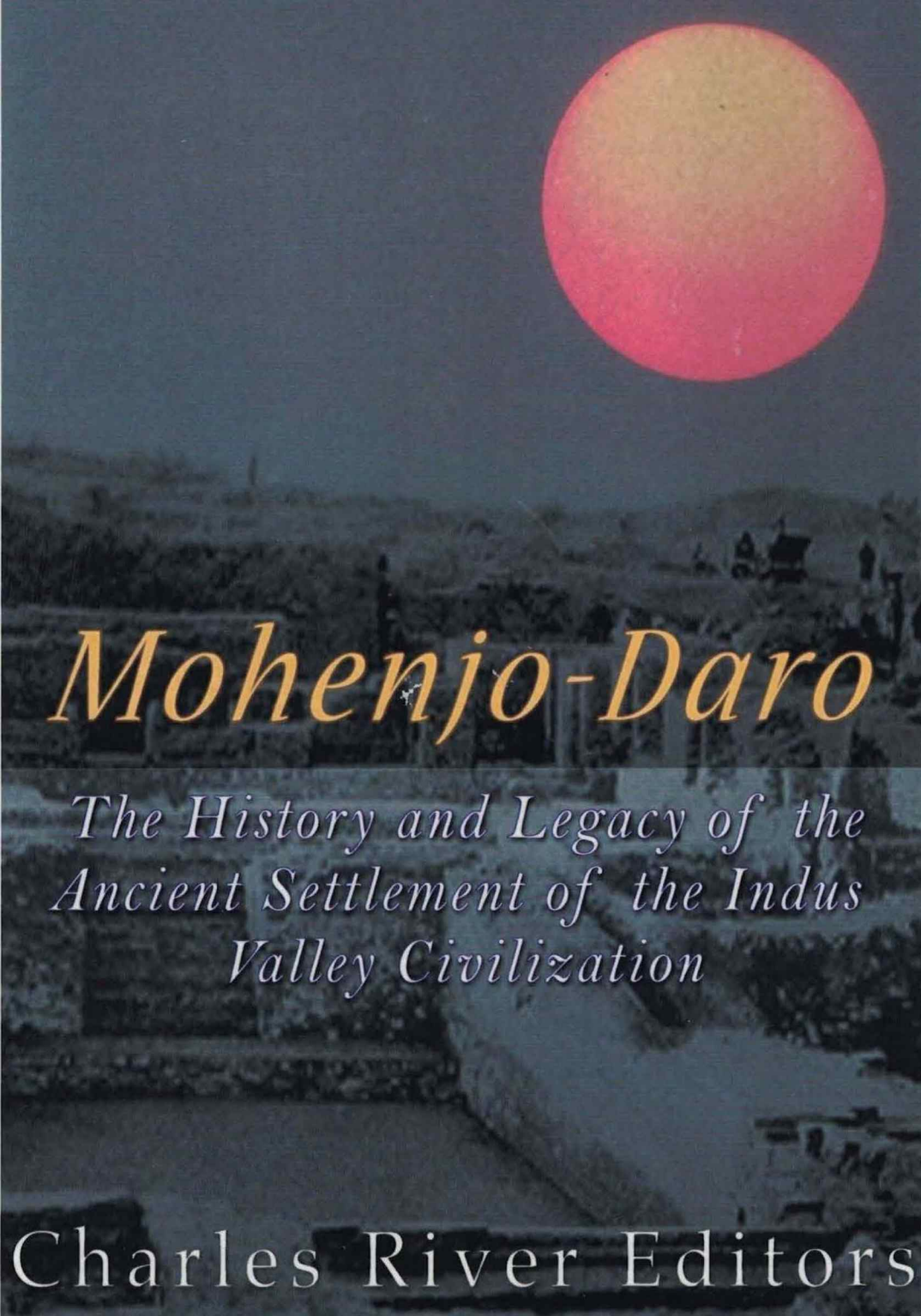
Mohenjo-Daro
The History and Legacy of the Ancient Settlement of the Indus Valley Civilization
Charles River Editors

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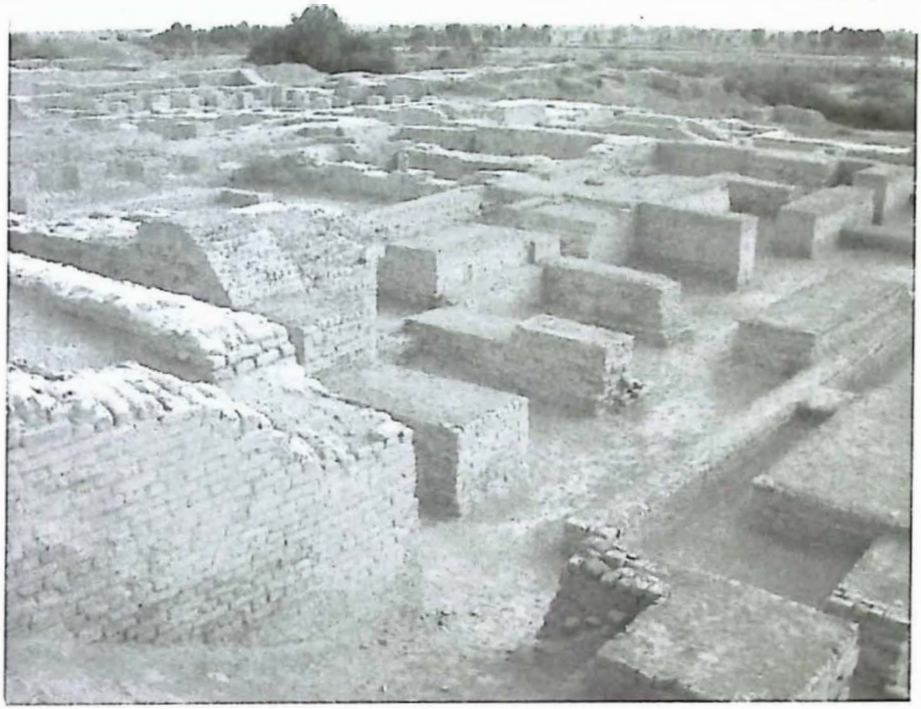
By Charles River Editors



Com Rogues' picture of part of the ruins

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Introduction

A picture of ruins at Mohenjo-daro

Mohenjo-daro

"...the ever present menace of inundation." - Sir John Marshall, 1931

What is a city? A simple definition is a "largely constructed landscape," and through inferences and comparisons with modern states, a successful ancient city is generally said to have a number of defining characteristics: evidence of political hierarchies; a centralized authority that is simultaneously dependent on the accumulation of resources and the suppression of competitors; the maintenance of continuous negotiation, alliance building, and occasionally costly and risky investments such as warfare; specialized crafts; a hinterland supplying food; and monumental statements of central planning and communal effort, such as the Mesopotamian ziggurats.

Mohenjo-daro was the largest city of the Indus Valley Civilization, one of the most advanced civilizations to have ever existed, and the best-known and most ancient prehistoric urban site on the Indian subcontinent. It was a metropolis of great cultural, economic, and political importance that dates from the beginning of the 3rd millennium BCE. Although it primarily flourished between approximately 2500 and 1500 BCE, the city had longer lasting influences on the urbanization of the Indian subcontinent for centuries after its abandonment. It is believed to have been one of two capital cities of the Indus Civilization, its twin being Harappa located further

north in Punjab, Pakistan.

Mohenjo-daro is an enigmatic settlement, which confuses simple definitions of what a city consists of. It has revealed little evidence of palaces, contains few definite religious buildings, and appears to have never been involved in any external or internal military conflict. The inhabitants' writing has not been deciphered, and little is known about their religious and post-mortuary beliefs. Nonetheless, the city's importance is epitomized by its monumental buildings and walls, enormous manmade platforms, innovative architectural techniques, and evidence that they engaged in trade over vast distances, with high-quality artifacts sent from the Indus Valley as far as Mesopotamia and even Africa. Of particular note was their ingenious drainage system – one of the earliest means by which sewage was drained out of the city. No other urban site of similar size had a hydraulic network as complex and effective as that of Mohenjo-daro, and it would only be surpassed thousands of years later by the network of aqueducts in Rome during the third century CE.

For centuries this city was believed to have sprung into existence suddenly and without precedent, with a highly standardized system of urban development, art, and architecture that is emulated in contemporary settlements across the Indus River Valley in a phenomenon known as the "Pan-Indus system". Although this view has changed over the last few decades, there exists no definitive hypothesis as to how they grew such a complex urban society so quickly. Fittingly, the city has an equally intriguing and mysterious narrative that explains its decline and eventual disappearance, a tale that gives the site its name: the "Hill of the Dead".

The Indus Valley Civilization was forgotten for millennia, until 20th century archaeologists rediscovered and began excavations at Mohenjo-daro and Harappa. Today only foundations remain, but the site's importance is represented by its UNESCO World Heritage status, awarded in 1980 for being a site of outstanding cultural importance to the common heritage of humanity.

Mohenjo-daro: The History and Legacy of the Ancient Settlement of the Indus Valley Civilization looks at the history of the site and the archaeological work on it. Along with pictures depicting important people, places, and events, you will learn about Mohenjo-daro like never before.

Chapter 1: The Indus Valley Civilization

Mohenjo-daro is located about 450 kilometers northeast of present-day Karachi, close to the Larkana District in the Province of Sindh, Pakistan. To the north are the Himalayan Mountains, through which a number of passes lead to Central Asia and eventually China. It is from these lofty peaks that melting snow trickles south and east, converging into five major rivers and creating ever larger perennial watercourses until they meet at the Panjnad – a gushing channel that joins the Indus River in the southern Punjab. Fed by even more rivers from the Baluchistan Hills to the west, the lower course of the Indus River discharges huge volumes of water into the Arabian Sea at a force of 6,600 cubic meters per second, and over a total drainage area of more than a million square kilometers.

The city itself is situated in between the Indus and Eastern Nara Rivers, nestled in the lowlands of the Indus River Valley. To the north and west are the Kacchi Plain and Baluchistan Hills, which divide the lush river valley from the vast and arid plateau stretching over Iran and Afghanistan. These hills do not act as absolute boundaries, but rather as zones of integration and fragmentation of the cultural hegemony of the lowlands. To the south is a large interfluvial plain known as the Derajat, flanked by the Aravalli Mountain Range and Thar Desert and extending to the Ganges and Yamuna river valleys.

The Indus River Valley is subject a lesser degree of seasonal variation compared to the tropical climate seasonally watered by the monsoons found in the Ganges region further south. Although arid and salt-encrusted in the present day, with an average rainfall of less than 130 millimeters per annum, during the third millennium BCE the river valley is believed to have been a moist and lush region, and thus a congenial place to settle.[1] While the Baluchistan uplands were suitable enough for some agriculture, even more fertile alluvial soils were provided by the intermittent flooding of the river in the lowlands. To either side of the Indus River stretches a large and fertile flood plain.

Settlements have historically located themselves near sources of water. However, the regular and tremendous floods that occur in the Indus River Valley have long presented problems to those wishing to settle near its banks. The erosive power of the Indus River persistently wore away at the arable lands at its banks, and frequently resulted in the river changing its course. In the present day, floods occur every 5-15 years. Furthermore, although regular, the annual floods occurred at different points along the river, and their force changed depending on weather conditions. As a result, ancient cities like Mohenjo-daro had to take measures to lessen or avoid the damaging floodwaters.

Also known as the Harappan Civilization, or simply as the Indus Civilization, the Indus Valley

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[1] Saeed, T. (1998) *Moen-jo-daro: signpost of a civilization.* Karachi: Federal Department of Archaeology and Museums

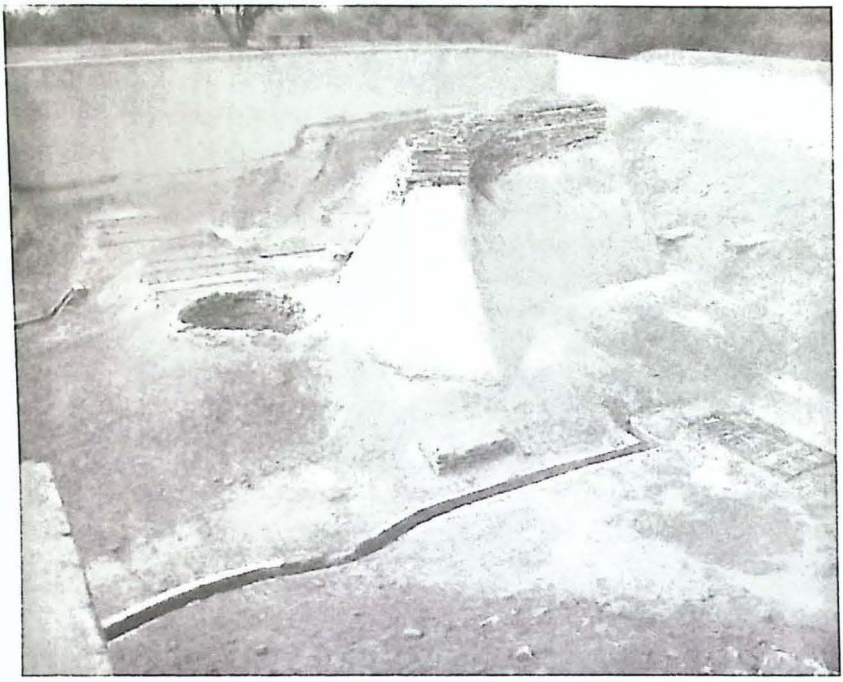
Civilization that established Mohenjo-daro did not, as claimed by Mortimer Wheeler, "spring into being fully grown ... the sudden offspring of opportunity and genius."[2] However, it is difficult to describe the civilization's genesis with precise detail. No dateable historic documents exist from the Indus period, in part due to the ongoing failure to decipher their script. Therefore, archaeological evidence and dating methods – mostly relative – are the primary means by which Mohenjo-daro can be placed within its chronological context.

Early guesses regarding the origins of sedentary lifestyles pointed towards Iran and Afghanistan. From the seventh millennium BCE the knowledge and practices of agriculture crossed the Zagros Mountains and spread gradually over Iranian plateau from the Near East. During the sixth millennium BCE the southern regions of the Indian subcontinent – including the Ganges river valley – were sparsely populated by hunter-gatherer-fishers, though evidence of some scattered farming communities has led to arguments that farming developed indigenously in the area. During the fifth millennium BCE there is more evidence of farming taking place in the border regions between Iran and India, and pastoralism in the Baluchistan uplands from the fourth millennium. Some of the most significant archaeological sites and settlements dating from these periods include Mehrgarh, Periano Ghundai, Mundigak, Faiz Mohammad, Togau, and Sheri Khan Tarakai.

The Indus Civilization dates from the middle of the fourth millennium BCE, and has frequently been compared with their contemporaries from around the world: the Sumerians in the Tigris and Euphrates river valleys, the Akkadian and Ur III civilizations in Mesopotamia, and Egypt during the Old Kingdom. What made them different was their adoption of long-distance trade, a complex writing system, specialized industries and crafts, and evidence of bureaucracy centralized enough to organize the labor required for the construction of their monumental settlements.

The first settlement at Harappa was built sometime between 3500 and 3300 BCE. By the late fourth millennium settlements were spreading south into the rest of the Indus River Valley and even as far as the Ganges region. Although their civilization spread over an area of more than one million square kilometers, the Indus River Valley was the most densely settled region between the third and first millenniums BCE.

[2] Wheeler, 1953



Obed Suhail's picture of some of Harappa's ruins

Hassan Nassir's picture of some of Harappa's ruins

The civilization grew to the height of its power between approximately 2600 and 2450 BCE, roughly contemporaneous with the reign of Sargon of Akkad in Mesopotamia. During this time, over 60 percent of the smaller settlements in the Indus Valley were abandoned – especially in the highlands – and subsequently rebuilt according to a standardized model or completely deserted in favor of one of the new large cities that had emerged. Surrounding areas, including the Baluchistan hills, remained sparsely settled by small farming communities, and home to groups of itinerant pastoralists and hunter-gatherers.[3]

At some point during the early second millennium BCE the Indus Civilization declined, leaving their massive cities abandoned. They fragmented from a highly centralized and hegemonic political order and homogenous culture to many diverse regional cultures, characterized by different styles of artifacts, writing, and settlement patterns. For a great length of time, this disappearance has been attributed to an invasion by the Vedic Indo-Aryans into northern India from the Zeravshan region (present-day Uzbekistan).[4] Based on this belief, it was

[3] McIntosh, J.R. (2008) *The Ancient Indus Valley: New Perspectives*. Oxford: ABC-CLIO

[4] Anthony, D.W. (2007) *The Horse, The Wheel, and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World*. Princeton: Princeton University Press.

theorized that the Ganges and Yamuna River Valleys eventually became the major centers of civilization with their own distinct cultures from the first millennium BCE.

However, the results of ongoing archaeological research during the last 100 years have produced hypotheses that differ from the Aryan-invasion model. Many scholars now believe that the urban depopulation and migration to the outer regions of the Indus Valley during the first centuries of the second millennium was a gradual process caused by numerous factors that were stimulated by both man and nature.

By 1947 a mere 37 settlements had been associated with the Indus Civilization. Today, this number has grown to more than a thousand sites, and so far, five major cities have been identified: Mohenjo-daro, Harappa, Dholavira, Ganweriwala, and Rakhigarhi. An additional 1,500 smaller cities, towns and villages have been linked to the Indus Civilization.[5] The current belief is that rather than being the result of a sudden and unprecedented "urban revolution," their settlements developed over a period of approximately 100 years, between 2600 and 2500 BCE.[6]

There is evidence of Indus settlements extending far beyond the Indus River Valley. A major Indus city, Pathani Damb, is located in the Kachi Plain, between Mohenjo-daro and the Baluchistan uplands. The city of Shortugai, Afghanistan, is more than a thousand kilometers from the Indus heartland, and may have played an important role in land-based trade of lapis lazuli from the mines of Badakhshan across Eurasia.[7] A major settlement in the Kerman region of Iran known as Jiroft has been associated with the semi-mythical land of Aratta described by Sumerian literature, but it displays many features that are comparable with the standard Indus urban model.[8]

Based on the distribution of these sites, a broad idea of the civilization's maximum extent is from Rupar on the Simla hills to the coast of the Arabian Sea, near present-day Karachi, and as far north as Afghanistan – a territory spanning many thousands of kilometers. Most Indus cities have long been characterized as displaying "significant sameness," a standardized list of attributes that were found across the domain.[9] The "bundle of criteria" approach has been historically prevalent amongst archaeologists attempting to define a city. Using a list of attributes, scholars created and discussed towns through the idea that systems run according to basic laws and principles regularly repeated and occurring across time and space. These include a fortified citadel constructed atop an artificial mound; a lower town with separate districts for industrial workshops and homes; a grid-based and cardinally oriented street infrastructure; a high wall enclosing the settlement; and a well maintained drainage and sanitation system of wells, pipes, drains, and cisterns.

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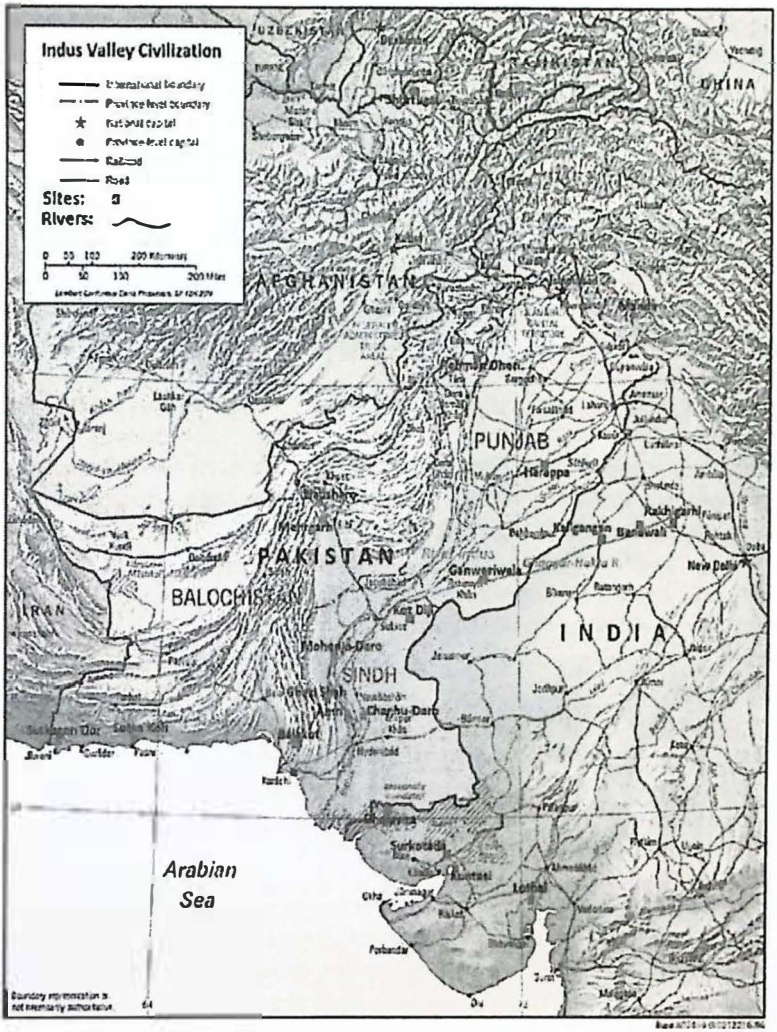
[5] Kenoyer, J. M. (2000) *Ancient Cities of the Indus Valley Civilization*. Karachi: Oxford University Press.
[6] McIntosh, 2008
[7] *ibid*
[8] Kramer, S.N. (1963) *The Sumerians*. Chicago: Chicago University Press.
[9] Possehl, G. L. (2002) *The Indus Civilization: A Contemporary Perspective*. Walnut Creek: AltaMira Press



A map showing important Indus Valley Civilization sites in red across the region

Archaeological surveys at the settlements of Harappa, Mohenjo-daro, Lothal and Dholavira indicate that a larger suburban residential and industrial area extended far beyond previous interpretations of the city limits. However, not all Indus Valley settlements followed the same

pattern, and even when settlements display features of the standard model, they frequently do so in a modified way. It is increasingly argued that these settlements are marked just as much by their diversity as their homogeneity, and while identifying similarities between one thing and another is relatively straightforward, it is often the anomalies that end up being the most interesting and informative. \

In the case of the Indus Valley Civilization, many of these settlements were positioned on the banks and flood plains of the Indus River and its tributaries. The river provided the means for survival in the region, but it also presented a great threat through its annual inundations. Most of the structures built in the city – as with other cities of the Indus River Valley – were made with a mixture of baked and unbaked mud bricks of a standardized size and shape – often 7 by 14 by 28 centimeters for houses and 10 by 20 by 40 centimeters for city walls, a proportion of 1:2:4.[10] This material was extremely susceptible to damage by floodwaters, and as a result, the major cities of the Indus Civilization, including Harappa and Mohenjo-daro, were built upon massive man-made platforms that tried to protect them from the damaging effects of the floods.[11]

With a circumference of around five kilometers Mohenjo-daro is comparable in size only to Harappa, a settlement of such a large size that it is believed this city served as one of the two capital cities of the Indus Civilization.[12] Harappa is strikingly similar to Mohenjo-daro: it features a comparable layout, with a western citadel and eastern lower city; it is built near the Ravi River, where regular floods made it necessary to position the settlement atop an artificial platform; and it possessed an intricate drainage system. The earliest houses built at Harappa consisted of wooden pillars supporting roofs made of woven reed and covered in clay, and the denizens of the city stored their crops in 12 shallow, bell-shaped granary structures which were kept dry by an effective ventilation system. A series of platforms were used to pound grain, which may have been carried in pear-shaped pots decorated with a design of interlocking circles made from the local river clay. Unfortunately, the ruins of the city were heavily damaged during the 19th century, when mud bricks were excavated and used in the construction of local houses and the Lahore-Multan railway.

Many different types of political order have been interpreted from the archaeological remains of the Indus Civilization's largest cities. Some argue that the Indus political order resembled the territorial empires of the neo-Assyrians and Egyptians, through which provinces were directly administered by an imperial heartland. Evidence supporting this view includes the population displacement involved during the formative period of the major Indus settlements and the investment made in monumental architecture of the citadels. The labor and materials for the construction of cities like Mohenjo-daro are believed to have required a complex and efficient centralized bureaucracy, a theory supported by the presence of large granaries which may have

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[10] Kenoyer, 2000

[11] Jansen, M. (1993) *Mohenjo-daro: City of Wells and Drains.* Bergisch Gladbach: Frontinus-Gesellschaft

[12] Wheeler, 1953

been used to collect taxes, as in contemporary Mesopotamia.

Others maintain that Indus society may have been ruled by priest-kings.[13] Some indication of their religious or cosmological beliefs may be interpreted by the styles and varieties of artifacts they produced, which might suggest that the transformative relationship between humans and the natural world played a central role in their ideology.[14] Others focus on the importance of life-giving water in society,[15] and others even suggest a cult that focused on technology and urbanism.[16]

Given the dearth of hard evidence, inference is one of the more used – and abused, intentionally or not – sources of scholars' interpretations of the Indus past. Ideas of political manipulation, communal organization, conflict management, and social cohesion are shared between modern states and those of the past, and there is a remarkable lack of evidence that can be definitively associated with the ruling elite of Indus society. There are no statues, carved reliefs, burials, or other definitive indications that prominent ruling individuals existed in the major urban centers of the Indus River Valley. The Indus "civilization" might instead have been a collection of smaller, independent city states or domains that shared ideologies regarding urban planning, artifactual style, and social control.[17] What also seems likely is that diverse sets of local beliefs and practices existed throughout the Indus domain in addition to these standardized and shared ideologies.

Chapter 2: The Layout of Mohenjo-daro

Mohenjo-daro was the largest city of the Indus Civilization from approximately 2600-1900/1800 BCE. The city was located in the core of the Indus dominion, between Harappa to the north and Dholvaria to the south, with the Baluchistan hills to the west and the Sarasvati River Valley to the east. Over 240 hectares large at its height, the city may have accommodated a population of anything between 35,000 to more than 100,000 people – an extraordinarily high number for cities in the world that time.[18]

There is no evidence of what – if anything – preceded the occupation of the site when the city was formed in the early third millennium BCE. The lack of any earlier settlement may be attributed to the annual floods of the Indus River – the tall platforms upon which Mohenjo-daro and other cities were built could not be assembled before Indus society was able to manage the required labor force and materials.[19] Using bore holes – a method by which deep holes are cut

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[13] McIntosh, 2008

[14] Wright, R. P. (1991) "Women's Labor and Pottery Production in Prehistory." In J. M. Gero and M. W. Conkey (eds) *Engendering Archaeology: Women and Prehistory*. Social Archaeology. Oxford: Basil Blackwell 194-223

[15] Jansen, 1993

[16] Possehl, 2002

[17] Wright, R. P. (2010) *The Ancient Indus: Urbanism, Economy, and Society*. New York: Cambridge University Press.

[18] Jansen, 1993

[19] Jansen, M. (2002) "Settlement Networks of the Indus Civilization." In S. Settar and Ravi Korisettar (eds) *Indian*

into the ground and its contents are examined for potential stratigraphy and depths of cultural layers – archaeologists have discovered that Mohenjo-daro has extraordinarily deep layers of cultural accumulation going to a deepness of between 7-15 meters.[20]

However, the deepest and earliest layers of the city have never been excavated. As such, the city's sudden genesis is shrouded in mystery. In a period of around 80 years the enormous artificial platforms were constructed, the drainage network assembled, the street system laid out, and most of the buildings erected. This metropolis was about one and a half times larger than Harappa, making it the largest settlement of the Indus Civilization found so far. The speed and size of this construction could only have been undertaken by some centralized administrative group involved in the collection and management of the required labor and materials.

Mohenjo-daro was divided into two general areas along a roughly northwest-southeast axis, in terms of architecture, function, and apparent levels of social segregation.[21] To the south and east is the so-called "lower city", while north and west is an artificial raised mound known as the "upper city" or "citadel", which contained the most monumental structures and prestigious dwellings of the settlement. A deep depression in between the two may have served as a major through road, though the material remains of this area have been obscured by centuries of floods from the Indus River. The entire city is around a thousand meters long north to south, and between 500-700 meters wide east to west. However, the latest archaeological surveys have revealed that an extensive suburban landscape spread from the southern and eastern limits of the citadel and lower city – and a lesser extent to the north – where vast suburban districts were buried without a trace beneath the alluvial plain for centuries.[22] The surveys also revealed a significant lack of urban extension made to the west of the high artificial platform. An unknown number of buildings existed in this suburban landscape, but the number was likely in the hundreds if not thousands.

The artificial platforms and the exterior and interior of almost all of the buildings at Mohenjo-daro were composed of mud brick walls built on top of a solid and long-lasting foundation of baked bricks. Bricks made of baked, unbaked, and sun-dried mud endure for, at most, a few decades before collapsing under the effects of floods, heavy rains, occasional fires, earthquakes, and other shocks. These buildings thus required frequent maintenance, and often they were simply leveled and had a new structure built atop the previous foundations. To manufacture enough mass-produced bricks for a city of this scale would have required vast amounts of fuel, materials, and labor.

Moreover, other diverse kinds of materials had to be used in the construction of the city. There

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Archaeology in Retrospect. II. Protohistory. Archaeology of the Harappan Civilization. New Delhi: Manohar. 105–126.

[20] McIntosh, 2008

[21] Vidale, M. (2010) "Aspects of Palace Life at Mohenjo-Daro." *South Asian Studies*, 26:1. 59-76

[22] McIntosh, 2008

are a few buildings that make use of stone and wood.[23] Indeed, there is evidence suggesting that some of the largest buildings in the metropolis were made entirely of wood, which has left almost no trace today.[24] The residential buildings in the lower cities may have had wooden verandas, screens, staircases, and entire upper stories made of wood.[25] The mud brick walls would have once been covered in plaster. Asphalt and bitumen acquired from the Baluchistan hills were also frequently used in the city's hydraulic network.

A cycle of collapse and renewal must have been a regular occurrence in the lives of those living in Mohenjo-daro. Successive falls and restoration may have become part of the elite psyche, as future generations were encouraged to restore structures that had social and cultural importance. Due to this phenomenon, the layout of the city remained almost unchanged for its entire period of occupation, with the same street network and houses built upon the foundations of those that existed before – though deviations would often be made to the interior division of space, with walls and courtyards forming and disappearing at different times.

The citadel was an artificial platform made of sand and soil, and faced with a six meter thick wall of mud bricks held together with mud. It was extended and heightened at various points during the city's occupation, and today is roughly in the shape of a parallelogram rising to a height of between six and eighteen meters. However, the lowest layers of the mound have not yet been excavated, and underground layers might show that it was once even higher. Most of the features that are visible on the citadel date from the so-called Mature Harappan Period (approximately 2600 to 2500 BCE).

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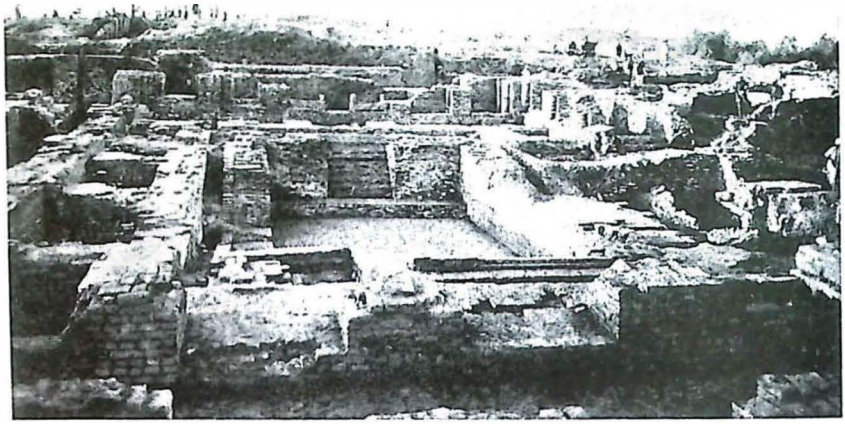
[23] Vidale, 2010
[24] Kenoyer, 2000
[25] Mackay, E. (1938) *Further Excavations at Mohenjo-daro.* New Delhi: Government of India



An early picture of the citadel

The presence of walls, fortified gates, and towers provide the citadel with its name, though no evidence has been found suggesting that these were ever used during conflict. No evidence of military conflict has been conclusively associated with the site, and few weapons were ever made in the city – though the presence of a barracks in the lower town has been suggested.[26] Indeed, most of the defenses were targeted towards natural threats, in particular the annual floods of the Indus. Many of the fortifications are clustered around the south-eastern corner of the acropolis. There are towers made of brunt brick and reinforced with massive wooden timbers, which guard a postern gate flanked by rectangular bastions – later replaced by a platform and a raised walkway with parapet.

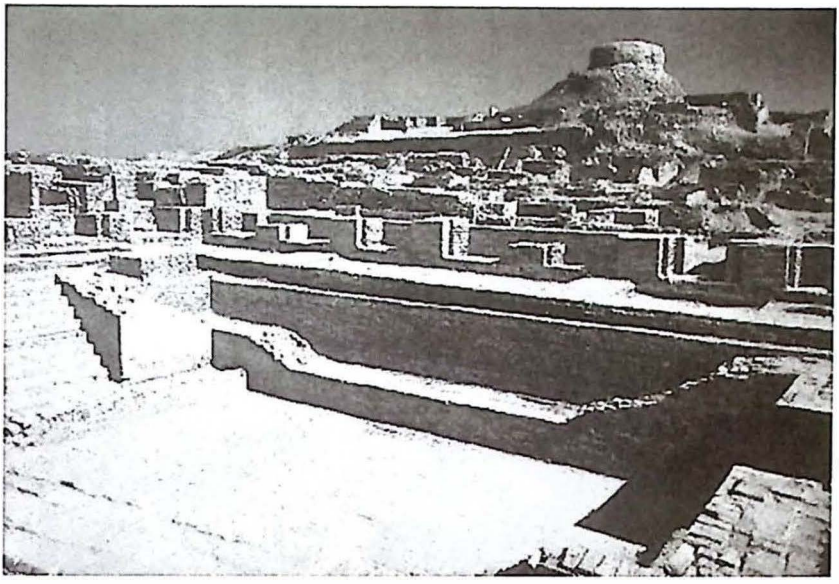
[26] Wheeler, 1953

A picture of some of the city walls

On the southwestern corner is another brick and timber tower, which oversees the "granary" building. Also known simply as "the warehouse", this massive building shared a similar architectural style to the fortified towers, insofar as it combined brickwork with the use of solid wooden timbers. It consists of twenty seven blocks made of mud brick, reaching a height of almost two meters and occupying a total floor space of approximately nine thousand square feet. Each stone block had a vertical access point accessed by a narrow passageway, which would have been used to deposit and withdraw grain from the hollow blocks and also as ventilation to keep the stores of grain dry and prevent mold.

To the south of the "granary" is a grand staircase over seven meters wide leading to the acropolis from the level of the river plains. At the top of this staircase is a small bathroom structure, which one must pass before accessing the northern half of the citadel. A number of monumental structures were built in this area of the mound, each constructed upon an additional platform of their own. Of these, two in particular are quite extraordinary: the Great Bath and the College Square.

Saqib Qayyum's picture of the "Great Bath" on the citadel (with the Buddhist stupa in the background)



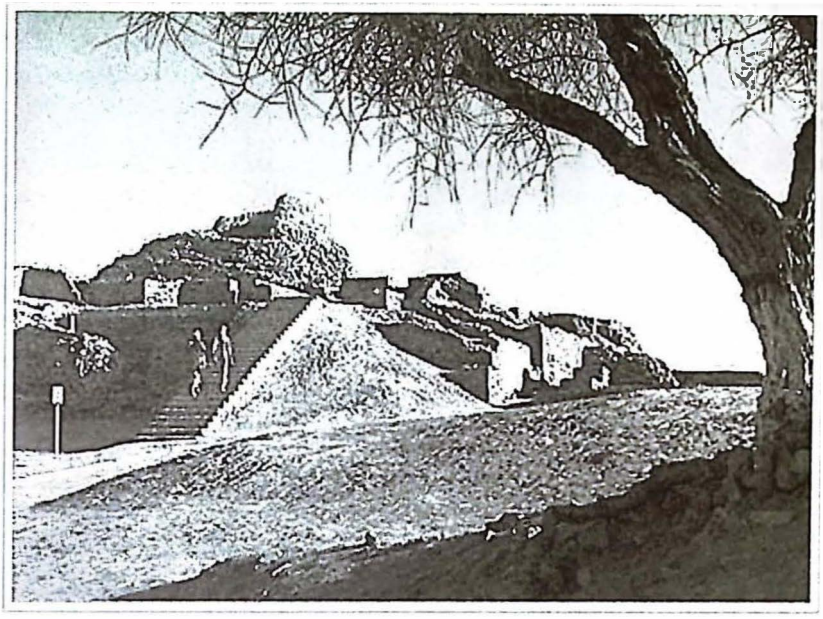
M. Imran's picture of the Great Bath

The Great Bath is located a little distance west of the second century CE Buddhist stupa, which itself is located at the highest part of the citadel. The Great Bath is an enormous multistoried structure, 11 meters by 7 meters, containing a paved courtyard and basin around three meters deep. Flights of brick steps topped with wooden planks set into bitumen lead into the rectangular bath. Made of tightly set bricks, the basin was made completely watertight by a mortar made of gypsum and sealed with bitumen. Water was drained through an elaborate outlet, decorated with a curved corbelled arch, which led through a system of pipes before being discharged along the western edge of the citadel mound. The building also contained a small block of eight bathrooms, each "cubicle" unusually containing a small staircase leading to an upper space, the function of which is unknown. Water should not be solely attributed to its hygienic and cleaning functions; the more numinous qualities of water and cleanliness should be considered when interpreting what this building was used for. The complexity of this floor layout suggests that measures were taken to segregate their users. These rooms may have been used for ablutions – ceremonial cleansing – as part of a religious ritual whose practitioners desired a high degree of privacy and serenity.

The canal for the Great Bath

Nearby is the College Square, so called by early archaeologists at the site who believed it to have been used as a college for priests, though later interpretations argue that it might have been used as an elite residence.[27] This long building is 70 meters by 28 meters, and it features a square open courtyard 10 meters long on each side, surrounded on three sides by verandas that are reminiscent of monastic cloisters. The building has a complicated biography, with deep stratigraphy showing evidence of numerous changes made to the ground plan over the centuries of its occupation.

[27] Vidale, 2010



A picture of part of the surviving structures at the site

The lower city was also built on an artificial mound of sand and silt, to a height of about eight meters, and retained by a surrounding mud brick wall. It features the characteristic infrastructure of roads of the Indus Civilization: a right angled grid plan of streets. The lack of organic qualities to the street network that might suggest long-term growth indicates that it would have been laid out quite quickly by experienced town-planners.

There appear to have been two major thoroughfares crossing east-west through the lower city, each around ten meters wide. Broad streets extended to the north and south of the main roads, and a great number of lanes and alleys crossed east-west around the entire city. These streets were all unpaved, apart from the two main streets, which were covered in a layer of ceramic and broken bricks.[28]

More than 300 vernacular houses, workshops, and commercial buildings densely filled in the resulting city blocks. These were tall mud brick structures, with evidence of buildings that were two and even three stories tall. Many other buildings were only one story high but contained sprawling courtyards. Although of different sizes with such extensions, they were still markedly homogeneous in form. Entrance to most of the buildings was almost always via the narrow east-

[28] Jansen, 1993

west lanes, and there was a lack of windows on the lower floors throughout the city – perhaps as a security measure, or to maintain the structural integrity of the walls. These buildings would have been quite clean environments, consisting of floors paved with baked mud bricks, an effective drainage system, and efficient insulation provided by the thick mud brick walls.[29]

There were few very large buildings in the lower city. The eastern and south-eastern districts of the lower city were almost entirely occupied by workshops, which also appear to have been amongst the earliest buildings constructed on the site. Of particular note is the so-called "Little Bath". This mud brick building is surrounded by four pillars made of baked bricks, and the interior features a concentric layout of rooms surrounding a central well, with a large drain. The ground plan within seems to carefully imitate the Great Bath at a smaller scale. It might therefore have also emulated the ritualistic practices and numinous associations of the Great Bath.[30]

For most of the 20th and 21st centuries there was a notable lack of buildings that were definitively interpreted as temples or elite residences in the lower or upper city.[31] By extension, it was believed that the city was ruled by neither a king nor other wealthy individual or group.[32] Recently, some have argued that Mohenjo-daro's elite residences were clustered in the western and north-western areas of the city. The architectural complex atop the citadel mound may actually have been used as a palace – a large urban residence of an elite group – due to the monumental scale of the buildings and entrances and materials used in their construction. Some of the structures made use of extremely rare and expensive resources, as demonstrated by the massive ring-stone columns made of yellow banded limestone from Khadir, of Rajasthani Jaisalmer stone, or of cherty limestone from Rohri that might even have been painted red.[33]

Chapter 3: Daily Life in Mohenjo-daro

Subsistence in the region was divided into two different forms of agriculture. Much like the present day, *rabi* ("winter") agriculture was the main form of cultivation practiced by the population of Mohenjo-daro's hinterland.[34] The Indus River was vital to farming in what would otherwise be a desert. The lush and fertile land on either side of the river was ideal for agriculture and pastoral farming during the winter months.

However, the Indus was prone to violent, unpredictable floods that spilled over its banks. This more often washed away fields rather than replenished them. The cycle of floods and rains, and planting and harvest, thus prevented a framework that governed life beside the river.

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[29] Wilkins, H. (2005) "From Massive to Flimsy: The Declining Structural Fabric at Mohenjo-daro". In U. FrankeVogt and H.-J. Weisshaar (eds) *South Asian Archaeology*. Aachen: Linden Soft.136–46
[30] Vidale, 2010
[31] Mackay, 1938
[32] Possehl, 2002
[33] Vidale, 2010
[34] McIntosh, 2008

Grain was the most valuable commodity available to the city. Wheat and barley were the main crops grown, though some varieties of rye and pulses were also cultivated, unlike the southern Ganges river valley, where *kharif* (summer) farming can facilitate the production of rice and millet crops. Some summer crops that may have been cultivated around Mohenjo-daro include cotton and sesame. Cotton threads have been discovered at the city, representing the earliest evidence of cotton textiles ever found in the world.[35]

The Baluchistan hills were not suitable for agriculture, apart from sparse alluvial soils in isolated river valleys. Instead, the hilly, upland regions were used as pasturage for domesticated animals including sheep, goats, and cattle. Throughout the Indus period pastoral farmers residing in small-scale villages would live itinerant lifestyles, bringing their herds into the hilly uplands during the summer months, and moving back into the Indus River lowlands when winter came. Their upland settlements were established on small artificial mounds, such as those of the so-called Quetta culture.[36]

Some meat was also acquired through hunting game and by fishing. Forests of acacia, tamarisk, and euphorbia were found in the local highlands and lowlands of the Himalayas. These were home a range of wild game for hunting, and for gathering honey and edible plants such as juniper, jujube, almond, and pistachio.[37] Accurate depictions of tigers, buffalo, rhinoceros and elephants have all been identified on the seals made by Indus valley artisans, indicating that such animals were present in the in the region.

The Indus River Valley and surrounding regions were filled with useful resources used by the Harappan civilization. Metal ores, precious stones, asphalt and bitumen were excavated from deposits on the hills along the border of the Iranian plateau and nearby Rajasthan. These include salt, steatite, agate, carnelian, alabaster, copper, tin and others. Flint was mined in the Rohri Hills in Sindh, bitumen from the north-western areas of the Punjab, and precious gems were gathered from Kashmir.[38] Even gold could be panned from the fast-flowing upper courses of the Indus.

The residents of the upland villages would likely have traded these resources at the markets of Mohenjo-daro. Mud was above all the most invaluable resource available in the city, and would have been gathered from the banks of the Indus and sent to industrial districts of the city or suburban area to be fired or sun baked.

There was a general lack of monumental art, and the workshops of the city appear to have focused on making smaller objects. However, they made use of a wide variety of materials and innovative techniques in their crafts. Steatite – also known as soapstone – was used in abundance

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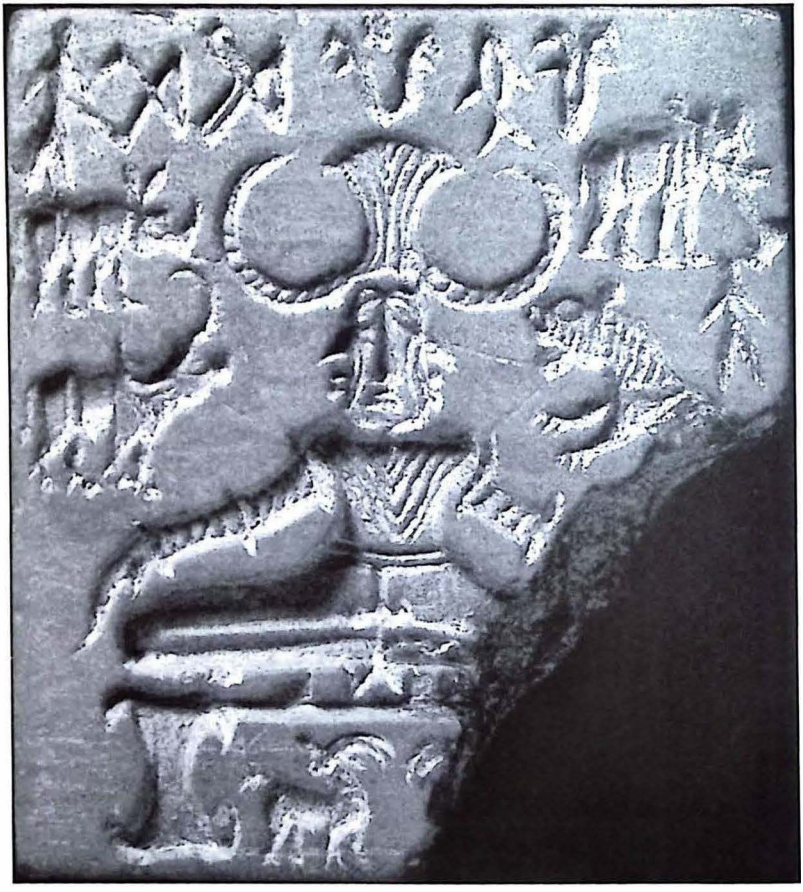
[35] McIntosh, 2088
[36] Wheeler, 1953
[37] McIntosh, 2008
[38] *ibid*

to make jewelry and seals. Some steatite objects were glazed in the same process that eventually led to the creation of faience. One particularly fine steatite sculpture, of which only the torso remains, is known as the "Priest King" for its association with early claims that the Indus Civilization was a theocracy.[39] Innumerable steatite seals have also been discovered by archaeologists. Many depict human figures and animals, in addition to symbols and characters which are believed to be the Indus writing system. The precise use of these seals is unknown, though the most widely-held interpretation is that they were used in merchant transactions to identify ownership of precious goods.[40]



The *Shiva Pashupati* seal

[39] Wheeler, 1953

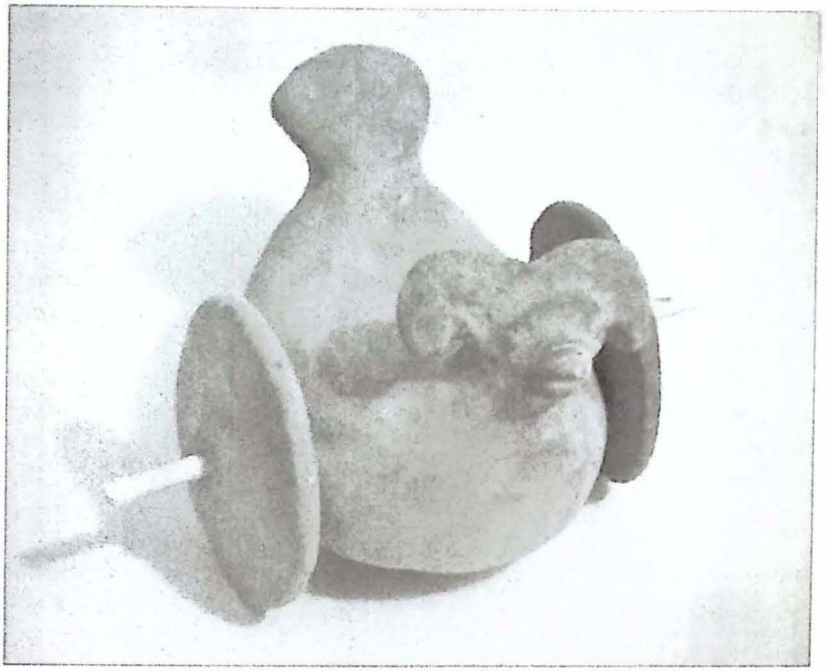
[40] Ratnagar, S. (2004) *Trading Encounters: From the Euphrates to the Indus in the Bronze Age*. New Delhi: Oxford University Press.

In addition to the mud brick industry, clay gathered from the banks of the Indus was used to create a number of terra cotta human and animal statuettes.[41] The close examination of these figures has led scholars to argue that the Indus people did not make the same distinctions between male and female as existed during the Common Era.[42] Other ceramics were acquired through trade with the hill villages. Beyond the city, the artifactual styles of the Indus Valley from approximately 2500 BCE display a remarkable level of standardization – apart from the diverse iconographic styles and characteristics found in the upland regions such as the stoneware ceramics bearing distinctive designs of elongated animals with large eyes, dots and circles, and floral motifs of the Kulli-Mehi culture, executed in black and red.[43]

[41] Ardeleanu-Jansen, A. (2002) "The Terracotta Figurines from Mohenjo-daro: Considerations on Tradition, Craft and Ideology in the Harappan Civilization (c. 2400-1800 BC)". In S. Settar and R. Korisettar (eds) *Indian Archaeology in Retrospect. Vol 2. Protohistory: Archaeology of the Harappan Civilization*. New Delhi: Manohar. 205-222.

[42] Clark, S. R. (2003) "Representing the Indus Body: Sex, Gender, Sexuality, and the Anthropomorphic Terracotta Figurines from Harappa". *Asian Perspectives* 42:2. 304-328.

[43] Wheeler, 1953



Pictures of male, female, and animal figurines

Other objects found in Mohenjo-daro include stone bangles, faience bead jewelry, textiles woven from cotton, wool, or goat hair, leather goods, and exquisite statuettes made of shell and copper. An early metalworking industry existed in the city. They primarily worked with copper, producing tools and inscribed tablets, though small objects of silver and gold were also made. The so-called "Dancing Girl" is a bronze statue discovered at Mohenjo-daro in the 1920s, and tentatively associated with the later periods of occupation at the site.

Joe Ravi's picture of "The Dancing Girl"

While many of these goods were produced in the industrial districts of the city, and the workshops that might have been present in the surrounding suburban landscape, Mohenjo-daro was also located at the center of an extensive trade network that provided access to rare and expensive commodities. The city served as a hub of commercial activity. A standardized system of weights is indicated by archaeological remains, and there may have been a caravanserai in the lower city – a roadside inn where merchants could store their cargo and rest overnight when they

traveled through the region. The city was ideally situated to take advantage of trade and communication along the Indus River Valley to the coast, from which boats would sail to Southeast Asia, Mesopotamia, the Arabian Peninsula, and East Africa.[44] The river was particularly useful for the transport of bulky and fragile commodities. Access to the Arabian Sea was along a coast much further inland during the third and second millennia BCE than the salty marshlands of the Ranns of Kutch in the present day.[45]

Land routes connected the city north and west to the Iranian plateau and Central Asia, and even further north and west to the Near East. Kulli-Mehi ceramics from the hill villages of the Indus period have been found in archaeological sites as far as Mesopotamia and even Syria. Carnelian beads and seals inscribed with their untranslatable language have been discovered at the Royal Cemetery at Ur, dating from the Kassite period (approximately 1500-1155 BCE).[46] By the second millennium BCE crops native to Africa were being seen in the Indus Valley, though it is unclear if these came gradually eastwards along the sea- and land-based trade routes, or if instead Indus traders themselves went as far as Oman and Africa and returned to the Indus heartland with seeds.[47]

The Indus people of Mohenjo-daro were ingenious hydraulic engineers. Each house had access to a "bathroom", which most frequently consisted of a gently sloping platform leading to a drain and an adjacent lavatory. An intricate drainage system was then used to channel the population's sewage and waste water, which was led into conduits that would bring it far from the settlement's perimeter.[48] This horizontal system of conduits existed below the entire city, channeling waste from homes along flat-based conduits half a meter below the street surface. Cesspits and vertical soakage jars, also known as "sumps", were installed at regular points along the conduits, and they may have prevented the waste of clean water by separating dirty water from waste sludge to be recycled in the drainage channels. These were also useful as storm-drains during the monsoon seasons, preventing the discharge of human waste onto the streets. The conduits possibly discharged into the Indus River, or into an area to the west of the high artificial platform, as indicated by the lack of urban development there.[49]

According to archaeological evidence, all of this was built by masons with such skill that there must have been almost no leaks. These were so effective because of their particular shape and size, the materials used and skill with which they were installed, their gently sloping gradient, and the regular supply of a large volume of recycled water to flush the waste at great speed. Similarly efficient and complex drainage systems have been found in other cities of the Indus

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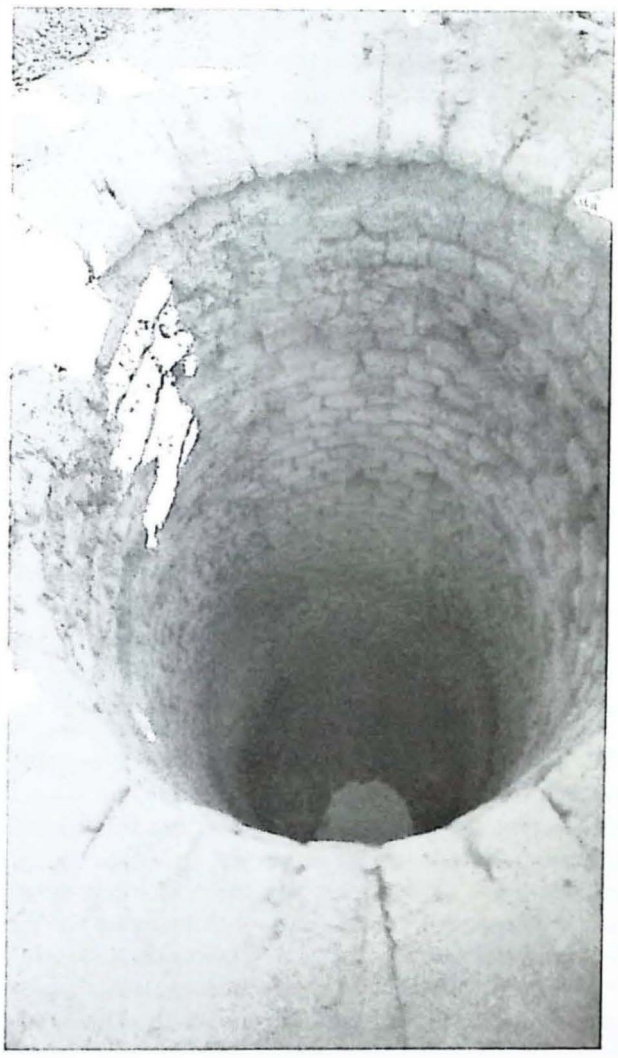
[44] Wright, 2010
[45] McIntosh, 2008
[46] *ibid*
[47] *ibid*
[48] Ratnagar, S. (2014) "The drainage systems at MohenjoDaro and Nausharo: A technological breakthrough or a stinking disaster?" *Studies in People's History*, 1:1. 1-6
[49] Wheeler, 1953

Civilization, such as the network of ceramic pipes at Nausharo.[50]

More than 700 cylindrical sinking wells made of modified wedge-shaped bricks with narrow openings were built around the city, distributed in such a way that meant almost every house had access to fresh water. As the city grew and new buildings were built upon the remains of previous structures, accumulated layers of debris caused each new structure to be built slightly higher from that which came before. Because of this, wells had to be constantly heightened – resulting in staggeringly tall shafts of up to 20 meters tall.

[50] Jarrige, C. (2000) "The mature Indus phase at Nausharo". In M. Taddei and G. de Marco (eds) *South Asian Archaeology*. Rome. 237–58.

M.Bastle Ullah's picture of a tall well at the site



Another well outside Mohenjo-daro

Bathing and cleanliness appear to have been highly valued amongst the people of Mohenjo-daro. The supply of water may have been particularly revered in ways other than merely functional, with ritual cleansing an important part of daily life. The small bathhouse at the top of the western stairs suggests that cleanliness was a factor considered in the control of access to the

citadel. This, and other examples, gives present-day researchers a rare glimpse into how social hierarchies were implemented in Indus societies.

Enormous amounts of labor would have been required to build and maintain the mudbrick structures of the city, especially during the formative years of the settlement but also continuously throughout its entire occupation in response to natural weathering and wear and tear. It is estimated that the city would have required around four million man-days for its initial construction.[51] This alone implies that some form of centralized administrative power existed, and that it organized labor and controlled the means of city-wide construction projects, at least in terms of managing skilled and unskilled laborers and the supply of raw materials. Political power in Mohenjo-daro may therefore have been centered on controlling the supply of labor, acquisition of resources, and craft production.

Power and control would also have been entangled in the acquisition and use of symbolically prestigious objects made of expensive raw materials. The same routes that were used for moving and trading commodities would likely also have been used for communication between the major Indus cities. This would have facilitated the adoption of standardized ideologies, for example between the alleged "twin capitals" of Mohenjo-daro and Harappa. Luxury goods were made of increasingly rare and exotic materials, using techniques that were more specialized than ever before. Moreover, since there is still no evidence of a monetary system, grain might have been the most important commodity in the city, with the acquisition and redistribution of wheat and barley as taxes and tithes via state-run granaries being a tightly controlled affair. This would have required an extensive body of administrative staff; it might have been these who made use of the inscribed steatite seals and copper tablets to conduct their affairs.

An open society has less control, whereas a hierarchical society has more, and the complex layout of the urban landscape at Mohenjo-daro suggests areas of spatial inclusion and exclusion. Rather than being used defensively, recent academic studies have argued that the walls, ramps, staircases, monumental access points, complicated floor plans, and platform elevation were all features of the landscape used to spatially manage social relations. Space enables the control of social encounters, and the manipulation of the city's layout was used to direct people along certain paths and to heighten their awareness, intensify their experience of awe, and segregate access. Gates and walls may have been used to separate and control access to the ceremonial or political complex of the citadel from the residential parts of the city. Even within the citadel movement may have been controlled, to separate the areas of daily activity of the permanent residents from temporary visitors to the site.[52] A small gate and flight of stairs on the western edge of the citadel platform could have restricted access to the northern half of the precinct, as may have a gateway extending between the Great Bath and the College Square.

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[51] McIntosh, 2008

[52] Atre, S. (1987) *The Archetypal Mother: a systemic approach to Harappan religion.* Pune: Ravish Publishers

If this was the reason for the layout, it remains unknown by what criteria social divisions were made: sex, rank, class, kin, occupation, or age. These may also have been simply used to channel merchants and to collect taxes on goods entering and leaving the city.[53] Even in the lower city the differentiation between groups is indicated by the archaeological remains. Platforms could have served as a means to symbolically differentiate between the houses of local elites, the common and low status groups of the city, and those visiting from the outside.

Early interpretations of this part of the upper city were that it was some kind of cultic landscape used by a priestly class. If this was true, the hardship of regular daily movement around the topographically-challenging landscape would certainly have been a significant part of the worshiper's bodily experience. The anticipation of the traveler climbing the rock-cut staircase leading from the settlement to the forecourt of the Great Bath or College Square would have been accentuated by the monumental architecture and expensive building materials surrounding them. Likewise, travelers crossing the flatlands of the Indus River Valley would have been struck by the formidable sight of the monumental citadel.

It is unknown if differences existed in human burial practices amongst the elite and non-elite groups of Mohenjo-daro, as to this day no cemetery has been discovered at the city, nor have individual graves or tombs showing ostentatious displays of luxury material wealth. Less than 40 skeletons that can be dated to the time of the Indus Valley Civilization have been discovered in Mohenjo-daro.[54] Many were disarticulated and incomplete human remains haphazardly and seemingly irreverently buried in contorted positions.

At Mohenjo-daro a great variety and amount of games-related artifacts have been discovered, giving a rare perspective into the third millennium BCE's perspective on the concepts of "fun" and "games", in addition to the lives of children in the city.[55] Archaeological projects have revealed evidence of various types of dice and gaming figures across the Indus Valley. Gaming boards have also been found, with designs ranging from a grid of concentric squares to boards with separate rectangular compartments for the gaming pieces. At Mohenjo-daro, the most popular game-related artifacts were hollow round objects that rattle when shaken, cube-shaped dice made of pottery, and spheres made of marble, shell, and stone. In addition, there were anthropomorphic and zoological figurines made of faience, terra cotta, stone, and unbaked clay, and others "gamesmen" in the shape of tetrahedrons and fish. So-called "casting bones" were carved from ivory and bone, and unlike knuckle bones were decorated in a similar manner to dice. Other, undecorated "sticks" of ivory may also have been used for gaming.

There are many debates regarding the significance of these artifacts for Indus society; some maintain that they were purely used as an entertaining pastime, while others argue that they held

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[53] Kenoyer, 2000

[54] Dales, G.F. (2006) *The Mythical Massacre at Mohenjo-daro.* University of Pennsylvania: ProQuest

[55] Rogersdotter, E. (2011) *Gaming in Mohenjo-daro – an Archaeology of Unities.* Göteborg: University of Gothenburg

ritual significance.[56] It is also unknown if these games were indigenous to the Indus Civilization or if they were appropriated from other cultures. Comparisons have been made with strikingly similar games pieces and boards from contemporary Iran and Mesopotamia, and in particular those found in Ur and Shahr-i Sokhta.[57]

Chapter 4: The Loss and Rediscovery of Mohenjo-daro

The Indus Civilization can be described as having gone through three main phases: expansion, integration, and collapse. Naturally, there is much speculation, and many theories, focused on the last of these stages. At some point during the Post-Urban/Jhukar Period (approximately 1900-1700 BCE), the Indus Civilization underwent a remarkable transformation, as the major urban centers were abandoned and their populations disappeared.[58] This occurred at Mohenjo-daro as well, though research in the past decade has shown that this was not nearly as rapid as previously believed.

The most dramatic and frequently mentioned theory was proposed by R.P. Chanda, an associate of one of the earliest archaeologists of the city, Sir John Marshall. Chanda believed that the Vedic Indo-Aryans destroyed the cities and massacred the people of the Indus Civilization, based on human remains he found that had been unceremoniously discarded on the streets or in the ruined houses of Mohenjo-daro from the final period of its occupation. The Aryans were an Indo-European people that came to the Indian subcontinent from its northern borders sometime during the second millennium BCE. They allegedly used chariots driven by horses raised on the Eurasian steppe, and armed themselves with the latest military innovations: bows, arrows, javelins, axes, and swords.[59] According to this side of the story, the city's men, women, and children were massacred at the hands of Aryan invaders, leaving the streets of city littered with corpses after the population was totally exterminated. Human remains were used to give legitimacy to the massacre myth, such as the incomplete skeleton found on the so-called "Deadman's Lane", as were tales of Indra, the principle deity of the Aryans, known also as the "fort-destroyer" for his role in destroying the citadels of the *dasyu* (mortal or supernatural enemies of the Aryans).[60]

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[56] Kenoyer, 2000

[57] Finkel, I. L. (1999) "The Sedentary Games of India: An Introduction". In N. Ray and A. Ghosh (eds) *Sedentary Games of India*. Calcutta: The Asiatic Society. 1-21

[58] Wright, 2010

[59] Dales, 2006

[60] *ibid*

Chanda

However, there is a lack of material evidence that attests to destruction of this scale having ever taken place. The lack of weapons, human remains, or damage to buildings from this period – indeed, the lack of violence indicated in any period of Indus history – suggest that the residents of Mohenjo-daro were a distinctly unwarlike people. No human remains have been found in the fortified citadel, which would have likely been where much of the fighting would have occurred if such an invasion occurred. Moreover, the human remains used to support this story date much later than the Indus Valley Civilization period; most of them are from later burials that had cut through the archaeological layers of the city.[61]

The chronology that has been established through continued archaeological work in the last two centuries indicates that such an invasion simple did not take place, and the "massacre" at Mohenjo-daro never occurred. Instead, a series of human and natural factors contributed to the general deterioration of the Indus Valley Civilization and the abandonment of Mohenjo-daro. The region was and is still tectonically active, as the Himalayas are pushed upwards by the forces of continental drift, causing the collision of the Indian and Eurasian tectonic plates. This convergent continental-continental boundary leads to a number of devastating results, including earthquakes and land shifts. This means that the entire area is continuously rising, and even

[61] *ibid*

slight changes to the region's topography can have an enormous impact on drainage. For example, archaeological remote-sensing and geophysical surveys carried out at Cholistan, Pakistan, have revealed that at some point during the second millennium BCE the major Saraswati River dried up.[62] This is supported by the earliest Vedic texts of India, which describe a major river in the general area drying up sometime between the early second and first millenniums BCE. Today an arid stretch of ground with small, intermittent rivers known as the Ghaggar-Hakra, during the Indus period this was a powerful watercourse whose loss must have had devastating repercussions for farmers who relied upon its annual floods.

Climate may have been a factor in the environmental degradation and major demographic upheavals of the region. Floods were already common in the Indus River Valley, but analysis of pollen remains recovered by archaeologists has indicated that rainfall rose steadily during the third millennium BCE and declined considerably during the second millennium.[63] This climate change had an impact on the vegetation of the region, as analysis shows that during this period deciduous forests were replaced by shorter thorn trees known to thrive only in dry soil with poor water retention.[64] At the same time, there was a general deterioration in the maintenance of buildings and dams in the city. These changes would have increased the amount of water that was draining into the Indus River, causing it to flow faster and increasing the likelihood of floods.

Since the second millennium BCE the Indus River has shifted more than two kilometers from its original location.[65] As the Indus River crept gradually closer to Mohenjo-daro, the greater frequency and force of the floods would have been of great concern for the city's residents. A similar entanglement of natural and cultural attributes causing landscape change occurred in contemporary Mesopotamia, where the flat flood plain caused the Tigris and Euphrates rivers to shift often and quickly, causing sudden changes to settlement patterns.

The water table near Mohenjo-daro rose as a result of these changing environmental conditions. This would have led to increased levels of soil salinity, and in turn that must have had a detrimental impact on agricultural yields.[66] Farms in the hinterland could not sustainably provide enough food for the city's population, leading to overgrazing and deforestation – each of which only exacerbated the problem. Deforestation was also caused by the enormous fuel requirements of the mid brick industry and for the copper industries of the city. Vast amounts of charcoal would have been required to reach the temperatures required to manufacture these bricks, and in the second millennium BCE animal dung was being used instead of charcoal, indicating that there was not enough wood available in the city's hinterland.[67]

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[62] McIntosh, 2008
[63] *ibid*
[64] *ibid*
[65] Jansen, M. (1986) *Die Indus-Zivilisation: Wiederentdeckung einer frühen Hochkultur*. Köln: DuMont Buchverlag
[66] McIntosh, 2008
[67] *ibid*

Finally, changing trade routes may have also played a role in the city's decline. Land-based trade appears to have been replaced by a reliance on maritime trade by the end of the third millennium BCE, but the sudden rise in the Arabian Sea coastline of West Pakistan in the second millennium BCE might have disrupted these sea-based links during the period of Mohenjo-daro's deterioration.[68]

Living standards in Mohenjo-daro declined massively and irreversibly as a result of these changing conditions. The structural integrity of later houses, with thin and poorly assembled walls, was far worse than the solid, mud-brick buildings of the third millennium. Many of the monumental buildings were divided up and converted into other functions, such as pottery kilns and workshops. There appears to have been a sudden surge in population within the city limits, followed by a sudden depopulation of the entire settlement and suburban landscape.[69] The Great Bath and other large buildings fell out of use, and archaeological remains even indicate that deadly diseases were rife during this period of deterioration, including malaria and cholera.

These diverse factors eventually led to large-scale population migrations southeast, and the growth of settlements in the Kathiawar peninsula, north of present-day Bombay.[70] Surveys at Gujarat have shown that significant growth in the number of settlements took place between 2000 and 1800 BCE. South of the Punjab, the Ganges Valley became the focal point of civilizational growth. Writing, urban settlement patterns, centralized control, international trade, occupational specialization, and widely distributed standardized artifacts all changed during this process, each fragmenting into regionally distinctive forms. Immediately after the abandonment of Mohenjo-daro, the city became a hotbed of banditry as raiders from the Baluchistan hills occupied the ruins.[71]

At some point during the 2nd century CE a Buddhist stupa and monastery were built upon the former citadel. However, there is a dearth of research that focuses on the later uses of Mohenjo-daro, even though it was an interest in these Buddhist ruins that first led archaeologists to the site, and thus the discovery of Mohenjo-daro's prehistoric past.

The earliest European visitors to India came during the 16th and 17th centuries CE. Of these, only a few took an interest in the ruins of the Indus River Valley; most were chasing semi-mythological landscapes described in ancient Indian literature.[72] The Sanskrit *Rig-Veda* is the oldest known text from India, a collection of "Vedic" hymns compiled into 10 books which describe the deities and cosmological views of the people in the Punjab during the mid-second millennium BCE. The *Ramayana* – also written in Sanskrit – is another text of great antiquity.

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[68] Jansen, 2002
[69] McIntosh, 2008
[70] Dales, 2006
[71] *ibid*
[72] Urban, G. (1991) "The Indus Civilization: the Story of a Discovery". In M. Jansen, M. Mulloy and G. Urban (eds) *Forgotten Cities on the Indus: Early Civilization in Pakistan from the 8th to the 2nd Millennium BC*. Mainz: Philipp von Zabern. 18-26.

This mythological epic may have been written at around the turn of the Common Era, and though later than the Indus period it attracted the attention of European explorers eager to learn more about the lands in which it was based.

These antiquarians were good observers of the landscape, but poor interpreters of it, and it was only during the 18th century that an interest in Indian antiquities began to pick up, mostly driven by an interest in discovering unknown Buddhist ruins. In 1784, the Asiatic Society of Bengal was founded by the London-born philologist Sir William Jones, who would later be the first person to propose the existence of the Indo-European family of languages. In 1871 Alexander Cunningham became director-general of the Archaeological Survey of India. Cunningham had visited Harappa in the 1850s, but when he returned in the 1870s to investigate the site he found the ruins had been largely damaged by laborers who were using the ancient mud bricks to construct a railroad traversing the area.[73] Other surveys were undertaken by W. T. Blanford, who found Indus remains in the Rohri Hills in 1875 and again at Sutkagen-dor two years later.[74]

Cunningham

Up to the late 19th century, most academics believed that civilizations and complex urban

[73] McIntosh, 2008
[74] *ibid*

societies only appeared in India during the first millennium BCE, but this picture changed during the 20th century, when excavations at Mohenjo-daro were performed by some of the most famous names in the history of archaeology. Archaeologists working with the Archaeological Survey of India began investigating the site from the 1920s. Rai Bahadur Daya Ram Sahni and Rakal Das Banerji were some of the earliest, but the ancient city only came to international attention through the work of Sir John Marshall and Ernest Mackay. Marshall was attracted to Mohenjo-daro by the presence of the Buddhist monastic ruins at the summit of the conspicuous mound, and in 1922 he began excavating the site. As he bored through the extremely deep layers of mud bricks he became the first to discover that the mound was man-made, and one of the earliest to realize the great antiquity of the site by dating the site to before the Mauryan period (322 – 185 BCE). Marshall returned to Mohenjo-daro four more times between 1925 and 1927, and through these projects came to the conclusion that the Indus civilization was India's "indigenous" civilization.

Ernest John Henry Mackay was the next archaeologist to visit Mohenjo-daro, employed by Marshall in 1926 to continue the excavations on a full time basis.[75] He discovered human remains lying on the streets of the uppermost periods of occupation, which were used to support R. P. Chanda's hypothesis regarding the Aryan invasion of the city. Together, the results of Marshall and Mackay formed the foundation for almost all subsequent research of the settlement.

Mackay

Between 1925 and 1926 Marshall employed more than a thousand laborers for the large-scale excavations of the site.[76] However, by 1931, problems with funding meant that large-scale excavations had to be abandoned, though some smaller-scale projects were undertaken by Q. M.

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[75] Possehl, 2002

[76] Marshall, J. (ed.) (1931) *Mohenjo-daro and the Indus Civilization: Being an official account of Archaeological Excavations at Mohenjo-daro carried out by the Government of India between the years 1922 and 1927. Vol. I-III.* London: Arthur Probsthain.

Moneer and Puri in 1932-1933 and 1935-36 and by A. Rahman in 1938. It was during this time that connections were being made between Mohenjo-daro and Harappa. The renowned Australian archaeologist Gordon Childe took an interest in the debate, and in the 1930s he proposed a set of key identifying features of the Indus Civilization: their complex drainage systems, absence of palatial, religious, or mortuary structures, a competent bureaucracy, the lack of evidence suggesting their engagement in military activity, and a unifying ideology reified by the striking similarities between their cities. His checklist of attributes has been applied to Indus settlements ever since.

The British archaeologist and Director General of the Archaeological Survey of India, Sir R.E. Mortimer Wheeler, frequented Mohenjo-daro following the partition of Pakistan from India in 1947. As advisor for the Pakistan government on matters of archaeology he carried out three excavations on the site in 1950, during which he discovered the "Great Granary".

Most interest in Mohenjo-daro and the Indus Civilization up to the mid-20th century was culture historical in approach. Compared to other modes of explaining society, culture history gives relatively little concern over questions about how societies work. Instead, it focuses on identifying a succession and diffusion of different cultures, which change due to external causes, such as conquest and migration. The "evolution" and "devolution" of the Indus Civilization was of primary interest to the British archaeologist Stuart Piggott during his investigations of the Zhob and Quetta cultures.[77] Normative approaches to archaeology prevailed; it was believed that "culture" was simply expressed through the artifacts and cities of the Indus people and could be interpreted through these material remains.

The final season of these initial excavations at Mohenjo-daro were carried out by Dr. George F. Dales, between 1964 and 1965. At this time, Anglo-American archaeologists were becoming increasingly dissatisfied with culture historical approaches. Emphasis was increasingly placed on asking questions of why the Indus Valley Civilization flourished and did what they did, rather than simply identifying who and what the Indus Valley Civilization were. By the 1970s, different research questions and methodologies had drastically changed the management of Mohenjo-daro as a heritage site.

[77] Piggott, S. (1950) *Prehistoric India*. London: Pelican. Series

Mamoon Mengal's picture of the "Priest-King" sculpture from the site

Today, the conservation and management of the present-day site falls under the aegis of the government of Pakistan, and in particular the Department of Archaeology. Mohenjo-daro is of such great importance to the nation of Pakistan that it is featured on the front of the 10 Rupee note. It is protected by the 1975 Antiquities Act, the 1978 Excavation and Exploration Rules, and the 1979 Immovable Antiquities Rules and Export of Antiquities Rules, in addition to legislative guidelines provided through its status as a UNESCO World Heritage site.[78] The Indian state has

[78] Director General of the Department of Archaeology and Museums, Government of Pakistan (1980) Nomination Document for the Archaeological Ruins of Moenjodaro

also conducted numerous investigations into its Indus past

UNESCO first sent a mission to Mohenjo-daro in 1972, followed by the creation of a comprehensive report on the site's integrity and significance starting in 1979. Mohenjo-daro was inscribed onto the UNESCO List of World Heritage Sites in 1980. As a World Heritage site following UNESCO's guidelines, intrusive archaeological methods – methods that physically damage the site, such as excavations – are not allowed. Most recent studies have made use of non-intrusive techniques, such as geophysical surveys, architectural studies of standing remains, sampling of ecofacts, and remote sensing via aerial imagery.

Soon after the earliest excavations at Mohenjo-daro, the structural remains of the site began to deteriorate. This was due to a number of factors, most of all problems of salinity, drainage, climate, and a steadily increasing human presence. Salt reactions were caused by the rising water table – a problem that persists from antiquity to this day, and exacerbated by the conveyance of the Sukkur Barrage and its network of canals in 1932. The gradual, but continuous, westward migration of the Indus River also threatens to encroach upon the site. Over time, the city has been almost severed into two parts by the Indus River floods. In response, the banks of the river have been reinforced with spurs and rock armor.

Moisture infiltrates the now-fragile mud brick ruins directly from rainfall, and the unmaintained hydraulic network no longer drains the site. This causes structural distress to the standing remains in the city. Dozens of modern tube wells have been installed around the site, in addition to a pumping station, to help drain the ruins during the wettest seasons of the year. Nonetheless, trapped moisture continues to weaken the walls, while harsh climatic cycles create thermal stresses, producing cracks and other surface decay.

The site has also been intermittently threatened by the growth of violent Islamic extremist groups such as the Taliban in the region during the 21st century, and in particular during war in Afghanistan between 2001 and 2014. The region remains troubled to this day, yet even in times of peace few changes have been made to conserve the structural remains from the effects of a growing number of tourists visiting the site. Mohenjo-daro was visited by more than 50,000 visitors in 2001.

From the 1980s much international research has been conducted at Mohenjo-daro. The earliest excavations at the city made use of techniques that are considered relatively controversial by today's standards. Ongoing projects mainly aim to clarify and corroborate reports from the 18th and early 19th centuries with the material remains visible on the site today, and to make use of the latest archaeological theories and practices. G. Urban and M. Jansen began the first re-evaluations in 1979, leading the "German Research Project Mohenjo-daro" team from Aachen University, and they were followed in 1981 by the "Italian Mission to Mohenjo-daro". A number of rescue-style excavations were required in 1987 and 1989, due to problems caused by the rising water table and oversalination. The joint Pakistan-American Harappa Archaeological Research

Project (HARP) ongoing projects focused on the city of Harappa. They have discovered evidence of a settlement that predates that of the Indus Civilization, from as far back as 3500 BCE.

At Mohenjo-daro, a mere 10 percent of the massive site has been excavated to this day. Surveys and probing have revealed the great size of the settlement, and over the coming century further excavations are hoped to take place in the suburban areas. The lowest layers of the citadel and lower city remain below the high water table, which has meant that the waterlogged earliest levels of the city's past have not yet been excavated.

Archaeological attention is traditionally focused on temporal components, through detailed analyses of stratigraphic relationships to reveal chronological sequences of events in a small area. Artifacts and excavations offer a very small, detailed, focused source of information for a local area. However, by considering the horizontal, spatial components of landscape we can get a much more anthropological view of the past.[79] Recent research has taken a more holistic approach towards situating the city within its landscape context, as distinct from merely looking at the settlement in isolation. Instead of studying towns as isolated micro-features, they are analyzed as part of a regionally integrated macro-system of change. However, it remains unknown what relationships emerged from the range of social actions and motivations of those residing in the city and those living in its immediate hinterland and wider landscape.

Only Mohenjo-daro, Harappa, and Dholavira have been investigated extensively by archaeologists. The cities of Ganweriwala and Rakhigarhi have yet to be surveyed or excavated, and may reveal remarkably fresh perspectives on the Indus Civilization if and when they are. A closer focus is being made on the relationship between Mohenjo-daro and surrounding eco-zones and with other settlements in the wider region, in particular the hilltop communities who did not share the same cultural hegemony of the Indus Civilization.[80] Further questions are being asked regarding the spread of the Indus Civilization into other areas of Eurasia: Iran, Mesopotamia, and Central Asia. Surveying, both intensive and extensive, broadens our view to the entire region. GIS modelling offers the potential to indicate 'natural trade routes' and other relationships with the surrounding landscape by modelling key features of the city's hinterland, including the extensive suburban parts of the urban landscape that have not been fully surveyed. Greater attention has also been placed on making more nuanced interpretations of the spaces and buildings of the city. By identifying multiple scales in the formation and use of space in Indus cities, archaeologist may be able to identify the utilitarian, religious and social concerns of the diverse groups who lived there. Space is socially produced by the various perspectives of multiple groups involved in its formation and maintenance.[81] Theoretical tools, such as access analysis, might be usefully applied to the network of complex buildings, lanes, ramps, and

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[79] Smith, A.T. (2003) *The Political Landscape: Constellations of Authority in Early Complex Polities*. Berkeley: University of California Press

[80] Sonawane, V. H. & P. Ajithprasad (1994) "Harappa Culture and Gujarat." *Man and Environment* 19. 129-139.

[81] Tilley, C. (1994) *A phenomenology of landscape : places, paths, and monuments*. Oxford: Berg.

gateways found in the city.

There are countless unanswered questions when it comes to the Indus Valley Civilization, and historians hope to answer many of them over the coming years. How will their script be deciphered, and what kind of information will be revealed from Indus textual sources? Archaeologists have recovered a great number of inscribed seals in an unknown language at Mohenjo-daro and other Indus settlements. By the mid-19th century the major Indo-Aryan languages of the region's recent history – Brahmi and Kharoshthi – had been deciphered, but the Indus script and language have remained undecipherable to this day, leading some to suggest that their symbols may not actually be a script.[82] Where exactly did the Indus people come from, and where did they go? What exists directly below the Buddhist stupa – a structure that is positioned atop the most prominent area of the entire city, which to this day has not been excavated? Research has presented few conclusive and many controversial theories concerning the administration and elite classes of the city. Similarly, almost nothing is known about Indus cosmological and religious ideologies and practices - was religion separate from other social phenomena such as gender and identity, or was it a core component of social organization and human relationships?

Moving forward, plenty is known, but much is left to be answered. Neither the emergence nor disappearance of the Indus Valley Civilization was as sudden and dramatic as has been previously believed. They gradually developed a highly complex and bureaucratic urban society over a period of one hundred years – though the preceding circumstances and processes by which this was done remain to be discovered. Likewise, instead of a collapse or massacre, the Indus heartland was gradually depopulated at the beginning of the second millennium BCE. Rather than barbarian invaders, the forces of nature proved to be their foremost enemy, as people emigrated and settled in different areas of the Indian subcontinent to escape from cities that were becoming less able to withstand the erosive effects of climate change.

Further archaeological investigations in the coming century will surely change the current understanding of Mohenjo-daro and wider Indus society; even if it is likely that new discoveries will only lead to further questions and intriguing theories.

Online Resources

Other books about ancient history by Charles River Editors

Other books about Mohenjo-daro on Amazon

[82] McIntosh, 2008

Bibliography

1. Crispin Bates; Minoru Mio (22 May 2015). Cities in South Asia. Routledge. ISBN 9781317565123.

2. Gregory L. Possehl (11 November 2002). The Indus Civilization: A Contemporary Perspective. Rowman Altamira. p. 80.ISBN 9780759116429.

3. "Mohenjo-Daro: An Ancient Indus Valley Metropolis".

4. "Mohenjo Daro: Could this ancient city be lost forever?". BBC. 27 June 2012. Retrieved 27 October 2012.

5. "Mohenjo-Daro: An Ancient Indus Valley Metropolis"

6. Iravatham Mahadevan. "'Address' Signs of the Indus Script" (PDF). Presented at the World Classical Tamil Conference 2010. 23–27 June 2010. The Hindu.

7. Poultry Breeding and Genetics. R. D. Crawford (1990). Elsevier Health Sciences. pp. 10-11, 44.

8. Roach, John. "Lost City of Mohenjo Daro". National Geographic. Retrieved 8 April 2012.

9. "Sarasvati: Tracing the death of a river". DNA Pakistan. 12 June 2010. Retrieved 9 June 2012.

10. Ancientindia.co.uk. Retrieved 2012-05-02.

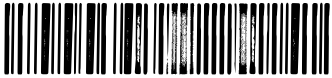
11. Beck, Roger B.; Linda Black; Larry S. Krieger; Phillip C. Naylor; Dahia Ibo Shabaka (1999). World History: Patterns of Interaction. Evanston, IL: McDougal Littell. ISBN 0-395-87274-X.

12. A H Dani (1992). "Critical Assessment of Recent Evidence on Mohenjo-daro". Second International Symposium on Mohenjo-daro, 24–27 February 1992.

13. Kenoyer, Jonathan Mark (1998). "Indus Cities, Towns and Villages", Ancient Cities of the Indus Valley Civilization. Islamabad: American Institute of Pakistan Studies. p. 65.

14. Possehl, Gregory L (2010). The Indus Civilization: A Contemporary Perspective. AltaMira. p. 12. ISBN 978-0759101722.

15. "'Findings show Moenjodaro was larger than unearthed ruins'". 14 November 2015. Retrieved 14 November 2015.



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