
Deciphering the Symbols: A Comprehensive Study of Iconography and Epigraphy of Indus Seals

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Abstract

Inscribed seals are among the most identifiable and distinctive artifacts of the Harappan or Indus Civilization (c. 2600-1900 BCE), which is recognized as one of the earliest urban civilizations in the world and the first significant emergence in the South Asian subcontinent. This study explores the complex relationship between epigraphy and iconography on Indus seals, revealing the deep insights contained within these ancient relics. Indus seals employed specific documents and linguistic structures to communicate messages. The objective is to clarify the linguistic, cultural, and societal aspects of the Indus Valley Civilization by carefully examining the script and symbols found on these seals. This interdisciplinary approach seeks to uncover regional and temporal patterns that introduce new dimensions regarding an ancient civilization. The research goes beyond simple linguistic analysis by looking at the interdependent relationship between iconographic imagery and script, offering a holistic understanding of the communicative and symbolic roles of Indus seals. Additionally, it investigates the possible social, economic, and ritualistic functions of the seals by interpreting the inscriptions for insights into ownership, trade, and religious customs. This study addresses these topics through a range of formal and statistical analysis methods applied to a collection of published engraved Indus seals. The findings illustrate evidence of variations in patterns of Indus seals across different times and locations. Collectively, this research offers fresh perspectives on the organizational dynamics of the Indus Civilization.

Keywords: Indus Valley Civilization, Indus Seals, Epigraphy, Iconography, Linguistic syntax.

Introduction

The Indus (or Harappan) Civilization, which thrived approximately between 2600 and 1900 BCE, is recognized as one of the earliest urban cultures in the world, with its archaeological remains extensively found across the northwestern region of the South Asian subcontinent (Fig 1). While the people of the Indus Valley had the ability to read and write, their written language has yet to be deciphered. Consequently, detailed studies of material culture, urban settlements, and the relationship between humans and their environment are the main methods used to understand the development, organization, and complexity of this urban society. This research explores these topics through comprehensive analyses of published inscribed Indus seals that exhibit various motif designs. Through the use of attribute and correspondence analyses, the goal is to identify, study, and differentiate various groups of seals. Such investigations provide a significant approach for examining the crucial role that seals and craft production played in the structure and unity of the Indus civilization, as well as how these aspects evolved over time and among different regions. The

ancient Indus Valley civilization's inscriptions reveal ritualistic aspects that can enhance our understanding of their religious beliefs and practices. The symbols and motifs found on the seals may hold the key to deciphering their cosmology, rituals, and spiritual traditions. By exploring their religious practices, we can illuminate the spiritual dimensions of their society and appreciate how rituals shaped their social framework. Analyzing the trade implications of the inscriptions offers insights into the extensive trade networks that linked various regions within the Indus Valley Civilization. The seals, often associated with goods and commodities, provide essential information about the economic interdependence of different settlements and the sophistication of trade practices. This contributes to a deeper understanding of the interconnectedness of urban centers and the economic vitality that supported the civilization. The research extends beyond merely interpreting symbols on Indus seals. It seeks to reconstruct the intricate social structure, economic system, and religious beliefs of the Indus Valley Civilization. As these inscriptions are analyzed, they unveil a narrative that transcends the archaeological remnants, bringing to life the daily experiences of those who inhabited the banks of the Indus River. The research findings highlight significant evidence of diversity, which is intended to connect to broader patterns and offer new insights into the creation, use, and distribution of Indus seals. These outcomes relate to historical transformations that clarify the association between seals and the origins, as well as the growth of urban society in the Indus region.

Research Objectives

- To analyze the linguistic patterns and variations that exist within the epigraphy of Indus seals.
- To examine how the iconographic elements on Indus seals correlate with the inscribed script.
- To interpret the social, economic, and ritualistic insights that can be gleaned from a thorough analysis of the epigraphy and iconography on these seals.



Figure 1: Major sites of the Indus Valley Civilization
(Source: <https://www.britannica.com/topic/Indus-civilization>)

Significance of the Study

This study has significant importance in analyzing epigraphy and iconography on Indus seals by decoding the inscription of the Indus Valley Civilization, which is considered as one of the oldest civilizations in the world. The research aims to contribute to the decipherment of this ancient script by conducting a comprehensive study of the un-deciphered script on seals and its correlation with iconographic elements. It will help us to enhance our understanding of the linguistic complexities of

the civilization. Moreover, the investigation into the social, economic, and ritualistic dimensions of the inscriptions provides valuable insights into the daily life and cultural practices of the Indus Valley people. Additionally, it plays a crucial role in preserving and interpreting the cultural heritage of the Indus Valley Civilization, fostering a deeper appreciation for this enigmatic ancient society. By analyzing the inscriptions on Indus seals, the research uncovers historical insights into the lives and practices of the Indus Valley civilization. Delving into the minutiae of these inscriptions, the study provides a nuanced understanding of the organizational structure that underpinned this ancient civilization. The inscriptions on seals, often associated with ownership or trade, offer a glimpse into the economic fabric of the society, shedding light on trading practices, economic transactions, and potentially even the existence of a sophisticated marketplace.

Material and Method

The research on the Indus Valley Civilization is a major achievement in the field of archaeological investigation, especially in the methodology used to study ancient artifacts. This research established a methodological framework that effectively combines epigraphy and iconography. The study took a multidisciplinary approach, combining the insights from epigraphy (the study of inscriptions) and iconography (the interpretation of visual symbols) to gain a better understanding of artifacts and their cultural context. The visual elements on the published seals, such as animal figures, human forms, and abstract symbols has been examined through iconographic analysis. This can help identify recurring motifs and their potential meanings. This combination of disciplines allows researchers to analyze the artifacts more comprehensively.

Results and Discussions

Seals are important as diagnostic features of Indus material culture. They are frequently utilized to identify the characteristics of Harappan sites or the exchanges occurring during the Integration Era. These consist of various small objects that are skillfully crafted and often feature brief inscriptions alongside pictographs. Some seals exclusively showcase inscriptions, while others display only images, generally depicting various animals, mythical entities, and geometric forms. These seals were produced from diverse raw materials, came in multiple shapes and sizes, and were likely created and utilized within the Indus civilization for a range of functions (Kenoyer, 2000). Seals are linked to specific unfired clay tablets (which are shaped and incised) particularly regarding their carving styles, sculpted designs, and perforated centers for hanging. Seals containing writing in the Indus script are designated as inscribed seals, and these are the primary subjects for investigating the Indus script (Kenoyer, 1998). Recent research (Kenoyer, 2020) suggests that the Indus writing system was more intricate than previously believed and that it developed during the Integration Period, serving several functions (Kenoyer, 2006; Parpola, 1994; Possehl, 1996; Wright, 2010). Among other aspects, engraved seals provide compelling evidence regarding Indus administrative practices, technological methods, artistic expressions, and belief systems (Ameri and Jamison, 2022; Kenoyer, 2000). More broadly, seals played a role in representing and conveying culturally significant information necessary for the cohesion of the Indus civilization. Despite the absence of a deciphered writing system, our comprehension of the script and various aspects of Indus culture has advanced due to meticulous examinations of seals and relevant inscribed artifacts (Kenoyer, 1998, 2000, 2006, 2009, 2020; Parpola, 1994, 1997, 2005). Investigations conducted at Harappa (Kenoyer, 2006; Kenoyer and Meadow, 2010) have uncovered temporal changes in the styles and engravings of seal carvings, implying that their production and application were not fixed throughout the Integration Era. Engraved seals are often referred to as stamp seals (Green, 2020; Kenoyer, 1998; Mackay, 1931; Mackay, 1938; Possehl, 1996) because some were employed to leave impressions on clay and potentially other pliable materials, as evidenced by discoveries of both fired terracotta and unfired clay seals and impressions across various sites, including Lothal and Mohenjodaro (Marshall, 1931; Rao, 1985). Stamp seals can be categorized into two main groups based on their shape and manufacturing methods. A well-known type is the rectangular or bar seal (Kenoyer, 1998;

Parpola, 1994; Possehl, 1996), which typically features only an inscription with letters that are carved deeply and broadly. Excavations at Harappa, conducted with controlled stratigraphy, indicate that these seals emerged and became prominent in the last phase of the Integration Era (Kenoyer, 2006, 2020; Kenoyer and Meadow, 2010). Although rectangular seals are significant for understanding the development of Indus seal craftsmanship and the historical applications of the Indus script, they are not included in this analysis. The second type known as square stamp seals is characterized by its shape and includes a carved, perforated knob believed to have been used for hanging (Kenoyer, 1998). Typically, these seals bear one or two lines of writing alongside an iconographic design, often depicting an animal motif; however, some square stamp seals may display solely inscriptions or iconographic elements. Generally, these designs are meticulously engraved on the front of the seal, with considerable attention paid prior to the engraving process. The back side, usually unadorned or plain, has the carved and perforated knob, commonly referred to as a boss. This distinctive feature of Indus square stamp seals likely enabled the owner to attach it to a cord or use some other tying method (Kenoyer, 1998). The edges on the sides, top, and bottom of square stamp seals are infrequently modified and often exhibit a rough texture, although there are notable examples of inscriptions and various engraved elements, including those that are hollow or contain sockets, whose purposes remain uncertain. The imagery found on square stamp seals is varied and is marked by a multitude of animal, geometric, abstract, anthropomorphic, zoomorphic, and ideological designs. To date, over 3,500 seals have been discovered. The most prevalent Indus seal is square in shape, showcasing a collection of symbols at the top, an animal depicted in the center, and one or more symbols beneath. The animals illustrated on the seals include rhinoceroses, elephants, unicorns, and bulls. On the backside, there is a projection, likely intended to assist in pressing the seal into different materials such as clay. This projection also has an opening for a thread, presumably allowing the seal to be worn or carried as a necklace.

Epigraphy of Indus Seals

The Indus script or symbols have posed a challenge for researchers, as despite numerous attempts and techniques to interpret it, no successful outcomes have been achieved. In the absence of a Rosetta stone or a bilingual inscription, the Indus script remains indecipherable, hindering a comprehensive understanding of the language and identity of the people from that period. The Aryan Invasion or Migration theory has led some scholars to propose that the script could belong to Dravidian-speaking communities, indicating that the language of the script may have Dravidian origins. Asko Parpola has dedicated his career to deciphering the script based on this concept (Parpola, 2010). He has highlighted the significant similarities between the iconography of Proto-Elamite seals from the early third millennium BC and the motifs that later emerged on the seals and pottery of the Harappan civilization (Parpola, 1981). The widespread presence of Proto-Elamite artifacts and tablets indicates an overland trade route, although it does not eliminate the possibility of a maritime route as well. In this regard, it is worth mentioning that the closest parallels to a notable foreign stamp seal found at Mohenjo-Daro, which depicts two horned animals with their heads turned backward, are several cylinder seals and one lion-shaped stamp seal from the Diyala area, dating back to the early third millennium BC. Many scholars who specialize in Sanskrit firmly believe that the language of the Indus script is Vedic Sanskrit, confidently asserting that they have successfully deciphered it. However, these assertions have been thoroughly challenged. Steve Farmer and his colleagues argue that the symbols on the seals do not represent spoken language; rather, they function as non-verbal icons that play important roles in religious, political, and social contexts or act as formal memory aids (Farmer, Sproat, & Witzel, 2004). Attempts to trace the origins or connections of the script to other deciphered scripts from contemporary cultures have also been unsuccessful, as no comparable scripts have yet been identified. There exists a variety of seals, ranging from square shapes to button varieties (Fig.2). Some seals were not originally designed for sealing, as their inscriptions do not appear reversed; nevertheless, they may have been used to denote personal identity and status. Certain scholars suggest that these, particularly button seals, could have served as passports or

identification for royal officials. The symbols located at the top of the seal are believed to represent the writing system associated with the Indus Valley language (Fitzsimons, 1970). These symbols have appeared on various objects, including pots and what is presumed to be a notice board. The writing direction alternated, beginning from right to left for the first line, then switching to left to right for the next line, and continuing in this manner. Approximately 400 distinct symbols have been recognized, yet the writing system remains undeciphered. The markings on the seals are thought to be connected to trade activities, possibly designating traders, producers, or production sites. The interpretations of phonetic and semantic values of numerous Indus symbols also vary greatly. Mahadevan identified the predominant symbol of the ISC as a Dravidian "pronominal masculine singular suffix," which can occasionally convey the ideographic notion of a "sacrificial vessel containing food offerings" (Mahadevan, 1978). Wells interpreted this symbol as a terminal marker possibly indicating a verbal ending with the phonetic value "-ay," which translates to "cow" and "mother" in proto-Dravidian (Wells, 2015). In evaluating various attempts at decipherment, Possehl observed that "a degree of impatience among certain researchers" has led them to quickly move "from an initial hypothesis to multiple conclusions and interpretations" (Possehl, 2002). This highlights the function of the inscribed seals, sealings, and tablets as "formalized data carriers" (a term introduced by Nissen et al to describe the proto-cuneiform administrative tablets of ancient Mesopotamia), employing both linguistic and non-linguistic (document-specific) structures to convey their meanings (Nissen, 2011). It is thought that each complete seal, tablet, and sealing encompassed a detailed message engraved upon it, irrespective of any accompanying imagery. These engravings were consistent and carefully executed, indicating they were neither arbitrary nor ornamental. They probably conveyed significant messages to the people of the Indus Valley Civilization. However, any inscriptions found on damaged or broken artifacts are not included in this set of complete messages. The seals featured engravings at the top, primarily consisting of symbols depicting arrows, crops, and tools. In Figures 2 and 3, the upper right corners of the seals are embellished with signs and symbols as shown in the accompanying image. Nevertheless, the Indus script must express some type of spoken language. The symbols cannot be regarded as non-linguistic, as they often appear in notable sequences on seals. The engravings on the seals and other objects likely represented a spoken tongue. The arrangement and design of the images on the Indus seals, together with the writing symbols, are unique. The visuals are significantly more aesthetically appealing than the text.



Figure 2: Front and back of seal with two-horned bull and inscription, Indus Valley Civilization, c. 2000 B.C.E., steatite, 1 1/4 x 1 1/4 inches
(Source: Cleveland Museum of Art)



Figure 3: Stamp seal (left) and modern impression (right): unicorn, c. 2600–1900 B.C.E., burnt steatite, 1 1/2 x 1 1/2 x 3/8 inches
(Source: The Metropolitan Museum of Art)

Iconography of Indus Seals

Efforts have been made to interpret certain symbols, such as fish, arrows, and terminal marks. Parpola proposed that the fish symbol denotes “min” (which means fish), signifying the ‘star’ or ‘planet’ in Dravidian languages. The jar symbol is often found within the Indus script. BB Lal contends that the jar symbol resembles various jars discovered at Kalibangan, while Parpola argues that it depicts the frontal view of a bull or cow. Symbols of arrows or lances are generally located at the end and are believed to represent a suffix. The primary function of the seals was to label or secure items that were prepared for either export or local distribution. It is proposed that certain seals may have been utilized to impress symbols of authority (Duff, 2011). A notable seal unearthed in the Indus region is the Lord of the Beast. The figure's forward stance and equilibrium evoke a sense of reverence, akin to its remarkably large and deeply arched horned headdress (Fig. 4). The figure showcases an elongated visage, characterized by a prominent nose, deep-set eyes, and a closed mouth. It is embellished with what appears to be several necklaces draping over the chest, along with bangles and bracelets adorning the arms. There seems to be a belt around the waist with a tassel, but it is unclear if anything is worn beneath the waist. The legs are fully extended, and even with the knees bent, they reach the full length of the seat. The right arm hangs down toward the knee without making contact. This figure has been described in various ways as male, female, having multiple heads, and in many other interpretations. It is commonly known as the Pashupati seal, named after a title of the Hindu deity Shiva, meaning “lord of animals.” The apparent dominance of the figure over wild creatures is thought to be represented by the species depicted — specifically, the buffalo, rhinoceros, elephant, and tiger — showcased on the seal. The illustration on the seal reflects an ancient Vedic aspect (known as Rudra) of the Hindu god Shiva. The animals represented on the seal indicate that the figure possesses authority over them, suggesting that Rudra's title – Pashupati, the lord of beasts – is also applicable to Shiva. The figure is depicted in a yoga pose (notably with heels aligned) and embodies an aspect of Shiva known as Yogisvara – the supreme yogi (a practitioner of yoga). The figure features three faces rather than just one, and Shiva is sometimes portrayed in sacred art with three or more faces. Yoga was likely acknowledged and practiced for many centuries before being systematized into a set of recommended physical and mental practices in the second century B.C.E., yet it remains uncertain if the figure on the seal illustrates an early representation of yoga practice. It is ambiguous whether the shape has side faces, as the pointed projections on both sides of the head imply facial characteristics. Furthermore, representations of Shiva with three or more faces have thus far only been linked with the distinctly later medieval era.



Figure 4: Lord of the Beast Indus Seal, 2500–2400 B.C.E., steatite, Mohenjodaro, Indus Valley Civilization

(Source: <https://www.worldhistory.org/image/361/shiva-pashupati/>)

The depicted figure on the seal indicates a form of principled moderation and self-discipline that evokes respect. Moreover, the carefully crafted seal, which emphasizes the central figure, the throne-like base, the forward-facing stance, and the arrangement of powerful animals, all contribute to the seal's symbolic and esteemed significance for its owner. Although the writing on the seal remains unreadable, limiting our understanding of its role and importance, the visual elements provide valuable insights into the spiritual beliefs of the people from the Indus Valley Civilization. The iconography likely indicated the source of the goods, while the written text would detail what was included and its price. It is probable that the quantity was also mentioned. Some seals appear to show simple numeric symbols, yet we currently do not grasp what these numerical signs represent (Kenoyer, 2016). Certain seals seem to feature only written symbols without accompanying imagery, hinting at different products or suppliers. In contrast, for commonly traded items like cotton and timber, it was unnecessary to denote their origin; instead, the product name and quantity sufficed. Signs such as those below could have had general applications. Some seals might have been used for administrative purposes to create multiple copies. Given that the lines in Indus inscriptions are semantically complete phrases, and these 12 symbols predominantly appear at the conclusion of most phrases regardless of the length, they are classified as "phrase-final" symbols. They are further divided into Phrase-final-type 1 and Phrase-final-type 2 signs (Fig.5).

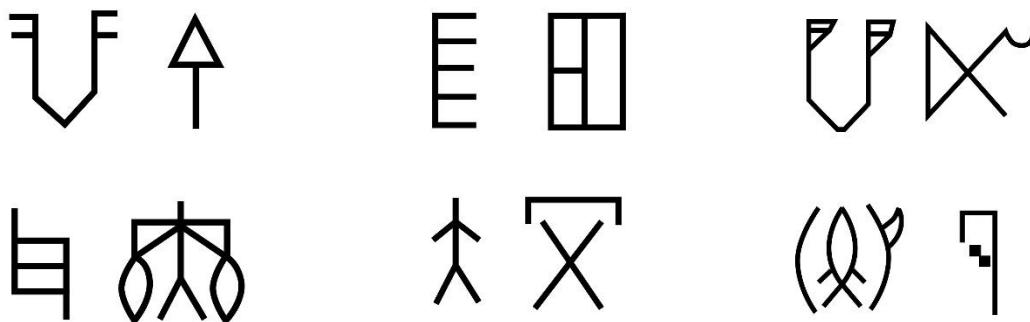


Figure 5: Drawing of Phrase final signs, Type 1 and Type 2

(Source: https://www.researchgate.net/figure/Infographic-descriptions-of-the-Phrase-final-and-Pre-phrase-final-sign-classes-of-the_fig4_376648287)

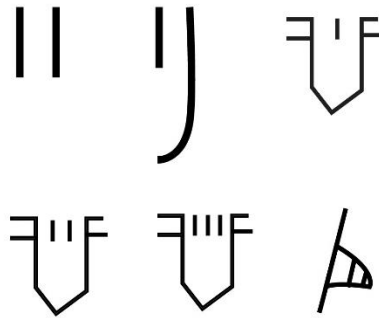


Figure 6: Connecting Morpheme Signs

(Source: https://www.researchgate.net/figure/Infographic-descriptions-of-the-Phrase-final-and-Pre-phrase-final-sign-classes-of-the_fig4_376648287)

Connective morphemes could play a crucial role in the structural framework of Indus inscriptions (Fig 6). In the context of natural languages, the term “connective” is generally understood to refer to “conjunctions, prepositions, adverbs, and other particles that help to encode the semantic relationships between sentences, or more specifically, between semantic entities, some of which may symbolize the meanings of sentences” (Blühdorn & Reichmann, 2010). A significant indication of the role of these stroke signs is that numerous Indus pottery vessels and potsherds carry such markings in their body and rim inscriptions, which Kenoyer suggests “may be linked to accounting practices, such as tracking the quantity of oil or grain stored in the jar before it is sealed” (Kenoyer, 2006). Certain phytomorphic characters, which feature or are illustrated with plant-like attributes, show a marked tendency to follow various types of stroke markings (Fig 7). Furthermore, when accompanied by stroke signs, they typically occur at the conclusion of inscription lines. These phytomorphic symbols are categorized together based on their functional resemblance, and considering the strong visual similarity of their graphemes to bundles of grains or crops, they are designated as crop-signs (Fig 8). However, determining whether these signs have a semantic connection to grains or crops is not our primary concern here.

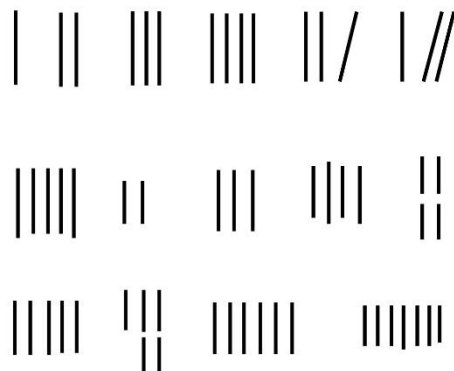


Figure 7: Numerical Signs

(Source: https://www.researchgate.net/figure/Infographic-descriptions-of-the-Phrase-final-and-Pre-phrase-final-sign-classes-of-the_fig4_376648287)

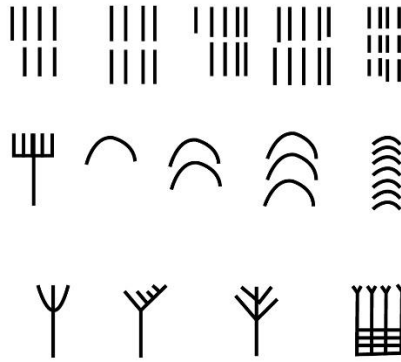


Figure 8: Crop-like Signs

(Source: https://www.researchgate.net/figure/Infographic-descriptions-of-the-Phrase-final-and-Pre-phrase-final-sign-classes-of-the_fig4_376648287)

Conclusion

In conclusion, this research on the analysis of epigraphy and iconography on Indus seals marks a significant stride in our pursuit to unravel the obscurities of the ancient Indus Valley Civilization. The meticulous examination of inscriptions and symbols on these seals has provided valuable insights into the linguistic, cultural, and societal dimensions of this enigmatic civilization. The synergy between linguistic analysis and the interpretation of visual symbols has offered a more comprehensive understanding of the artifacts, contributing to the ongoing decipherment efforts and enriching our appreciation of the cultural context in which these seals were created. The historical insights gained from the social, economic, and ritualistic implications of the inscriptions provide a nuanced understanding of the daily lives and practices of the Indus Valley people. The endeavor to decipher the script and interpret the symbolism of Indus seals is an ongoing journey, and this research has laid a robust foundation for continued exploration and discovery in the captivating realm of ancient civilizations.

References

- Fairservis, W. A. (1983). The script of the Indus Valley civilization. *Scientific American*, 248(3), 58-67.
- Parpola, A. (1981). Recent development in the study of the Indus script. *Sind Through the Centuries (Karachi)*.
- Parpola, A. (2010). *A Dravidian solution to the Indus script problem*. Central Institute of Classical Tamil.
- Farmer, S., Sproat, R., & Witzel, M. (2004). The collapse of the Indus-script thesis: The myth of a literate Harappan civilization. *Electronic journal of Vedic studies*, 11(2), 19-57.
- Fitzsimons, M. A. (1970). The Indus Valley Civilization. *History Teacher*, 9-22.
- Mahadevan, I. (1978). Recent advances in the study of the Indus script. *Puratattva*, 9, 34-42.
- Wells, B. K. (2015). *The archaeology and epigraphy of Indus writing*. Archaeopress Publishing Ltd.
- Possehl, G. L. (2002). *The Indus civilization: a contemporary perspective*. Rowman Altamira.
- Nissen HJ (2011) The early history of the ancient Near East, 9000-2000 BC. (trans: Lutzeier E, Northcott K J). University of Chicago Press, Chicago, London
- Duff, P. (2011). An Indus Seal: Spirit of a Civilization.
- Kenoyer, J. M. (2016). Iconography of the Indus unicorn: Origins and legacy. In *Connections and Complexity* (pp. 107-126). Routledge.
- Priyanka, B. (2003). New iconographic evidence for the religious nature of indus seals and inscriptions. *East and West*, 53(1/4), 31-66.
- Kenoyer, J. M. (2006). Cultures and societies of the Indus tradition. *Historical Roots in the Making of 'the Aryan*, 21-49.