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RECENT DEVELOPMENTS IN THE STUDY OF THE INDUS CIVILIZATION

Although the massive mounds of Mohenjo Daro and Harappa had been known to scholars for many years, it was only after excavations in the 1920s and 30's that these ancient cities were identified as the product of a previously unknown civilization (Marshall 1931; Mackay 1238; Vats 1940). The basic features of this civilization were revealed through surveys and excavations at a number of sites within the Indus River valley of Pakistan and the adjacent regions of western India, and 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 the field of South Asian archaeology and we have been plagued with many unanswered questions regarding its origins, its character and extent, and its decline.

Fortunately, the tide has turned, and new studies are beginning to reveal details of the complexity and unique character of this protohistoric urban society that were not appreciated by earlier scholars. Some of these new perspectives are the result of different methodological approaches and the reanalysis of old data, while others are the result of completely new excavations and surveys. In this brief overview, the discussion 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.

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FIGURE 1

For many years after the excavations of the major urban centers of Mohenjo Daro and Harappa, there was little or no evidence for long term cultural developments prior to the appearance of these cities. Consequently, it was thought that the urban state society of the Indus Civilization resulted from migrations or stimulae from Mesopotamia and West Asian cultures during the 3rd millennium B.C. At this time, the models used to understand the rise of civilizations were quite simple and conceived of civilization as something that originated in one region and gradually spread to other areas of the world. Although this concept is still prevalent in the popular literature, continued research and excavations in the Indus region are now revealing evidence for an extremely long and complex indigenous development that Shaffer has referred to as the Indus Tradition (1986). He divides this Tradition into four major Eras; the Early Food Producing Era during the Neolithic, the Regionalization Era which is characterized by the pre-urban chalcolithic and the proto-urban cultures, the Integration Era during the Mature Harappan or Indus Civilization and the Localization Era which comprises the Late and Post Harappan periods (Shaffer 1986). 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, located on the edge of the Indus plain. Detailed studies of flora and fauna have convincingly demonstrated the indigenous development of a range of domestic plants (especially wheat and barley) and animals (including humped cattle, sheep and goat) (Jarrige and Meadow 1980, Costantini 1984; Meadow 1984). During the Neolithic and early Chalcolithic periods at this site (+ 7000 to 4500 B.C.), we also have evidence for exchange networks which allowed for the movement of goods and technology over vast distances. Marine shell ornaments from the coast of the Arabian sea were traded 500 kilometers inland, while lapis lazuli and turquoise were also brought to the site from Afghanistan and possibly from Central Asia. It is not unlikely that these exchange networks followed the complex pattern of regional kin networks or alliances which must have existed between the semi-sedentary groups of pastoralists and agriculturalists.

The fact that similar types of shell and stone objects have been found farther to the west in Iran and Iraq suggest that distant communities were connected by overlapping networks and that they were not totally isolated from one other. 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 be seen as independent developments and not as the result of migration or direct diffusion.

During the Regionalization Era we see the development of more specialized agriculture and pastoralism, craft technologies, social-ritual complexity and economic interaction between specific regions of the Indus valley and its periphery. It is during this Era, which is also known as the Early Harappan period, that we see the establishment of the basic preconditions needed for the rise of a complex urban state. The settlements were located in major agricultural areas or along important trade routes. There was a diverse subsistence economy based on agriculture and pastoralism, supplemented by marine and riverine resources. A range of specialized technologies had developed that 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 importantly, a degree of social stratification may have developed between food producers, traders and craft specialists.

Based on recent studies of the shell industries (Kenoyer 1983) and other specialized crafts, it is evident 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 were not necessarily the result of some explosive cultural development, stimulated by a political or religious elite, but appear to have become established at settlements that were located at optimal trade and agricultural centers. Although the data is still limited, settlement and environmental studies indicate that important socio-ritual organization and segregation may have been developed in these pre-urban 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 for development of large regional centers, supported by surrounding agricultural communities. The differentiation of regional centers from rural agricultural communities and distant resource areas may indicate a certain amount of stratification between the settlements during this period.

The specific processes that led to the development of large urban centers and the homogenization of these regional cultures during the Integration Era

or Mature Indus period, are still being debated. Some interpretations have invoked external stimulae from Mesopotamia as being an important factor (Wheeler 1968), while others suggest a more gradualistic process of indigenous development (Fairservis 1975; Mughal 1973; Allchin and Allchin 1982). At this point there is no evidence in archaeological record of the Indus urban centers, for the presence of major military organizations or for the dominance of specific ritual or ethnic communities. There is no question that some groups were in control of basic socio-economic 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 subsistence base remain elusive. As Chakrabarti points out, "There will be no meaningful insight into the Harappan growth process till the research on pre-Harappan and Harappan levels is much more detailed and problem oriented than what it is now" (1984 : 50). Fortunately, such studies are being carried out at the major sites such as Mohenjo Daro (Jansen 1984, Bondioli *et al.* 1985, Dales and Kenoyer 1986) and in the current excavations at Harappa.

In extent, the Indus sites cover an area of about 680,000 square kilometers (425,000 square miles), which is larger than any of the other ancient civilizations. In comparison, however, our understanding of the chronological sub-phases and regional diversity is still quite general. This is reflected in the wide range of time alloted for the Mature Indus period, from 2500 to 1750 B.C. Many scholars are beginning to question this long chronology, and suggest that the height of urbanism may have been a very short term phenomenon, lasting only a couple of hundred years (Shaffer 1986; Shaffer and Jansen personal communication). Only further excavations and more precise chronological sequences will be able to clarify this situation.

The geographical region that was the setting for the Mature Indus civilization was focused around 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-third millennium : the ancient Indus River along the western flank and the Ghaggar-Hakra or Nara River on the east (Flam 1981 ; Misra 1984). 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 south east, 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 rural agricultural communities and resource areas by complex internal trade networks that utilized overland as well as riverine transport. These internal trade networks were the binding force of the centralization of Indus society because of the fact that all of the major raw materials needed to build 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 that was supplied by seasonal rain, perennial springs and snow melt. This combination made it possible to practice double cropping without extensive irrigation systems (Fentress 1985). Animal husbandry and pastoralism were also important subsistence activities that 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.

As a result of this internal communication we see a striking uniformity in many aspects of material culture, such as plain and painted pottery styles, similarities in tools and manufacturing techniques, a fair 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 (Piggott 1950; Wheeler (1968), but current analyses of these various features have resulted in a more detailed understanding of regional variability and complexity.

The recent study of pottery from Mohenjo Daro (Dales and Kenoyer 1986) has shown that the ceramic corpus is quite complex and that there are significant chronological and regional variations that 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 occupational units in the lower town at Mohenjo Daro were separated from the public by indirect entrance ways and most units were supplied with private wells and bathing areas (Jansen 1930, 1984). Similar features are seen in the lower town at Kalibangan (Lal 1969), but this pattern remains to be confirmed at Harappa, where the first excavations of the lower town are

now just beginning. Critical analyses of the so called granaries, fortifications and ritual structures at Mohenjo Daro and Hara have shown that there really is no basis for these identifications (Fentress 1984), and we should not base any discussions of Indus society on these speculative interpretations. Recent surface surveys at Mohenjo Daro indicate that there are complex patterns of site use by different craft groups, with certain craft activities grouped together in specific areas of the city (Bondioli *et al* 1985, Pracchia *et al* 1985). Present excavations at harappa will focus on the spatial and chronological patterning 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 (Fairservis 1984; l'arpola 1986), but it still remains undeciphered. However, new inscriptions and sealings are providing new evidence for the contexts in which this writing was used. These range from the control of economic transactions and accounting, to socio-political/ritual indicators and possibly simple grafitti.

Looking more specifically at the idea of uniformity and centralized control, my recent research on shell industries (Kenoyer 1984, 1985) and other specialized crafts (Kenoyer 1986) suggests that much of the uniformity in material culture is the result of the transmission of technological traditions and stylistic features in the framework of kin groups and along hereditary lines. Whereas agriculture, architecture, and local pottery styles may be the result of local adaptations and regional developments, many of the 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, habitational complexes and public buildings is not yet well documented archaeologically, but it is evident that there was a degree of segregation into blocks of leving-working quarters, which were equiped with private water supplies. In the past this pattern was thought to represent a rigid centralized control of social stratification and occupational specialization (Piggott 1950; Wheeler 1968). Following a more detailed theoretical approach, Jacobson feels that the evidence points to a state society where decision making by come centrally operating authority consistently affected the behaviour of the majority of the population and that this force prevented the fragmentation of the civilization for several centuries (1986 : 163). Shaffer on the other hand, finds these

interpretations to be an overstatement of the archaeological data and points out that "if pronounced social stratifieation was present in Mature Harappan Culture, it is reflected in a different, as yet undetected, set of archaeological traits than is the case in Mesopotamia" (1982 : 49-50). In Mesopotamia, for example, urban centers developed around ritual centers and the state was supported by economic and military coercion. The major raw materials were acquired from distant external resource areas for use by elite groups and the intensification of agriculture required the construction of elaborate irrigation systems.

Other discussions turn the available data around and interpret the uniformity of specific artifacts as the result of conservative ideology and not necessarily control or specialization (Fairservis 1984; Miller 1985). The wide range of these various interpretation emphsizes the need for better data and new models in the study of Indus urbanism and socio-economic organization.

Probably the most controversial issue is the decline of the Indus Clvilization, which corresponds with the Localization Era outlined by Shaffer (1986). At first it was thought that the decline was quite abrupt, but better chronologies and more surveys have revealed that there were still large, post-Harappan settlements in the Indus region after the major Indus urban centers were abandoned. Some time, around 1800 B.C. we see the partial abandonment of the large urban centers located on the flood plain, such as Mohenjo Daro, Harappa, Kalibangan and Chanhu Daro. The major reason for this decline appears to have been the fatal disruption of the agricultural base that supported the urban centers and the internal trade networks. Some authorities felt that a climatic change resulting in less rainfall or long droughts was the crucial factor, but the continued presence of agricultural settlements in the Indus plain indicate that even if there was a slight decrease in rainfall, it did not result in the elimination of agriculture. The most important factor appears to have been the devastating change in river courses due to sedimentation and tectonic movements (Misra 1984). In the north, the ancient Saraswati-Ghaggar-Hakra rivers were captured by the Yamuna river, resulting in the drying up of the eastern river system. The Sutlej river, which had previously been a tributary of the Hakra river, was captured by the Indus system. The indus itself began to swing further east, probably wiping out numerous selttlements in the process. The mound of Mohenjo Daro survived because of its location on slightly higher land and the massive mudbrick platforms that had been constructed to protect it from floods. But, the numerous less fortunate 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 did decline, the populance remained in scattered communities that subsisted on agriculture, animal husbandry and locally available resources. These settlements no longer had the benefit of inter-regional trade networks and distant resources were not easily available. Late and post Harappan settlements are known from numerous surveys in the region of Cholistan (Mughal 1980), the upper Ganga-Yamuna Doab (Joshi 1978) and in Gujarat (Possehl 1977; Possehl *et al* 1983, 1984). In the Indus valley itself, except for the important site of Pirak (Jarrige *et al* 1979), the post Harappan settlement patterns are quite obscure. The reason for this may be that these sites were established along the newly stabilized river systems and lie buried beneath unexplored modern villages and towns, that have continued to flourish along those same rivers.

The communities in the Ganga-Yamuna Valley and in northen Pakistan eventually developed a second urbanization during the second half of the 1st millennium B.C. These communities and their socio-linguistic traditions came to dominate the subcontinent in the early historic period by restablishing 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, it should be noted that the Vedic texts are by no means historical documents, nor were they composed at a given point in time. They 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 (Wheeler 1968). 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 (Shaffer 1984). Furthemore, there appears to be a gradual decline and then overlap between late Harappan and post-Harappan communities (Joshi 1978), with no biological evidence for the influx of major new populations (Kennedy 1984).

A more reliable interpretation of the transition from the Indus Tradition to the Early Historic must take into account 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 infact it was probably both multi-ethnic and included several different language groups. The two most important for later developments in this regions 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 it is more reasonable to suggest that the decline of the Indus Civilization allowed time for the consolidation and synthesis of Vedic communities in the north (Shaffer 1984) 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 (Kenoyer 1983). 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 caste structure in Brahmanical society.

Continued research on the cultural developments that make up the Indus Tradition are beginning to demonstrate that there really is no Dark Age isolating the protohistoric period from the historic period. This change in focus is gradually revealing that it is through multidisciplinary efforts by archaeologists, anthropologists, historians and linguists, that we will be able to understand the important contributions of the Indus Civilization and other indigeneous cultures to the later cultural developments of South Asia.

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