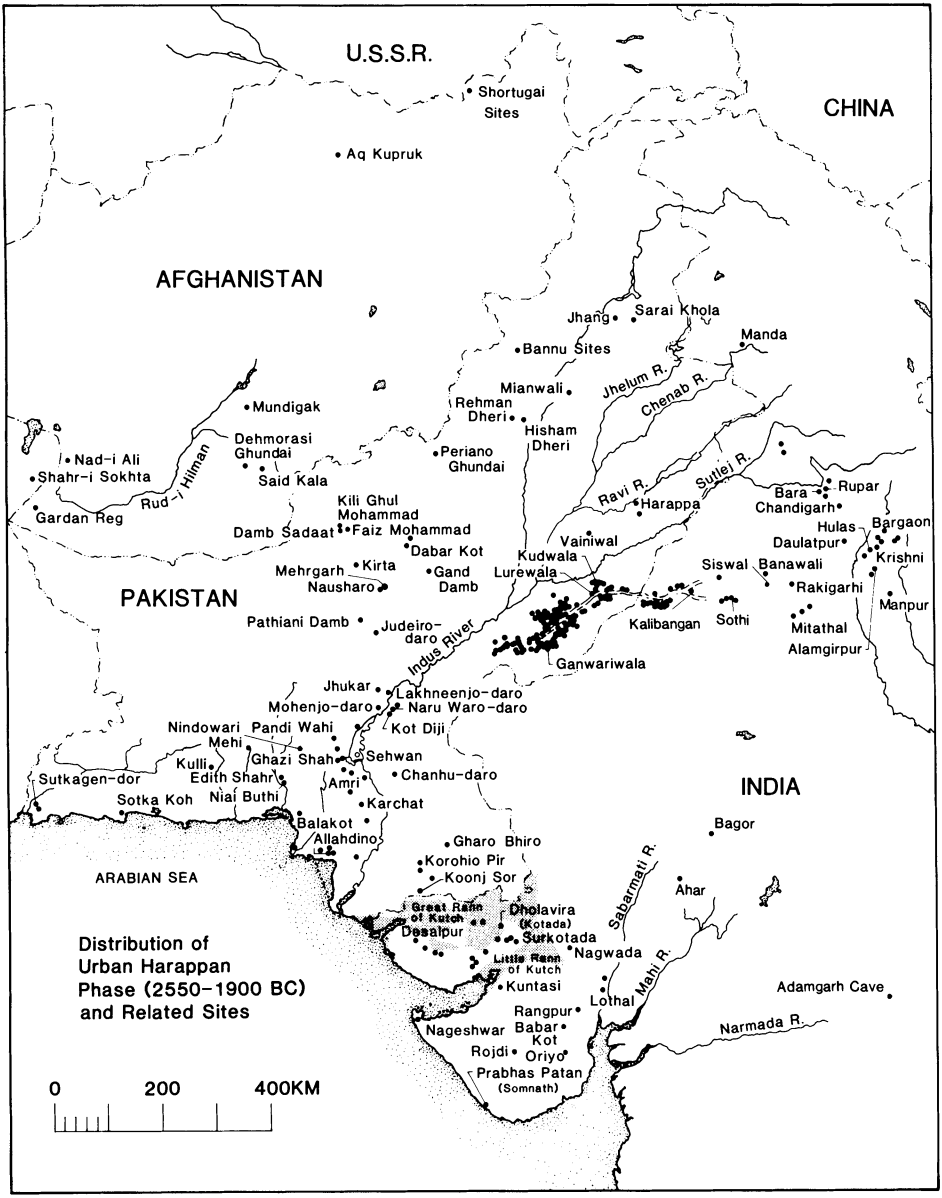

Figure 1 Distribution of Urban Phase Harappan sites

India and Pakistan. Prior to the partition of South Asia in 1947 there was little ambiguity in the meaning of the word "India." The creation of Pakistan, an independent Bangladesh, Burma, and Sri Lanka, however, demands a more explicit vocabulary. For the purposes of this paper, the terms "India"

and "Pakistan" designate the modern nations of the same names. The terms "Ancient India," the "subcontinent," and "South Asia" refer to more encompassing geographic entities, with context lending specific meaning.

Basic surveys of the Indus Civilization are available in a number of sound sources (3, 5, 24, 29). The older books by Wheeler (72, 73) and Piggott (52) are still useful sources on selected topics. A number of good bibliographies on the topic are also available (7, 15, 50, 54).

There is some current debate on the level of sociocultural differentiation exhibited by the Indus Civilization. While this itself is a difficult matter to deal with in a conclusive way, I tend to agree with the position taken by Jacobson (29a) that it is a fully developed archaic state, or civilization. This is something of a contrast to the recent thoughts of Fairservis (23a), who tends to think of the Urban Harappan as a chiefdom.

THE PREHISTORIC BACKDROP

The beginnings of village farming life in western South Asia were for many years best documented at the well-known site of Kili Ghul Mohammad in the Quetta Valley, Baluchistan (21). More recent work in Afghanistan, on the borders of the region under investigation here, at the sites of Ghar-i-Mar (17, 18) and Aq Kupruk II (18, 51, 68) sheds further light on the domestication process there and gives archaeologists reason to suspect that this way of life had its beginnings in the early millennia of the Holocene. While much needs to be done to confirm the Ghar-i-Mar and Aq Kupruk II data, which suggest that food production began in the region at ca. 6000–7000 BC, confirmation of the Kili Ghul Mohammad sequence has been documented at the site of Mehrgarh, on the Kachi Plain, at the base of the Bolan Pass (30–35, 38, 43, 44).

Mehrgarh Aceramic Flora and Fauna

Mehrgarh is a large site covering in excess of 200 hectares, spanning a time from the beginning of the seventh millennium to the middle of the third millennium BC. It has much lateral stratigraphy, and the gross size of the mound is not an indication of the population size associated with it. The earliest "Aceramic Neolithic" occupation, which is 12–14 m deep where the Bolan River has cut the mound and exposed the stratigraphy, is in an area designated MR3 by the excavator. The first occupation (32:23; 10, 43) contains fireplaces and evidence for both domesticated and wild barley *(Hordeum spontaneum)* along with domesticated wheat *(Triticum durum)*. There is additional evidence for the use of the Indian jujube (*ber, Zizyphus* spp.) and dates *(Phoenix dactylifera)*. The animal economy is initially dominated by what Meadow (44:35) describes as "12 species of what might be termed 'big

game' "—gazelle, *(Gazella dorcas)*, swamp deer *(Cervus duvauceli)*, nilgai *(Boselaphus tragocamelus)*, blackbuck *(Antelope cervicapra)*, onager *(Equus hemionus)*, chital or spotted deer *(Axis axis)*, water buffalo *(Bubalus bubalis)*, wild sheep *(Ovis ?orientalis)*, wild goat *(Capra ?aegagrus)*, wild cattle *(Bos ?namadicus)*, wild pig *(Sus scrofa)*, and elephant *(Elephas maximus)*. Meadow takes this to indicate that the first inhabitants of aceramic Mehrgarh I exploited the Kachi Plain itself as well as the hills that surround it. The lack of substantial numbers of fish and bird remains suggests that the Bolan River and the lake/swampy environments associated with it were of little importance to them.

By the end of the aceramic period the faunal assemblage is quite different from the one just described in that "almost all of the faunal remains that can be identified come from sheep, goat or cattle, three of the domestic animals of principal importance in the Middle East and South Asia today. The very fact of their overwhelming importance in the faunal assemblage is good evidence of the keeping of these animals by the peoples of later Period I . . ." (44:35).

Mehrgarh Aceramic Architecture and Burials

The architecture of Period I at Mehrgarh consists of simple, multi-roomed buildings with space between them that was used for domestic purposes and as burial grounds (38:72–85). Burials, both primary and secondary, are in brick-lined tombs. Interments in the late aceramic have beads of shell and turquoise as well as one lapis bead and another of copper. The stratigraphy of the aceramic deposits at Mehrgarh is complex, and there is evidence of two different mounds (Mehrgarh IA and IB), one overlapping the other. The first mound was abandoned twice as indicated by two palaeosols and then a thick layer of alluvium. The palaeosols are indicative of a long period of time for the exposure of these levels.

Mehrgarh Aceramic Chronology

There are 16 radiocarbon dates[1] from aceramic Mehrgarh that range between 9385±120 bp and 5530±180 bp. They average to a calibration of 5225 BC. Thus the beginning of the food-producing economy at the site can be confidently placed within the seventh millennium, with the palaeosols of Period IA arguing for the beginnings of this occupation at a date closer to 7000 BC than 6500 BC (32:22; 59a) and offering a very strong case for an indigenous process of domestication within the greater Indian subcontinent.

[1] Radiocarbon dates cited with a standard deviation and with "bc" in lower case are all based on the 5568 ^{14}C half-life. Other dates have been calibrated using the Calib computer program from the Quaternary Isotope Laboratory of the University of Washington, Seattle.

Mehrgarh II

Continuity and change are marked at the site with the introduction of soft, buff, chaff tempered pottery in Period IIA. This ceramic seems broadly similar to wares of the Iranian Plateau (e.g. Yahya Periods VII–V, Tepe Sialk, Belt and Hotu Caves), reaching as far west as the Zagros (Jarmo). If this period at Mehrgarh is in fact related to this "Chaff Ware Horizon" then it would date to ca. 5500 BC—more reason for us to argue for an early chronology for aceramic Mehrgarh. Period IIB marks the introduction of harder, plain red ceramics, with considerable continuity from older periods in other items of material culture.

The Balance of the Mehrgarh Sequence

Mehrgarh is an extremely interesting and important site, but I cannot review all of its material here. It has been superbly excavated by Jarrige and his team. The point to be made here is that the village farming community begins on the plains of the Indus Valley in the seventh millennium, if not earlier, and this is the foundation on which the Mature, Urban Phase of the Harappan Civilization rests and from which it must ultimately be derived.

Some years ago I developed a system of terminology to assist with the organization of the archaeological record of the Indus Civilization (53). This involves the notion of a Pre-urban Phase, preceding the widely known Urban Harappan as exemplified at places like Mohenjo-daro, Harappa, Chanhu-daro, Kalibangan, and Lothal. The Urban Phase is then followed by a Post-urban Phase, a term intended to rid the literature of the confusing, often misused notion of a "Late Harappan." This encompasses the period following the principal urban occupations at Mohenjo-daro, Harappa, and the other Urban Phase sites, coincident with the period of literacy and the making of the classic Indus stamp seal. The Harappan Urban Phase is defined, in some ways, as the Classic Maya Period is, with large urban centers functioning at the time of literacy. It should be emphasized that the Pre-urban, Urban, and Post-urban Phases are not necessarily periods of the same duration throughout the entire Harappan region. The shift from Pre-urban to the Urban Phase is discussed below. The transition from the Urban to the Post-urban Phase is reviewed in some detail elsewhere (61:17–26).

THE SHIFT FROM THE PRE-URBAN TO THE URBAN PHASE

Continuity

Neither Marshall nor Mackay, the first large-scale excavators of Mohenjo-daro, were informative on the birth of the Indus Civilization. They may have espoused a diffusionist hypothesis that would have brought city life from the

Near East to ancient India; but they point out that the Indus urbanization was a thoroughly "Indianized" phenomenon, a position reiterated by Childe: "Enough has been said to show that India confronts Egypt and Babylonia in the third millennium with a thoroughly individual, and independent civilization of her own, technically the peer of the rest. And plainly it is deeply rooted in India soil" (9:183).

Wheeler, a prominent authority on the Harappan Civilization, recognized that there are differences between the Indus and Sumer, but he also felt that there was ultimately some connection between the two that went beyond the sharing of objects by trade:

> If . . . we now review the comparison between the two civilizations as a whole, it is fair to recognize a general affinity with recurring and important differences in detail which are at least sufficient to set aside any likelihood of immediate or wholesale colonization of the Indus region from Sumer. For the physical structure of the Indus Civilization we must look to more local sources and causes. But this is not to rob Mesopotamia of a close responsibility in the matter. Mesopotamia . . . retains her world priority for the production of a mature and literate civilization, with organized accounts and archives: in other words, to the essential *idea* of civilization . . . From Mesopotamia, we may be sure, the mature idea of civilization, always including that of writing, later reached the Indian coast and the Indus Valley by an easy sea route and perhaps by land, to be adapted there to local taste and circumstances (72:104; Wheeler's emphasis).

Wheeler repeated this assertion in virtually the same form almost 10 years later (73:25), but its true meaning remains somewhat obscure. How can we imagine some vaguely understood *idea* of civilization as an active part of the cultural process? How could such an *idea* have become a cultural reality? It may be that Wheeler was attempting to account for the "style" of the Harappan Civilization, since it shares much with the general class of urban systems of the Near East and Iran in the Bronze Age (9:172–88; 22, 23). As Fairservis has indicated, this cultural background of the Indus Civilization may be far more significant than any form of mass, outright, goal-directed diffusion:

> The Harappan civilization can be said to have achieved its characteristic style indigenously; its elaboration may result from Mesopotamian contact. However, it cannot be said that its origin is in any way divorced from the obvious line of development in Baluchistan and Afghanistan. On the present evidence it seems reasonable to assume that the Harappan civilization stemmed from the developing village complex characteristic of much of Iran in the third millennium before Christ. Apparently economic advantages inherent in the Indus Valley situation motivated the production of surpluses, the proliferation of populations, the amplification and multiplication of non-farming specialists, and, in turn, the improvement or elaboration of traits already possessed or received by that population (23:15).

There is continuity in the prehistoric sequence of northwestern India and Pakistan, from the beginnings of the village farming community to the eclipse

of the ancient cities of the Indus. Some of this continuity is structured by the environment and ecology (e.g. the pattern of food production, including the plants and animals utilized, as well as some aspects of architecture); but other features seem independent of the environment: e.g. worked stone, terracottas, and bead-making technology. Mughal, in a detailed analysis of the small finds from Kot Diji (48), has a convincing display of artifactual continuity for this site from the Pre-urban "Kot Dijian" levels through to the Mature Urban Harappan (Figure 2). Most archaeologists who deal with Harappan material feel reasonably secure in asserting that historical and cultural continuity are the predominant themes in this regional sequence.

Discontinuity, Contrast and Creativity

If continuity is the predominant theme, there is nonetheless a contrast that must be drawn between the final phases of the Pre-urban Phase, or Early Harappan as defined by Mughal (45), and what emerges as the Urban Phase or Mature Harappan. This contrast involves several important features of urban life: 1. the sudden emergence of writing, 2. the development of a wide variety of features associated with Harappan town planning [e.g. the construction of massive brick platforms, well-digging, drainage systems, grid plans (M. Jansen, personal communication)], 3. the appearance of a widely used system of weights and measures, and 4. changes in a wide variety of things less closely linked to our notions of urbanization, like the Mature Harappan ceramic corpus. What follows highlights many of these differences, but it should be recalled that continuity, not discontinuity, is the dominant theme as we examine the emergence of the Indus Civilization. To deal with the emergence of the Mature, Urban Harappan the intertwining themes of continuity and change must be understood, weighed, and controlled; both dynamics are present and important.

Taking a view that focuses on emerging Harappan institutions, it can be seen that some features are related to the "style" of the civilization—its manner or mode of expression. I can recall such things as the new styles of the human and animal figurines, the development of a wide variety of new artifacts that archaeologists might refer to as "small finds," and, of course, the new body of ceramics and the development of the distinctive Harappan black-on-red slip painting style. Other features, however, are more closely related to what Adams has suggested as "core trends" of the urbanization process. This includes features such as: 1. social stratification; 2. the apparent emergence of the state and political differentiation; 3. craft and career specialization within which we see the emergence of new forms of technology and economic configurations, as well as the origins of a bureaucracy and organizational forms like a state religion; and finally 4. the emergence of urbanization itself, the creation of cities and the new forms of social regula-

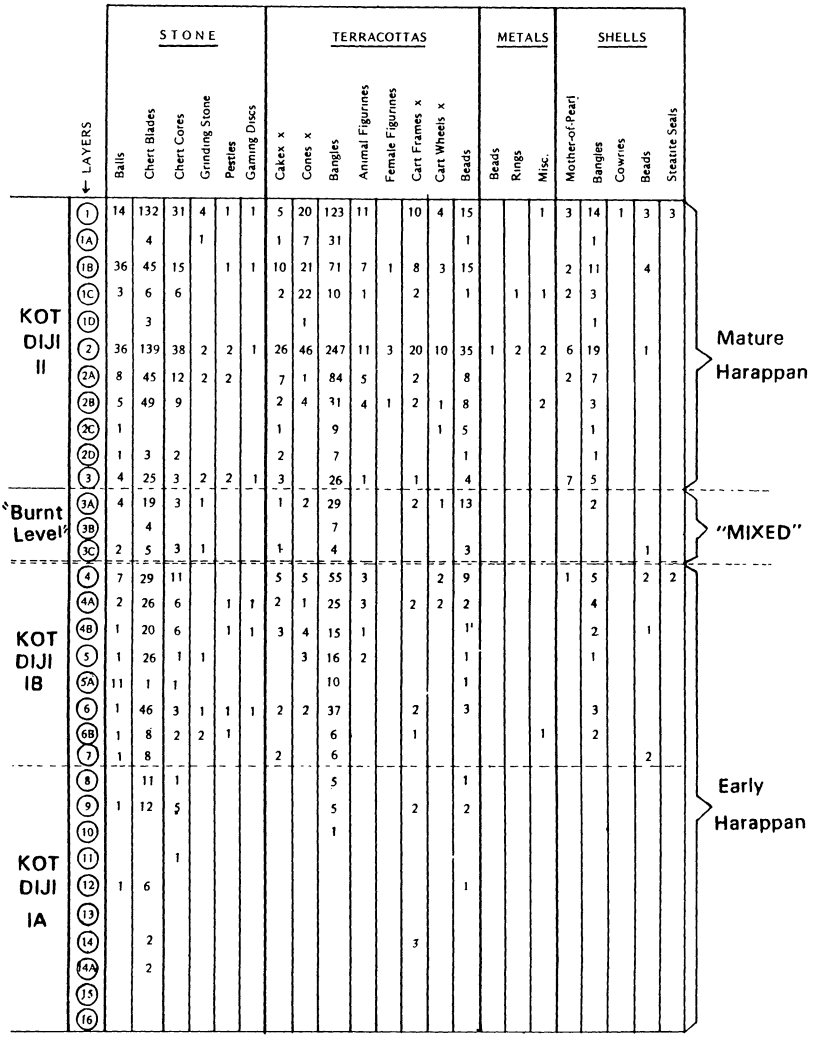

Figure 2 Distribution of small finds as revealed at Kot Diji, Mound A, showing continuity of artefactual remains from the early to mature Harappan levels

tion, technology, supply, and governance that they imply (1:16). Adams includes, rather pointedly, another dimension to the urban revolution: "militarization," certainly an important, potent force in the rise of Mesopotamian cities and civilization.

An observation I have made before (59:96–97) is that the continuities that link the Pre-urban and Urban Phases of the Indus Civilization have largely to

do with two kinds of things: 1. items related to subsistence and 2. expressions having to do with style. The discontinuities, on the other hand, relate to Adams's "core trends"—those features of a sociocultural system that make it distinctively "urban" in character. That is, the discontinuities that I see in the archaeological record linking the Pre-urban and Urban Phases of the Harappan relate to signs of social stratification, the emergence of the state, craft and career specialization, writing, and urbanization. These are all very much a part of the Mature, Urban Harappan but seem to be conspicuous by their absence, or lack of development, in the Pre-urban context of the Harappan cultural tradition. It is as though virtually all of what defines the Mature Harappan as distinctly urban (or as a civilization) was developed or evolved in the transition between the Pre-urban and Urban Phases.

There are now three sites where this transition may have been exposed (Amri, Nausharo, and Harappa). I describe this material as best I can, and also deal with the issue of chronology following a comparison of the Pre-urban and Urban Harappan Phases.

By and large the core trends I focus on are not directly observable in the archaeological record. I therefore turn to a series of proxies that seem logically linked to them and do form a part of the protohistoric archaeological record.

SETTLEMENT PATTERNS: THE PRE-URBAN PHASE Settlement during the Pre-urban Harappan, now dated between approximately 3200 BC and 2600 BC, is largely undifferentiated with respect to settlement size. I maintain a gazetteer of sites related to the South Asian Bronze Age. Currently this has 2237 entries, of which 463 are listed as having been occupied during the Harappan Pre-urban Phase. Of these 463 sites, we have reliable size estimates for 237, which average 5.4 hectares in extent; 199 of these 237 sites (84%) are smaller than 10 hectares, and 167 (70%) are smaller than 4 hectares. Some sites are very small (e.g. 0.01 hectares), while in Bahawalpur there are three Pre-urban Phase sites in the 22–30 hectare range (46). Of the three very large sites (Harappa, Mohenjo-daro, and Ganwariwala) only Harappa has a documented Pre-urban occupation. None of the statistical tests I have performed on these data give a clear indication of clustering within that would be called a tiered hierarchy of settlement patterns, a conclusion also reached by J. Shaffer (personal communication) and M. Tosi (personal communication). Work on this problem is a part of my current research effort, and this conclusion could be revised.

SETTLEMENT PATTERNS: THE URBAN PHASE The emergence of the Urban Phase brings change. First, there is a significant increase in the number of sites. My gazetteer lists 976 Urban Phase settlements. Some of this increase

comes from the new Harappan settlement of Gujarat, both Kutch and Saurashtra (56, 61), as well as the integration of the Kulli Complex of Baluchistan into the greater Harappan urbanization process (59). But, in Bahawalpur, already well settled with 40 sites during the Pre-urban Phase, there is a jump to 174 in the Urban Phase, and the total settled area there increases from 256 hectares to 930 hectares (46, 47:87) in the Urban Phase. Once again, statistical tests on this total data set have not yielded conclusive evidence for a three- or four-tiered settlement pattern, but there are three large sites in the 80–85 hectare range (Mohenjo-daro, Harappa, and Ganwariwala). There is then a gap in settlement size, with the next largest settlement being the Kulli site of Nindowari at 50 hectares. The three large settlements are also nicely spaced within the Harappan domain, with Ganwariwala almost exactly centered between Mohenjo-daro and Harappa (58:19, Figure 2; also see Figure 1, above). Based on this observation there is good reason for us to see two tiers of Harappan settlement, with three regional centers or "capitals" developing as a part of the emerging Urban Phase.

THE EVOLUTION OF PUBLIC ARCHITECTURE The Pre-urban Phase has little evidence for architecture other than domestic buildings. The so-called "fortification" wall at Kot Diji (36:29–30) may be an exception to this observation, as might the "fortified character" of Kohtrash Buthi in the Sindh Kohistan (26:331–32). The Pre-urban Phase mound at Kalibangan is also surrounded by a wall (71). The so-called "fortifications" at Tharro Hill (52:77–78) in Sindh do not sustain that judgment when examined in detail. And the remains at Dhillanjo-kot in the same region are not sufficiently well understood to make a judgment in this regard (52:77–78). Thus, of the 463 Pre-urban sites there are 3 that may have a substantial circumvallation. This is hardly an impressive statistic, and Piggott's 1950 observation for the Amri sites still holds as a generalization for the Pre-urban Phase: " . . . villages appear to have been undefended by walls or ramparts" (52:78).

During the Urban Phase, however, the organization of many Harappan cities and towns is based on the clear demarcation of public versus private space. The development, or possibly only the florescence, of the "citadel" set apart from actual living space at a number of these sites can also be mentioned. And, the possible granaries or warehouses, within the public areas, perhaps indicative of some form of redistribution, are significant as well. It can also be observed that the complex engineering and maintenance of the extensive public street-drainage system of Mohenjo-daro carries with it a number of implications for the growth of "public" or "civic" institutions during the Urban Harappan. Simply maintaining the system so that it was not clogged and a public menace must have been a significant, and probably distasteful, job. Perhaps more important was the constant task of maintaining

a proper drainage slope to the entire system as the "tell" of the city grew and changed its contours across "neighborhood" boundaries. Once again we have evidence for an important "institution" that is nowhere suggested in the Pre-urban Phase.

While not necessarily public in nature, the internal constitution of several Harappan settlements is clearly based on the isolation of domestic quarters from workshops (e.g. Lothal and Chanhu-daro), wherein a variety of industrial operations were carried out. Again, this feature of community planning is not suggested by earlier remains.

EVIDENCE FOR SOCIAL STRATIFICATION AND DIFFERENTIATION The Pre-urban Harappan Phase exhibits little evidence for any degree of social differentiation. Full-scale excavations within this period have been undertaken at Amri (8), Kot Diji (36), Kalibangan (71, 37), and Balakot (12, 13). In addition, Dani worked at two Pre-urban Phase sites in the Gomal Valley (16), and the University of Peshawar continues it excavations at Rehman Dheri. While additional horizontal excavation is certainly called for at Pre-urban Phase sites, what we see as a result of work that has been done is a remarkably uniform inventory of material culture couched within a village structure. There are, of course, differences in the stylistic attributes of these Early Harappan settlements. The ceramics, for example, can be organized into stylistic regions. There might be some differences in other artifact classes as well, but this variation does not change the underlying uniformity or the minimal level of sociocultural differentiation. There is simply no evidence that the Pre-urban Harappan Phase encompasses the beginnings of the Urban Harappan elite class or classes.

The Urban Phase of the Indus Civilization exhibits unambiguous evidence of social differentiation. The presence of substantial architectural features, such as the Great Bath and Warehouse at Mohenjo-daro, suggests patterns of use not open to the bulk of the city's population. The limited number of stamp seals seems to indicate that not everyone possessed these splendidly crafted, probably "expensive," items of personal identification. The evidence of large-scale craft specialization at Mohenjo-daro, Chanhu-daro, and Lothal, set within their own "districts," further suggests a degree of occupational differentiation of the population not seen in the Pre-Urban Phase. Social differentiation is also evidenced by contrasts of big house/little house, baked brick house/mud brick house, and city dweller/village dweller that are clearly present in the Urban Phase and can only be noted here. Finally, the presence during the Urban Phase of truly sumptuous items of personal adornment, such as the necklaces found at Mohenjo-daro (42: Vol. III, Pl. CXLIX) and Allahdino (W. A. Fairservis personal communication), and a growth in the use of precious metals and beads are indicative of differential access to wealth, productivity, and abundance.

THE EVOLUTON OF WRITING AND THE SYSTEM OF WEIGHTS AND MEASURES There is no evidence for the gradual, logical evolution of the Harappan script or of the unified system of weights and measures that appears within the Harappan domain during the Urban Phase. The Early Harappan Period has yet to produce prototypes for the square Indus stamp seals or an iconographic system even remotely envisioned as the precursor of the distinctive Indus script, in spite of one claim to the contrary from Rehman Dheri (19, 20:509). The difficulty with this claim is that a number of the supposed parallels are dubious. Moreover, many of the parallels come from Rehman Dheri Period III, which is contemporary with the Urban Harappan (20:348–50). This sudden appearance of writing is, of course, a marked contrast to the gradual evolution of the Mesopotamian system (66, 67). There is some similarity between the Indus writing system and the Proto-Elamite script (25:45), suggesting that the Harappan peoples derived their writing from these neighbors to the west. The system of weights and measures has no parallel, but that it was an effective system may be best suggested by the fact that the merchants of Dilmun adopted it as their own during the second half of the third millennium in the Arabian Gulf (62:184–86).

The rapid appearance of these two indexes of sociocultural complexity is of particular importance to my emerging position on the rise of urbanization in the northwestern regions of the subcontinent. Literacy and social classes, especially the implications that flow from social differentiation, are the two critical axes on which an evaluation of the growth of the Harappan Civilization can proceed. While the degree of social differentiation will continue to be something that must be inferred from other archaeological observations, the growth of writing is something that should be directly observable in the archaeological record, just as it has been in Mesopotamia. For those who would like to test the position presented here I suggest that the search for the gradual evolution of Harappan writing be undertaken as a part of the study of the Pre-urban Phase.

THE CULTURAL HOMOGENEITY OF THE INDUS CIVILIZATION The unity, or homogeneity, of the Indus Civilization is a controversial topic, in large part because it is one of the aspects of this ancient urban system that has been emphasized to the point of abuse and resulting misunderstanding. Indeed, I have taken serious exception to the notion that the whole of the Harappan Urban Phase was a kind of cultural "monolith" (60) or an expression of some kind of innate South Asian conservatism (52:139; 9:173). There is a great deal of diversity within the various regions occupied by the Urban Phase Harappans. For example, the Urban Harappan Phase in western Uttar Pradesh, as found at Hulas (16a) and Alamgirpur (27:51–52), is obviously different from the "Sindhi" Harappan of Mohenjo-daro. Nonetheless, an underlying set of variables, both material and non-material, brings a sense of "oneness" to these

remains, and there are some striking similarities among Harappan sites wherever they are found. This coherence is worthy of note because it is indicative of integrative forces that kept the norms of craft production together. As Wheeler (73:4) observed: "Behind so vast a uniformity must lie an administrative and economic discipline, however exercised, of an impressive kind." This is especially true if the scale of the civilization is recalled: approximately four times the size of southern Mesopotamia.

This unity also offers a distinct point of contrast to the patchwork quilt of the Early Harappan. The period immediately preceding urbanization has been admirably organized by Mughal (45); but it remains, at a stylistic level, a series of distinctive zones within which his Early Harappan complex of consistently recurring ceramic features appears in a variety of broader cultural contexts.

This unity, with all due regard for interesting differences as well (25a), must ultimately be attributed to a core of complex, probably distinctively urban, patterns of integration. These have not yet been brought into precise focus, but they can be suggested by the quality of the remains so far unearthed. That such inter-regional forces of integration seem not to be a part of the Early Harappan horizon is sufficient contrast for the purposes of their discussion.

None of this is presented as a denial that the roots of this civilization lie outside the plains of the Indus and its adjacent environs, or as a claim that autochthonous development should be ruled out as the single most viable hypothesis. I adamantly affirm that the Urban Phase of this civilization can be understood only if it is recognized that the processes attendant upon the transition between the Early Harappan and the Urban Phase were the forces of change within this cultural tradition. Continuity is properly the dominant theme.

A PAROXYSM OF CHANGE

Perhaps the most interesting feature of the transition between the Pre-urban and Urban Phases is the abruptness of the change. The succession from the Pre-urban Early Harappan to the Urban Phase has been revealed at Bala Kot, Amri, Kot Diji, Nausharo, Kalibangan, and Harappa. Balakot appears to have been abandoned between the Early Harappan "Nal" or "Balakotian" occupation and the succeeding Mature Harappan (12, 13). The same may be true at Kalibangan. Kot Diji has produced mixed levels with both Harappan and Early Harappan pottery (36:17–34); but this appears to be an artificial context since the excavator claims that "during the course of long settlement on the citadel mound later material fell from the top and became hopelessly mixed-up with early elements . . ." (36:34). At Amri, however, a case can be made

for stratigraphic continuity between the end of the "Amrian" occupation and the beginnings of the Mature Urban Harappan at the site. Two rather unsubstantial building levels exist in Amri II, a transitional period between the Early Amrian (Period I) and Mature Harappan (Period III) (8:39–42; 5a:142). No radiocarbon determinations are available for these levels, but a 75–100-year average life for mud brick structures suggests something on the order of 150–200 years for Period II, A and B. This estimate is reasonable for the critical period being considered here (59:98). The same continuity has been presented by excavator Jarrige (33:116–17) for the site of Nausharo, where Period II shows clear similarities to Amri II. This excavation is still under way, and it would be premature to go beyond this observation just now. The Pre-urban occupation at Harappa has also been exposed in a significant way by the excavation team directed by Dales and Kenoyer (14). Once again this is work in progress, but personal communications from the project directors suggest that there is transitional material bridging the Pre-urban and Urban Phases of the Harappan Civilization. Nothing is certain in this regard, and it would be unfair to second-guess the excavators, who have yet to put their opinions in print. Still, it would make perfectly good sense for such a transitional phase to be represented at this important site.

Shaffer and Lichtenstein (70) have recently completed a review of the radiocarbon dates for the Indus Valley and Baluchistan (see also 11a, 69, 61a), and they reach the same conclusion. They suggest that the Harappan Civilization is a fusion of the Bagor, Hakra, and Kot Diji traditions or "ethnic groups" in the Ghaggar/Hakra Valley on the borders of India and Pakistan. This

> fusion appears to have been very rapid, reinforced no doubt by its own success. The earliest set of Harappan dates are from Kalibangan, in the northern Ghaggar/Hakra Valley at ca. 2600 BC; while dates from Allahdino, Balakot and sites in Suarashtra indicate Harappan settlements were established in the southern Indus Valley by ca. 2400 BC. Possehl [59, 61a] suggests a rapid origin of 150 years for the Harappan. We suggest it was even less, or 100 years, ca. 2600–2500 BC. Within the next 100 years, the Harappan became the largest ethnic group within the Indus Valley. This rapid distribution rate was matched only by Harappan abandonment of large sections in the Indus Valley which was under way by ca. 2000 BC, a process intensified by later hydrological changes. Whatever the Harappan group's organizational complexity, it was a cultural system promoting rapid territorial expansion (70:123).

I have come to think of this short period of paroxysmal change as occupying the century from about 2650 BC to 2550 BC and now use 2550 BC as the date for the appearance of the Mature Urban Phase Harappan style. It must be kept in mind that such precision may go beyond the discriminating powers of radiocarbon dating.

Some Thoughts on the Mesopotamian Sequence

The Indus example of the rise of ancient urbanization is quite different from the course of change and development in Mesopotamia where a gradualist evolutionary perspective, not applicable to India, is satisfying. The internal logic of the Mesopotamian development, with clear lines of continuity and change for the core features of Sumerian civilization, can be recalled. This is not to suggest, however, that the Mesopotamian prehistoric or historic continuum was in a steady state of evenly paced change, but the long histories for their system of writing (66, 67), and for the temple complexes are salient comparative points. Other points to be noted are the gradual emergence of a settlement hierarchy indicative of a growing administrative structure (2a, 35a,b, 73b) and cumulative changes in craft specialization. Our understanding of the urbanization process in Mesopotamia is complete (e.g. we do not yet understand the growth of social class and of institutions such as kingship); but the Early Harappan Period is in no way comparable to the Uruk Period in Mesopotamia, where we see clear signs of developments that began millennia earlier and flowered in full urban life during Jemdet Nasr and Early Dynastic times.

THE EMERGENCE OF INDUS URBANISM AND THE NATURE OF CULTURAL CHANGE

Adams (2) has made an important contribution to the growing realization on the part of archaeologists that not all cultural change can be understood in terms of gradualist, evolutionary processes operating at the societal level, or by considerations of small-scale change punctuated by vaguely stated diffusionary processes. He suggests that research strategies be broadened and diversified to consider the creative potential of situations where the impact of goal-directed behavior on the part of individuals controlling key social positions is amplified, and to consider situations where the process of change is very rapid, leading to wholesale modification of the sociocultural structure.

There are a number of ethnohistorical accounts of places where this kind of change has taken place. Perhaps the best examples are in West Africa in the 18th century, where rapid state formation took place within the context of slave trade (4, 11) and 18th and 19th century North America (28, 39, 55, 63). Using a broadly conceived notion of trade, Adams holds that in these historical cases, and many others, "involvement in trade can bring in its wake, rapid massive changes in the structure and technological equipment of a society" (2:244).

Trade, broadly defined, focusing to some degree on the Mesopotamian contact with ancient India (known to them as Meluhha) may have played a significant role in the century of paroxysmal change that seems to have led to

the development of Indus urbanization (59). As I have stated the case elsewhere

> An analysis of ethnographic materials has produced a set of shared themes, or principles, which appear to have been operative in the process of cultural modification under the influence of newly established or rejuvenated trading situations. Every principle is not clearly operative in each example I have cited, nor would I expect it to be. A polythetic set is offered here as an initial consideration of theory. The most significant of the principles which have been so far adumbrated are as follows:
>
> A shift in the basis of trade or in its volume/intensity has been shown to:
>
> 1. Lead to the re-evaluation of resources. This lends new meaning to patterns of ownership, access and distribution.
>
> 2. Enhance the potential for social stratification, especially for those in key social positions (such as lineage leaders or others) through whose offices material property is frequently moved and in whom property rights may be vested.
>
> 3. Bring into play heightened competitive forces which can result in the creation of increased social distance between competitors, be they individuals or groups.
>
> 4. Bring new advantages for occupational or career specialization, especially for craftsmen and those involved in resource extraction or processing. Others in key social positions who control distribution and may be able to regulate extraction/expenditure cycles are in particularly advantageous positions in this regard.
>
> 5. Increase tendencies for population agglomeration to take advantage of economies of scale, enhanced defensive postures and the like. This in turn can promote the development of new forms of social control and brings with it new requirements for the regulation and regularization of economic, political and religious processes (59:100).

While it is clear from the historical sources outlined by Adams (2), and noted above, that trade or intense economic processes can have a revolutionary impact on sociocultural systems, there is some reason for archaeologists to direct their attention to this institutional setting in the Indus case. But there is at least one more "institutional setting" that broadens this perspective on the nature of cultural change and may lend an insight into the urban revolution in ancient India. This is the vast, complex field of human ideology and belief systems—what Redfield referred to as the "Great Tradition" that "describes a way of life and as such is a vehicle and a standard . . . [enabling] those who share it to identify with one another as members of a common civilization" (65:63). Emphasizing the ideational content of complex societies, Redfield goes on to note that the urban revolution involves to some significant measure "the transformation of the folk society into civilization through the appearance and development of the idea of reform, of alteration of human existence, including the alteration of man himself, by deliberate intention and design" (64:113).

The classic example of an ideology's revolutionizing a world region is the origin and spread of Islam in the century following the Hegira in AD 622. Few events in human history offer greater testimony to the power of an idea in the transformation of human sociocultural systems on a grand scale.

It would be wrong to think that I am considering only the "power of an idea" in terms of the complex working out of the reorganization of the societies of the greater Near East in the seventh century, or that Adams postulates that trade and trade alone can explain the kind of revolutionary, paroxysmal change being considered here. Thinking systematically, we see that virtually all parts (institutions and individuals) of the vast interconnected, largely seamless web of sociocultural systems are surely involved in the dynamic of change, as agents of both effect and affect. What we are seeking is a "seed," in the form of an "institutional setting," around which the pearl of change develops. In an examination of the process of sociocultural change, neither "trade" nor "ideology" is to be thought of as merely a convenient point of entry into the sociocultural matrix (the system). Nor can either be seen as a "prime mover," operating alone to direct a process of change. In fact, neither our anthropological vocabulary nor our discipline's conceptual apparatus facilitates expression of the complex, subtle notion involved here. Resorting to metaphor, I may therefore suggest that trade and ideology (and the other important institutional settings that are likely operative) are centers of action that "energize" systems and promote a complex, interconnected process of change; they are in turn institutional settings changed by their own dynamic sociocultural environment. Once change has started there occurs a kind of "domino effect," perhaps something like Renfrew's "multiplier effect" (65a:27–44), a complex set of positive and negative "feedback" exchanges that sustain the process.

The notion that there may have been a strong ideological basis for the genesis of the Harappan Civilization comes from the physical remains of this ancient sociocultural system, its manner or mode of expression. Archaeologists of a generation ago spoke of the sameness of Harappan material remains wherever they were found (40, 73). This notion has been thoroughly critiqued by a number of scholars (3, 5, 24) and has now been discredited as a gross exaggeration. More important than the exaggeration, however, are the implications that some early scholars drew from this observation. A statement from Mackay on Harappan pottery illustrates this point: "The wares of the Harappa people possess in a marked degree that utilitarian aspect which is such a dominant feature of their architecture, and if the mentality of a people can be correctly gauged by the pottery they make, the people of Mohenjo-daro and Harappa must have been singularly lacking in imagination" (40:120).

Most scholars who deal with the Harappan Civilization agree that the "sameness paradigm" is a defunct notion. Yet we all see an important element of coherence in certain kinds of Harappan remains, especially when these culture traits are mapped over an area on the order of 800,000 km^2. The system of weights and measures and the style of the Harappan stamp seal are two such elements. There are also important pottery types (e.g. dishes-on-

stand, particular jar shapes with beaded rims, perforated vessels) and painted decorations (e.g. "horned deities," "pipal leaves," the "lotus" motif). The list of distinctive types can be extended to a wide range of metal tools and weapons (flat axes, bar celts, and distinctive arrow heads), and bead types (etched carnelian, microbeads in steatite, disk beads, and other ceramic types); architectural planning, platform building, and brick sizes can all be added to the list. This is not the forum where this argument can be presented in detail. Strong lines of continuity notwithstanding (see above), the peoples who made and used the material culture we associate with the Harappan Civilization created a distinctive set of signs and symbols that can easily be differentiated both from what came before it and from the material culture of the contemporary peoples in adjacent regions. It is conceivable that this set of distinctive signs and symbols could ultimately be traced back to a set of precepts that form some kind of Harappan "ideology" involved in the revolution of change that Shaffer and I associate with the decades just preceding 2550 BC.

Those who know the Harappan Civilization in its complex detail will realize that much needs to be done to test my speculation about the possible role of ideology in the formation of the Harappan Civilization. Here I take a position on the historical processes of ancient India and suggest a direction for future research to take.

CONCLUSIONS

This excursion into the rise of the ancient cities of the Indus presents archaeologists, and those interested in the process of culture change, with a case of paroxysmal change that suggests the kind of step in the rate of change noted by Braidwood & Willey some years ago (6:351; 1:17–18). While my position here is not intended to be a robust, well-developed theory, it points out some important culture-historical phenomena and offers significant contrasts to other urbanization processes in Bronze Age Asia.

At a more general level the revolution in the urban revolution challenges the widely held belief that cultural change is best understood within the strict principles of uniformitarianism—i.e. the notion that cultural change is slow and constant. Such models are being widely challenged in biological evolution, geology, and linguistics. It would seem that the kind of long-term cultural change that archaeologists deal with offers yet another challenge to this position.

ACKNOWLEDGMENT

I thank my colleague Bernard Wailes for reading this under conditions that I can only describe as rushed. His comments deserve special note for their

critical, insightful content. I alone am responsible for any inadequacies found here. I also thank the staff of Annual Reviews for their assistance and patience.

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