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Intaglio Gems: Tracing Cultural Identity in Ancient India through Trade

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Abstract

Trade in Ancient India has long-standing roots with the art of intaglio. Once used as a commercial instrument, it eventually evolved into one of the most exclusive commodities of Indo-Foreign trade as intaglio art on gems. Cultural and religious depictions on intaglio gems developed as a social symbol nourishing intricate cross-cultural artistry. This paper traces the nature of intaglio seals and intaglio gems as essential commodities and faces of indigenous cultural identity in Ancient India from c. 2000 BCE to 900 CE. The scope of the paper ranges from Mesopotamia to the Indus Valley Civilisation, Northwestern India and Southeast Asia. The study shall rely on material cultural sources from these regions tracing technical, cultural, and artistic evolution. Power and religious influence on intaglio gem designs, its socio-economic impact in India, and the subsequent influence of India in other parts of the world such as Southeast Asia shall be researched through secondary sources recording material excavations of Indian deities on intaglio gems.

The art of intaglio and engraving is one of the earliest sustained artistic forms, which has evolved rapidly across regions and time. This paper reflects the heritage of intaglio gems in India as symbols of commercial prowess across the ancient world, with an aim to highlight an extensive and delicate art form and trade commodity as an instrument of religious and cultural symmetry.

***Keywords**: intaglio, engraved gemstones, semi-precious stones, commodity trade, Indo-Roman trade, gemmology, Arikamedu, Pattanam, gemstones, carnelian, sard, amethyst, Pliny, naturalis historia, Indo-Southeast Asia Trade, signet rings*

Introduction

The Italian terminology of "intaglio" prefaces a rich history of engraved works in ancient Rome, referring to the artistry of cutting into objects, such as gemstones and signet rings donned by ancient authorities. Despite significant research amidst intaglio art, particularly on gemstones is conducted in the European context, tracing its evolution from the Roman Republic to modern jewellery ateliers, exploration of India's role in development of intaglio gemstones across the world requires further study.

Intaglio gemstones depict an amalgamation of the technical, economic, artistic, religious and social dynamics through evolution of trade and cross-cultural relations. The earliest forms of artistic cutting of semi-precious stones, gemstones and metals followed a variety of processes creating two forms of works, intaglio and cameo. Intaglio is created by grinding away the material beneath the surface of the gemstone, creating an inverse image inside the stone. Cameo is sculpted above the surface of the gem, utilizing multiple layers (Gray 1983).

Origins

The earliest origins of engraved works arise from the term "glyptos" or "glyptics". Glyptics are the earliest forms of pictorial language which later turned into scripts. The earliest glyphs emerged from cave etchings and later turned into seals and amulets with the purpose of protection and prosperity. Techniques of carving on clay seals and semi-precious stones emerged with moulding or smoothening the surface with rocks. The

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medium was polished before carving. So, glyptics are hand-drawn at varied depths. Then, they were heated to retain the shape and luster in case of semi-precious stones. The earliest forms of glyptics are the famous Indus Valley seals and Mesopotamian seals. Similarities are observed among glyptics from the Mesopotamian and Indus civilization such as use of bulls, tigers and mythical figures. A case study in this regard is the depiction of Enkidu fighting a bull on a cylindrical Mesopotamian Seal from the Epic of Gilgamesh and a similar iconography observed on seal 1357 excavated from Mohenjo-daro in the Indus Valley (Figure 1-2). Established trade connections contributed to an exchange of ideas between civilizations as well as observed through such similarities in earliest specimens of glyptics discovered at Mesopotamia and the Indus Valley.



Figure 1. Enkidu Lion. *Source:*User:Navamorales via Wikimedia Commons (Open Source)



Figure 2. Indus Bull-Man Fighting Beast. *Source:*User:Nomu420 via Wikimedia Commons (CC BY-SA 3.0)

While glyptics served as the earliest techniques of hand-carving, etchings emerged as a method of engraving through chemical processes. Semi-precious gemstones like chalcedony, hematite, jasper and lapis lazuli were traded between the civilizations usually in the form of beads. Evidence of the earliest forms of etching and engraving are observed in Harappan carnelian ornamentation which draws similarities from the objects excavated at Mesopotamia. The studies of that discovery also lay the techniques of engraving. The opacity of the line extends to varying depths below the surface in different specimens. They are produced by calcination of the surface. This was followed by coating all parts except the one to be engraved with iron oxide (De Waele and Haerinck 2006). The brush-work and the depth of opacity correlate with the observations made on the Indian beads found in Ur, Mesopotamia (Figure 3).



Figure 3. Etched Carnelian Beads. *Source:*User:Patliputra via Wikimedia Commons (Open Source)

The glyptic seals were important instruments of trade between merchants across civilizations whereas the etched beads were ornamental for the elite, considering the artistry required to create a piece. The wealthy and well-positioned people of the city would donne these etched carnelian beads. Since the earliest trading commodities between Mesopotamia and India brought wealth and prosperity, people started associating the presence of seals as spiritually important. The earliest mines for precious stones in India occurred around 2000 BCE in the Indus Valley. The Deccan region and Harappan cities of Dholavira, Chanu-Daro and Lothal served as sources and exporters of carnelian among other semi-precious stones (De Waele and Haerinck 2006). The discovery of semi-precious stones created an instrument of social symbol, wealth and power, pushing artistry

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on these objects as meant for the elite. Eventually, this expanded to gemstones. Gemstones in this context are defined as specifically solid, natural, inorganically occurring substances which are valued for their beauty. It is inferred that gemstones by default were social symbols of wealth, elitism and power, largely owned by controllers of the civilization.

Indo-Roman Trade

Rome flourished between the 4th Century BCE to the 5th Century AD. Amidst power and prosperity, trade became a major denominator of the social and economic life of the Roman Republic and the Roman Empire. The use of status symbols such as gemstones, especially engraved with symbology representing authority and divinity gained prominence. With the onset of the Indo-Roman Trade, these engravings into the trade and commercial dealings of the civilization led to it becoming one of the biggest commodities of the route. India was particularly known for softer, semi-precious stones such as agate, jasper, and carnelian. The significance of Indian stones in Roman society is observed by Pliny's quotes in Book 37 of Naturalis Historia, giving a detailed analysis of the import of semi-precious stones to Rome between 2nd Century BCE and 1st Century AD. These imported stones were then engraved in intaglio by Roman artisans to be used by elites and rulers as signet rings or other forms of ornamentation.

Pliny's Naturalis Historia

A renowned Roman scholar, Pliny's work, Naturalis Historia serves as a primary source of these trade relations, specifically including trade with India and the import of gemstones among other objects, especially book 37. Pliny laments the loss of Roman wealth to trade imports from India condemning the materialism of the Roman elite towards Indian semi-precious stones. The importance of these gemstones imported from India created into art in Rome are observed in the second verse of the chapter. Pliny mentions an agate with the Nine Muses. Various sections and verses are then dedicated to the quality of particular gemstones such as Amber or Sacal (37-47), the heaviest import of which weighed 13 pounds. Import of stones such as Adamas (55), Pearls (62), the exclusivity of beryls of India (76) and its usage for local ornamentation; Sardonyx (86) and the narrative of Romans enabling Indians to appreciate the "common gemstone", Onyx (90), Carbunculi (92), Sard (102), Smaragdus (115), Amethyst (121-125), Agate (139) among others are mentioned. Commercial tactics such as counterfeiting of stones by India (79) and difficulties in engraving certain stones (131) such as Pearl, Onyx, Indian Amethyst and Star Stone. However, Pliny's praise for the quality of Indian gemstones and thus preference by Romans is also observed in verse 23 and verse 200 and 201: "The rivers that produce the gems are Acesinus and the Ganges, and of all the lands that produce them, India is the most prolific." (Pliny 37:200)

Beyond Pliny The Elder's accounts, The Periplus of the Erythraean Sea too mentions export of agate from Bharuch-Barygaza (De Waele and Haerinck 2006). Aligning with Pliny's analysis, the use of gemstones was largely attributed to the elites with signet rings becoming important symbols of state authority. Intaglio on signet became the most common remnant of the Roman Republic and the Roman Empire with each senator and ruler having distinct symbology. These ideas later evolved towards northern Europe as well with the establishment of coats of arms and signet rings by monarchies. In modern-understanding, the intaglio signet gemstone style is still attributed to the Mediterranean region. Archaeological evidence supporting these literary sources emerged with the discovery of more than 30 intaglio gemstones at a Roman Bath near Hadrian Wall, England. These intaglio signet rings made of amethyst, jasper, carnelian depicted portraiture and symbology of various Roman deities. Discovered in the drainage, they are believed to have been lost by their elite owners who visited these baths after the Roman conquest of England dating from 1st Century AD to 4th Century AD.

Land Route

The trade routes to Rome emerged through both land and sea routes. The land routes followed north-west from the north-western frontier province to Central Asia, Persia, Asia Minor and eventually to Rome through the Red Sea. The cultural influence of Mediterranean culture is

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observed through seals, in cameo and intaglio discovered in the North-Western Frontier Province (Figure 4). The pieces found include carnelian intaglio with a motif of fighting warriors, sard with an elephant, jacinth, sardoine, black garnet and multiple other pieces in sard and carnelian depicting deities such as Athena (Rapson 1922).

Further inwards in Persia, the use of carnelian by Sassanian rulers to depict authority is also observed dated to around 200-400 CE (Figure 5). As the centrepoint of the trade route, materials from India and artistic styles from Rome found their confluence in this central region. The iconography classically represents a Persian ruler and a follower of Zoroastrianism carved in intaglio.



Figure 4. Intaglio Gems from the Northwest of India. *Source:* Cambridge History of India via Wikimedia Commons



Figure 5. Engraved Seal of a Sassanian ruler. 5.27 x 4.07 x 0.86 cm *Source:* Networks of the Past Gallery, CSMVS

Sea Route

The Indo-Roman trade primarily relied on the maritime trade route across ports and trade centres on the western and eastern coast of India including Barygaza, Sopara, Paithan, Pattanam, Tamralipta and Arikamedu. The maritime trade route led to cultural assimilation of Mediterranean culture in peninsular India as well. A key archaeological evidence supporting Pliny's literary account and Rome's exposure to maritime trade is the discovery of a carnelian bead with an intaglio of a three-masted sailing ship in the Mediterranean. Found on the island of Crete, home to the Minoans, the artistry not only depicts the technological advancement of the era but also provides a lens into naval technology. Ships like these brought carnelian and other high-value goods from the East. True to Greek superstitions, a sailor may have worn beads such as this to ward off evil (Figure 6).



Figure 6. Bead showing a three-masted sailing ship. 2.5 x 2 cm *Source:* Networks of the Past Gallery, CSMVS



Figure 7. Garnet Intaglio Romulus, Remus and the She-Wolf. 0.7x1.1x.03cm. *Source:* Met Museum (open source)

Among ancient ports catering to the Indo-Roman trade, a prominent commercial centre was the port of Arikamedu on the eastern coast of India which became a cultural and economic meeting point between the east and west. Excavations showcase a blooming bead-making business on the ancient port. One of the earliest excavations involved discovery of an intaglio cornelian with a Roman figure identified to be Emperor Augustus

(Pattabiramin 1945). Discoveries of quartz and garnet beads, similar to ones imported by Rome. The garnets originated from the Garibpet deposit, 640 kilometres inland towards the Deccan (Schmetzer et al. 2017). Similar garnets with intaglio were discovered at Rome, with a depiction of Romulus, Remus and the She-Wolf dating prior to 3rd Century CE (Figure 7) and ancient Byzantium, showing early signs of Coptic art with an etched cross dated between 6th and 8th Century CE. (Gilg et al. 2018). Two intaglio gemstones were discovered in Arikamedu made by Roman artisans. One depicted Emperor Augustus while the other one was in the process of cutting, an incomplete work of art.

Pattanam is an ancient port on the western coast of India believed to have been the original port of Muziris. Discoveries at Pattanam include three intaglio gemstones, two works on carnelian depict Tyche or Fortuna, the Roman Goddess of fortune and a lion, and another depicts a sphinx intaglio on agate, believed to be donned by Emperor Augustus. Various other in-progress and completed intaglio and cameo gemstones across various stages of process from raw pieces of carnelian to half-completed pieces of agate were also discovered during the excavation. (Suris 2025) The development of the artisan guild and the prosperity garnered by Arikamedu and Pattanam made them important commercial sites leading to migrations from Rome. It is possible that artistic styles may be derived by Indian artisans from Roman traders. Possibilities of raw gemstones exported from India and carved in Rome are probable, however the discovery of the workshop in India explores the notion of either Indian or migrated Roman artisans and traders carrying out the carvings.

South-East Asia and India

The prosperity of maritime ports and development of strong dynasties in south India led to India trading in the east as well. The south Indian kingdoms of Cholas and Pallavas developed strong relations of political, cultural and commercial connections with the kingdoms of South East Asia. Their expansion to Siam, Champa, Chenla and Suvarnabhumi led to a transmigration of ideas and iconography, especially Hindu and Buddhist ideas. While intaglio art was largely concentrated towards Sino-Roman relations, with India as a middle-point through a maritime route, the artistry and ideas from India too found itself in South-East Asia. It is suggested that the carnelian and agate found in Thailand may have its origins from the Deccan deposits and artistry may be inspired by those from the Indian dynasties settled in south-east Asia (Hoppal 2021). Two seal-stamps with intaglio were discovered in Chenla and Siam dating between 5th-10th century BCE as part of the Khmer empire. The iconography of these seals is reflective of Indian belief systems and use of morphic symbology (Middleton 1997).

The first seal represents a makara, a mythical creature, the stead of water deities like Ganga and Varuna. Depictions of makara gained prominence in south east Asian temple architecture as observed on various reliefs in Cambodia, Thailand and Indonesia including the Borubodur Temple making it an important symbol. This specimen as a unique combination of features includes both the 'elephant-fish' and crocodile types of makara with reliefs showing a number of both Indian and Khmer features regarding depiction of the figure. The second piece is an onyx sard ring with a portrait intaglio of an elephant-headed creature mounted on a headless horse, similar to depictions of ganas (half-elephant, half-dwarf) or a derived depiction of Ganesha. Largely believed to be a gana, this depiction includes two tusks, two tails and a horse, a rare design believed to be indigenous to the region caused by cultural synthesis. Similar depictions without the attributes are observed in temples of Thailand and Cambodia such as Angkor Wat, Phum Prasat and Prasat Mueng Khaek (Middleton 1997). These seals were used for ritualistic purposes by common people in worship centres or rulers of the Khmer kingdom as symbol of divine authority as signet rings. An idea seemingly derived by trade with Rome and India where similar ideas existed. The rise of Hindu iconography with Roman stylistic liberties in South-east Asian kingdoms bring forth the transmission of ideas across the seas.

Conclusion

This paper outlines an introductory understanding to India's role in the legacy of a commodity that now inspires and lines commercial boutiques and ateliers maintaining the social dynamic of prestige, power and prosperity. The ancient art of intaglio which gained prominence in Rome and eventually medieval and modern Europe find its roots in ancient civilizations from seal etchings. The study also validates the cultural and artistic correlation between Mesopotamian and Indus Valley civilizations established through trade. It further highlights the importance of raw materials and ports of India as instrumental for Indo-Roman trade leading to commodities that influenced the social life of the Roman Empire and the early stages of the Roman Republic. A review of the analysis of discovered beads and stones across ancient centres and ports traces the commodities journey across the ancient world. Trading of commodities across land and sea routes led to new avenues of conquest between empires, leading to trade and spread of Indian cultural systems to Siam (Thailand), Champa (Vietnam), Chenla (Cambodia), and Suvarnabhumi (Indonesia). The eventual spread of symbols with religious linkages in Indian culture, towards the west and the east depict exchange of ideas between India and the ancient world.

While exploring a previously less-explored subject in material study, coherence and conclusions are drawn by comparative analysis from existing research in seemingly varied research fields. Challenges in the study involved access to primary sources and fragmented geographical research leading to inferences over concrete evidence gathered by field study. There is ample scope for further research in this area promising comparative and scientific studies. Moving forward, the author intends to build on this research and results and welcomes partnerships and expertise in material science, gemmology and interpretation of primary artefacts from India, Rome and South-East Asia.

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