

The Indus Civilization

Unfathomed Depths of

South Asian Culture

By J. M. Kenoyer



During the Indus period, the Makran coast was an important resource for marine products and an avenue for trade to the west.

The massive mounds of Mohenjo Daro and Harappa had been known to scholars for years, but the excavations in the 1920s and 30s identified these ancient cities as the product of a previously unknown civilization. The basic features of this civilization were revealed through surveys and excavations at sites within the Indus River valley of Pakistan and the adjacent regions of western India; it came to be known as the Harappa Culture or Indus Civilization. However, because of the lack of specific information and the fact that their writing system is still undeciphered, this culture has remained a major enigma in South Asian archaeology, and we have been plagued with many unanswered questions regarding its origins, its character and extent, and its decline.

New studies are revealing the complexity and unique character of this protohistoric urban society that were not appreciated by earlier scholars. Some new perspectives result from different methodologies and the reanalysis of old data, others from new excavations and surveys. In this brief overview, I will focus on the cultural antecedents of the Indus Civilization, the character and extent of the culture, its decline, and finally the legacy that was passed on to subsequent South Asian cultures.

For many years after the excavations of the major urban centers

of Mohenjo Daro and Harappa, there was little evidence for long-term cultural developments prior to the appearance of these cities. Consequently, the urban state society of the Indus Civilization was thought to result from migrations or stimuli from Mesopotamia and West Asian cultures during the 3rd millennium B.C. The models then conceived of civilization as something that originated in one region and diffused to other areas of the world. Although this concept prevails in the popular literature, continued research and excavations in the Indus region reveal evidence for an extremely long and complex indigenous development that Jim Shaffer has referred to as the Indus Tradition. He divides this tradition into four major eras: the early food producing era during the Neolithic; the regionalization era characterized by the preurban chalcolithic and the protourban cultures; the integration era during the mature Harappan or Indus Civilization; and the localization era which comprises the Late and Post Harappan periods. This framework emphasizes the diachronic nature of cultural developments in the Indus region and provides a more reliable model for comparisons with adjacent regions such as Baluchistan and Afghanistan.

The early food producing era of the Indus Tradition is represented primarily at the site of Mehrgarh on the edge of the Indus plain. De-

tailed studies of flora and fauna have convincingly demonstrated the indigenous development of a range of domestic plants and possibly animals (Jarrige and Meadow, 1980). During the Neolithic and early Chalcolithic periods at this site (+ 7000 to 4500 B.C.), we also have evidence for exchange networks for the movement of goods and technology over vast distances. Marine shell ornaments from the coast of the Arabian sea were traded 500 km. inland, while lapis lazuli from Afghanistan and turquoise from Central Asia were also brought to the site. These exchange networks probably followed the complex pattern of regional kin networks or alliances which must have existed between the semi-sedentary groups of pastoralists and agriculturalists.

Similar types of shell and stone objects found further to the west in Iran and Iraq suggest that distant communities were connected by overlapping networks and were not mutually isolated. However, detailed chronological sequences and material culture studies in both Mesopotamia and the Indus valley indicate that the consolidation of these early communities into regionally distinct cultures must have been independent developments, not the result of migration or direct diffusion.

We see in the regionalization era the development of more specialized agriculture and pastoralism, craft technologies, social-ritual

Recent analyses show, however, that some steel was produced relatively early, though not always where it might be expected. Objects such as iron bracelets found in a burial cave in the Baq'ah Valley in Transjordan and dated c. 1200 B.C. had been steeled, although there was no need for decorative objects to have the qualities imparted by the technique. Some Early Iron Age utilitarian objects have been steeled and quenched while others have only been carburized, and some have not been treated at all. In other words, steel technology was not consistently applied during the period from c. 1200-900 B.C. and thus, not all iron tools and weapons from that period were superior to bronze ones. It was a time when smiths were learning their craft through experimentation with the material, but not always having great success.

If iron was not necessarily superior to bronze in all cases, how else can we account for the switch from one to the other? If iron is harder to extract and shape and doesn't always produce an effective implement why would anyone bother with it at all? The second theory holds that there were economic reasons for making the switch, specifically, a shortage of raw materials necessary for making bronze. According to this theory, political upheavals in the eastern Mediterranean around 1200 B.C. resulting in the movements of peoples known as the "Sea Peoples," the collapse of the Hittite Empire, the downfall of Mycenaean Greece and other related events, led to a disruption in the metals trade making it more difficult and expensive to make bronze. Iron, since it was already known to some extent in the Bronze Age, and since its ores are in fact more abundant than those of copper and tin, was then exploited and developed more intensively out of economic necessity. Copper, the main ingredient of bronze, is in fact available in the eastern Mediterranean. The island of Cyprus produces ores very rich in copper, and the island exported smelted copper in the form of "oxhide" shaped ingots which have been found at Bronze Age sites from Sardinia to Palestine and were still being produced in the 12th century B.C. Tin, however, has not yet been found in usable form in the eastern Mediterranean. Sources have been suggested from as far away as Cornwall and Afghanistan, but no one yet knows where the tin came from. It is generally agreed that it came from a distance, and thus, if the supply of tin were cut off for any reason, it would indeed be difficult to keep on making bronze.

We have, however, no real evidence for a major disruption of the tin trade. Bronze did continue to be used in quantity well after 1200 B.C., though there is some decline in nonessential products in this material. Some recent analyses of bronzes found at several sites in Greece and in Transjordan also show that the tin contents of these bronzes did not decline, as one might expect if there were a shortage of tin. On the contrary, some bronzes from these sites had abnormally high tin contents. Thus, there seems to have been no diminution in the tin supply after c. 1200 B.C., at least in Palestine and Greece.

A third theory which suggests an ecological reason for the development of iron notes that it is much more fuel efficient to produce iron than to produce copper. Both copper smelting and iron smelting require wood charcoal as a fuel. Although copper is smelted at a lower temperature than iron, it also requires two to four times more charcoal for the process than iron smelting and processing. That is, it required more trees to make the charcoal to heat the furnaces to produce copper. Some scholars now believe that, after centuries and even millennia of copper processing, along with other pyrotechnological activities such as pottery firing, lime kilning and glass making, as well as land-clearing operations for agriculture, the eastern Mediterranean was becoming seriously deforested, i.e. there was less fuel available for all necessary activities. The intensive development of iron technology, therefore, would be one reasonable response to a pressing ecological challenge.

At present we have very little data to support—or disprove—this theory. We would need very precise information about patterns of vegetation, especially forestation and deforestation, as well as land-use patterns for all regions of the eastern Mediterranean and for a precise time period before we could have any confidence about it. A theory such as this, however, holds great promise because it helps to explain why iron came into common use in several contiguous regions at once; it does not depend on outmoded invasion/diffusionist theories and does not require that iron appear suddenly or that bronze die out suddenly. In fact, it fits the present archaeological evidence quite well. For now, however, the question must remain open for future researchers to examine and, one hopes, solve.

Suggested Reading

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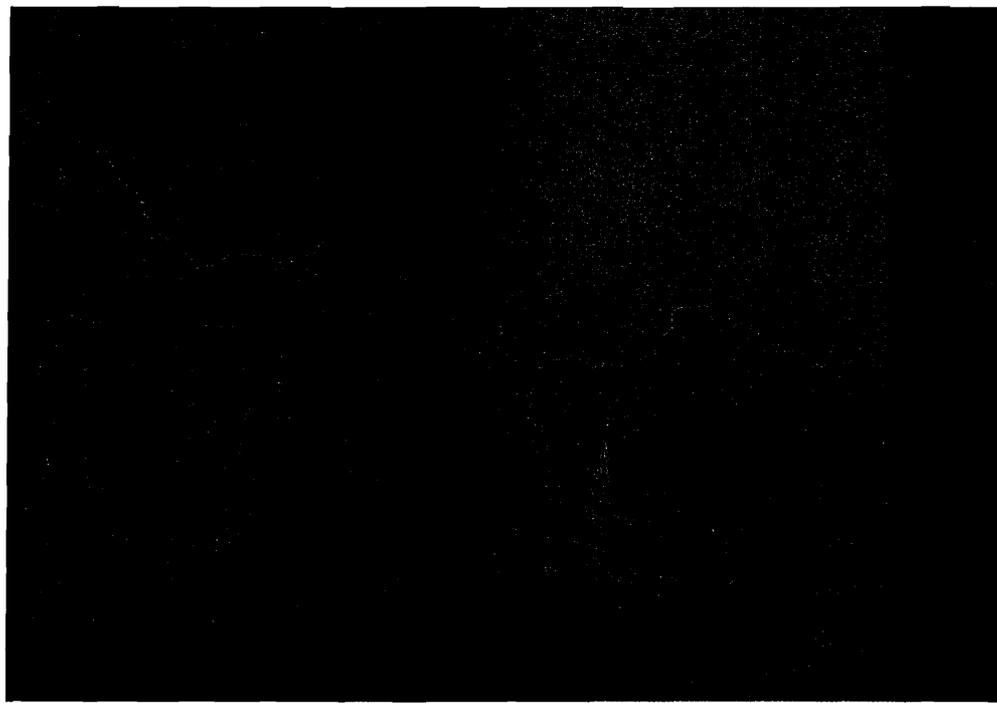
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complexity, and economic interaction between specific regions of the Indus valley and its periphery. During this era, known as the Early Harappan period, the basic preconditions for the rise of a complex urban state were established. The settlements were located in major agricultural areas or along important trade routes. A diverse subsistence economy was based on agriculture and pastoralism, supplemented by marine and riverine resources. Specialized technologies were capable of producing copper/bronze tools, massive architecture, vehicles for transport by land and by water, specialized ceramics, and a range of luxury items. And most important, social stratification may have developed among food producers, traders, and craft specialists.

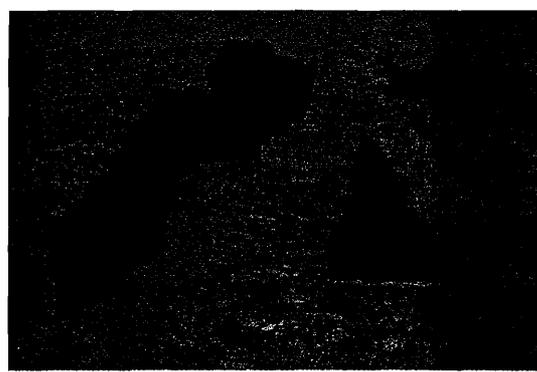
My recent studies of the shell industries and other specialized crafts demonstrate that the development of specialized technologies, combined with the distribution of necessary raw materials, were key factors in formation of distinct craft and mercantile communities. These communities appear to have become established at settlements located at optimal trade and agricultural centers. Although the data is still limited, settlement and environmental studies indicate that important socioritual organization and segregation may have been developed in these preurban settlements, resulting in sites that were divided into two sectors, a high and low mound (Flam, 1986). This pattern is seen again during the urban period, in the division between a citadel and lower town.

Throughout the Indus region, the highly productive subsistence base and internal trade networks allowed large regional centers to develop supported by surrounding agricultural communities. The differentiation of regional centers from agricultural communities and distant resource areas may indicate some stratification between the settlements during this period.

The specific processes that led to the development of large urban centers and the homogenization of



Massive architecture at Mohenjo Daro identified by Wheeler as a defense wall. The stupa in the background is from the later Buddhist period. (Published with permission from the Department of Archaeology, Government of Pakistan)

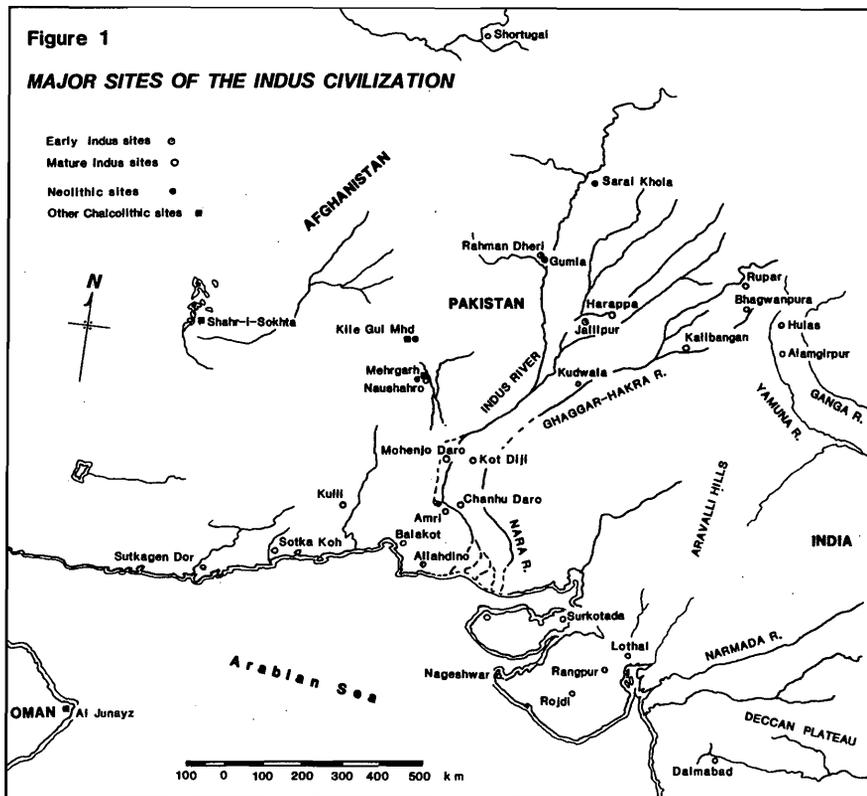


A view of the architecture in the lower town at Mohenjo Daro. (Published with permission from the Department of Archaeology, Government of Pakistan)

these regional cultures during the integration era or mature Indus period are still being debated. Some believe external stimuli from Mesopotamia was an important factor, while others suggest a gradual process of indigenous development (Allchin and Allchin, 1982). At this point the archaeological record of the Indus urban centers shows no evidence for the presence of major military organizations or for the dominance of specific ritual or ethnic communities. There is no question that some groups controlled basic socioeconomic interactions, specifically the distribution of grain and subsistence items, but the details of the stratification of these urban centers and the nature of their relationship to the rural communities remain elusive. Meaningful

insight into the Harappan growth process requires more detailed and problem-oriented research. Such studies are being carried out at Mohenjo Daro and in the current excavations at Harappa.

In extent, the Indus sites cover about 680,000 sq. km. (425,000 sq. miles), which is larger than any of the other ancient civilizations. Our understanding of the chronological subphases and regional diversity is still quite general. This is reflected in the wide range of time allotted for the mature Indus period, from 2500 to 1750 B.C. Many scholars such as Shaffer question this long chronology and suggest that the height of urbanism may have been a very short-term phenomenon, lasting only a few hundred years.



Only further excavations and more precise chronological sequences will clarify this situation.

The geographical setting for the mature Indus civilization was the vast alluvial plains of the present-day Indus River. Recent studies show that there were actually two major river systems watering this plain during the mid-3rd millennium; the ancient Indus River along the western flank and the Ghaggar-Hakra or Nara River on the east. Both rivers flowed from the Himalayas to the Arabian sea, resulting in a massive flood plain spreading from the Baluchistan foothills to the edge of the Rajasthan desert, which at that time was much reduced due to the Nara river. On the periphery of the Indus/Hakra plain a variety of environments were also exploited either directly or indirectly by the Indus people: the foothills and upland valleys of Baluchistan to the west, the Aravalli Hills and the fertile plains of Gujarat to the southeast, and the rich marine resources of the Makran coast and the Arabian Sea.

Major urban centers and large towns were located along the rivers, at strategic crossroads or gateways

along the coast and along the periphery. These urban centers were connected with agricultural communities and resources by complex internal trade networks over land as well as rivers. These internal trade networks permitted the centralization of Indus society because the major raw materials needed for a strong economy were available within and at the periphery of the greater Indus and Hakra/Nara system. Most important, there was sufficient agricultural land and ample water supplied by seasonal rain, perennial springs, and snow melt. This combination made it possible to practice double cropping without extensive irrigation systems. Animal husbandry and pastoralism also contributed to the overall economy. The coastal water and the massive rivers provided important resources as well as avenues for transportation. Other essential raw materials, such as copper, stone, and precious minerals, were available in the hills to the east and west. Timber was plentiful in the gallery forests of the northern plain and foothills, while fuels for industries and domestic use were plentiful throughout the region.

This internal communication resulted in a striking uniformity in many aspects of material culture, such as plain and painted pottery styles, similarities in tools and manufacturing techniques, a fairly standardized system of weights and measures, similar lay out and details of architecture, and a common, but as yet undeciphered, written language. These similarities led earlier researchers to comment on the rigid structure of Harappan society and its unimaginative material culture, but current analyses provide a more detailed understanding of regional variability and complexity.

Our recent study of pottery from Mohenjo Daro has shown that the ceramic corpus is quite complex and the significant chronological and regional variations need to be more precisely defined. Architectural studies at Mohenjo Daro suggest that while some portions of the urban centers developed gradually, other sections such as the citadel mound, were built up rapidly. In general, the houses in the lower town at Mohenjo Daro were separated from the public by indirect entrance ways, and most were supplied with private wells and bathing areas (Jansen, 1980), but this pattern remains to be confirmed at Harappa, where the first excavations of the lower town are just beginning. Recent surface surveys at Mohenjo Daro indicate complex patterns of site use by different craft groups, with certain craft activities grouped together in specific areas of the city. Present excavations at Harappa will focus on the spatial and chronological patterns of these various crafts to provide an important new perspective of urban social organization.

The Indus script has been the focus of much research over the past fifty years, but it still remains undeciphered. However, new inscriptions and sealings are providing new evidence for the contexts in which this writing was used, which range from economic transactions and accounting to sociopolitical/ritual indicators and possibly simple graffiti.

I looked more specifically at the idea of uniformity and centralized control in my recent research on shell industries and other specialized crafts and found that much of the uniformity in material culture results from the transmission of technological traditions and stylistic features. Whereas agriculture, architecture, and local pottery styles may be local adaptations and regional developments; many other specialized crafts—such as shell-working, stone-working, and metal-working—may have developed into hereditary occupations before or during the mature Indus period. In the larger urban centers, these craft specialists may have formed distinct communities that provided services to land owners or merchants.

The division of the urban center into craft areas, living complexes, and public buildings is not yet well documented archaeologically, but there was segregation into blocks of living-working quarters, which were equipped with private water supplies. In the past this was interpreted as a rigid centralized control of social stratification and occupational specialization. Following a more detailed theoretical approach, Jerome Jacobson feels that the evidence points to decision-making by some central authority which affected the majority of the population and that this force prevented the fragmentation of the civilization for several centuries. Shaffer, on the other hand, finds these interpretations to be an overstatement of the archaeological data (1982:49-50).

Others attribute the uniformity of specific artifacts to conservative ideology and not necessarily control or specialization (Miller, 1985). The diverse interpretations emphasize the need for better data and new models in the study of Indus urbanism and socioeconomic organization.

Probably the most controversial issue is the decline of the Indus Civilization, which corresponds with the localization era outlined by Shaffer. The decline was first

thought to be quite abrupt, but better chronologies and more surveys have revealed large, post-Harappan settlements in the Indus region after the major Indus urban centers were abandoned. Some time around 1800 B.C. the large urban centers located on the flood plain, such as Mohenjo Daro, Harappa, Kalibangan, and Chanhu Daro were partially abandoned. The major reason appears to have been the fatal disruption of the agriculture that supported the urban centers and the internal trade networks. Some authorities felt that a climate change with less rainfall or long droughts was the crucial factor, but the continued agricultural settlements in the Indus plain indicate that even if there was a slight decrease in rainfall, it did not eliminate agriculture. The most important factor appears to have been the devastating change in river courses due to sedimentation and tectonic movements. The Indus began to swing further east, probably wiping out numerous settlements in the process. The mound of Mohenjo Daro survived because it was on slightly higher land and massive mudbrick platforms had been constructed to protect it from floods. But, the settlements along the dry bed of the eastern river system were forced to shift to the Ganga-Yamuna River valley in the north or to the rich agricultural plains of Gujarat in the southeast.

Although urban centralization and control of trade networks declined, the populace remained in scattered communities that subsisted on agriculture, animal husbandry, and locally available resources. These settlements no longer had the benefit of interregional trade networks, and distant resources were not easily available. Late and post-Harappan settlements are known from numerous surveys in the region of Cholistan, the upper Ganga-Yamuna Doab, and in Gujarat. In the Indus valley itself, except for the important site of Pirak, the post-Harappan settlement patterns are quite obscure. The reason may be that these sites were established along the newly

A steatite seal of the Mature Harappan period showing the script and a unicorn figure. (Published with permission from IsMEO-RWTH)



stabilized river systems and lie buried beneath unexplored modern villages and towns along those same rivers.

The communities in the Ganga-Yamuna Valley and in northern Pakistan eventually experienced a second urbanization during the second half of the 1st millennium B.C. These communities and their sociolinguistic traditions came to dominate the subcontinent in the early historic period by reestablishing trade networks and a highly stratified society based on occupational and ritual hierarchies. Traditionally, this culture has been identified with the Indo-European speaking groups of the Vedic literature. However, the Vedic texts are comprised of hymns and ritual formulae that represent oral traditions which appear to span millennia. Furthermore, the inclusion of non-Indo-European words and subjects indicates that the composers or later editors had close contact with other linguistic and ethnic communities, the most important being Dravidian (Parpola, 1986).

For many years, the so-called invasions or migrations of these Indo-European speaking Vedic/Aryan tribes was used to explain the decline of the Indus Civilization and the rise of the second urbanization. This interpretation was prompted by a combination of simplistic models of culture change and the uncritical interpretation of Vedic texts. The current archaeological evidence does not support an Indo-Aryan/European invasion into South Asia at any time in the pre or protohistoric period. Furthermore, there appears to be a gradual decline and then overlap between late Harappan and post-Harappan communities, with no biological evidence for the influx of major new populations.

A more reliable interpretation of the transition from the Indus Tradition to the Early Historic period must consider the long-term processes of trade and exchange that had connected the Indus valley with surrounding regions for thousands of years. Various traders and seasonal movements of nomadic pastoralists carried not only goods, but also languages and belief systems between the plains and the highlands to the west and north. Most previous models have seen the Indus civilization as a mono-ethnic and mono-linguistic culture, but it was probably multi-ethnic and included several different language groups. The two most important for later developments in this region were the proto-Dravidian and the Indo-European Sanskrit language. The proto-Dravidian component may have been in the Indus urban centers with the possible Vedic Sanskrit component being found among a mixture of sedentary and semi-nomadic communities to the north and in the western periphery. Seen in this perspective, the decline of the Indus Civilization allowed time for the consolidation and synthesis of Vedic communities in the north setting the stage for their rise to dominance in the early historical period.

While there may be some discontinuities in the writing system

and linguistic traditions between the Indus and later historical cultures, there appear to be many continuities in material culture. Agricultural and pastoral subsistence strategies continue, pottery manufacture does not change radically, many ornaments and luxury items continue to be produced using the same technology and styles. These continuities suggest that there may also have been some continuities in socio-ritual organization. The presence of well-established stratification and possible hierarchical organization in the Indus cities may have been an important factor in the later development of a rigid cast structure in Brahmanical society.

Research on the cultural developments of the Indus Tradition is beginning to demonstrate that there really is no Dark Age isolating the protohistoric period from the historic period. Multidisciplinary efforts by archaeologists, anthropologists, historians, and linguists will enable us to understand the important contributions of the Indus Civilization and other indigenous cultures to the later cultural developments of South Asia.

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Excavations are presently being conducted at Harappa by a team directed by George F. Dales of the University of California-Berkeley and the author.

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