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Eras of Numismatics
Domains of Monetary History

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Eras of Numismatics
Domains of Monetary History



Jñāna-Pravāha Centre for Cultural Studies & Research, Varanasi

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Front Cover Top

Gandhara Janapada Bent Bar Type Silver Punch-marked coin

Weight 1.34 gm., Diameter 15 mm., Thickness 2 mm.

c. 600 to 300 BCE.

Jnana-Pravaha Museum, Varanasi

Front Cover Bottom

Un-inscribed Coin, Bhadravati City-State

Alloy, Weight 6.21gm., Diameter 25.88x22.61mm., Thickness 2.30 mm.

c. 2nd Century BCE. to c. 3rd Century CE.

Jnana-Pravaha Museum, Varanasi

Back Cover

Western Type Silver Coin of Kumaragupta I

Weight 2.16 gm., Diameter 15.40 mm., Thickness 1.59 mm.

c. 415 to 450/455 CE.

Jnana-Pravaha Museum, Varanasi

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Contents

Editor's Preamble

1. *Numismatics and India's Monetary History: Pathways, Pitfalls and Possibilities* John S. Deyell 10
2. *Shifting Paradigms in Indian Numismatics: Retrospect and Prospect* Amit Kumar Upadhyay 27
3. *Kushan Copper Coinage: Gaining and Losing Control* Joe Cribb 37
4. *Identification of the Tree-In-Railing on Audumbara Coins* Devendra Handa 55
5. *Hamilton-Rupnarayan Hoard of Punch-marked and Early Un-inscribed Cast Copper Coins* S. Ghosh, S. Mitra & S.B. Majumdar 61
6. *Toramana to Avantivarman: Evolution of the Medieval Coinage of Kashmir* Gul Rahim Khan 108
7. *Coin Hoards and Monetary History: A Case Study of the Bengal Sultanate Hoards in Medieval Eastern India* Sutapa Sinha 135
8. *The Majalis-I Jahangiri (1608–1611): New Reflections on Jahangir's Coins* Ikramul Haque 148
9. *The History of Calcutta Mint and its Contributions since 1757* Rehan Ahamad 157
10. *Roman-Inspired Portraits on Coins and Clay Bullae from Odisha* Sreemanti Laha 165
11. *Money Seen and Money Unseen: Revisiting the Case of Alternative Money* Soumya Ghosh 170
12. *Salt as Money* Bullo Opi 179
13. *Enhancing Public Engagement through Innovative Coin Displays: A Comparative Study of Indian Museums* D.B. Singh & Jawa Madhur 188



Padmashree Bimla Devi Poddar

(09 September 1935 - 14 May 2025)

The Founder of Jnana Pravaha Research Institute



प्रसादाद्विश्वनाथस्य काश्यां भागीरथीतटे ।
वृद्धिर्ज्ञानप्रवाहे स्यात् संस्कृतेश्वानुशीलने ॥

Editor's Preamble

Money evolves through a process of intense economic and social interaction in a society. Money, metallic or otherwise, evolved in every society to simplify the problems that arose out of the complexities of barter transactions and non-conformity of the coincidence of needs (Menger 1892; Feldman 1973; Jones 1976). It is a paradox that metallic money is now one of the prime causes of complexities in society; the economy, which has become sophisticated and advanced, has reached a complex level where money acts as a catalyst, intensifying intra- and inter-transactional activities. This special issue focuses on themes pertaining to numismatics as well as monetary history; we have tried to traverse the domain carefully by exploring various themes pertaining to both the areas and in the interstitial space. Numismatics is a major tool that deals with primary archaeological data and the identification, interpretation, and analysis of specimens. This can cover a single coin from an excavation or exploration, a small group of coins, or even hoards. Numismatists through their study empower a historian to further interpret, hypothesise, infer and in some cases also conclude certain facts and events of history. There is a major difference between numismatics and related analytical research and researches on monetary history. Numismatics deals with micro-research whereas monetary history deals with broader themes and looks at the macro perspective. Numismatics involves specimens while economic or monetary historians look at society and the economy and try to trace the evolution, precursors, and the aftermath of the use of money. While one tries to trace money and its movements, it is equally important to trace human engagement and the close entente between the issuing authority/the creators of metal money or alternative currencies, merchants, money-changers, guilds, and money-lenders.

John S. Deyell's previous works (Deyell 1990; 2022) as well as his present article in this volume captures the evolutionary graph of researches on monetary history. It is imperative at this stage to prepare guidelines for future researchers in this field. One has to look at micro and macro-level issues involved in the process of monetization in a selected region, sub-region, or at the sub-continental level. This would involve different types of money and their circulation pattern, the issues (coins issued) and the non-issues (alternate moneys like spices, cowrie shells and so on), metals used for minting and their availability, flows of precious metal, and also trade in metals besides metallurgy. One needs to attempt a comprehensive mapping of numismatic specimens and note the limitations before forming any hypothesis. At the same time, highlighting the non-availability of metals also is equally significant. Mapping of minting zones in chronological order can help one understand the process/processes in this context. This exercise would also require a study of the trade routes, exchange networks, and mapping of corridors. At the same time one has to take into consideration ports (both coastal and estuarine) and coastal networks, overland routes, and riverine navigation networks as well as other aspects of monetary history and related historical questions to which the former is inseparably linked. Narrow focuses and compartmentalization often prevent appreciation of elaborate connections. In the case of mapping the monetary history of a locality, sub-region, region, or even a sub-continent, it is imperative to trace connections and dependencies developing among different sub-regions or regions.

A discussion on monetary history by default would commence with the introduction of the process through which metal money evolved in a given society. In the context of India, there are debates on the beginning of metal money: two opinions emerge in this context as strong contenders. The first considers the sixth–fifth century BCE as the period when the use of metallic currency began, and the prefer a later date of c. fourth century BCE as the origin of metal money (Cribb 2005, 58–72). If the transition from hunter-gatherer lifestyle to an agricultural and settled life is termed the Neolithic revolution, the origin or the beginning of a monetized society at large may also be termed a *monetary revolution*. This single step brought about a major socio-economic change at multiple

levels. In this respect one should be very clear that a monetized society or economy evolved through a process in which there would have been several stages and multiple false starts.

Here, we will not go into the details of the debate regarding the origin of metallic currency in the subcontinent; however, what needs to be considered, for a better understanding of monetary history, is why society opted to use metallic money in this early historic phase. Was it only the problems of barter economy which gave way to a monetized economy, or were there other reasons? Of course, it would be over simplistic to attribute this change to the barter system and its inherent problems alone. There were several issues that were instrumental in this context, for example, problems in uniform assessment of wealth, logistical issues related to storing taxes in kind, standard for fixation or assessment of taxes for non-producers of agricultural products, and so on. Once a stable political set-up was reached and taxation was introduced, there was a necessity to make tax assessment uniform, tangible, mobile and an easy to handle medium of exchange common for all. The present author has argued elsewhere that for systematic taxation to be introduced, a proper census of the population was required along with an assessment of annual income of the subjects (Basu Majumdar 2024, 79-95). Ephemerality of cattle wealth and the problems related to its use in long-distance trade also made way for precious or semi-precious metals being used as medium of exchange.

With the rise in cities, their inter-connectivity, and long-distance trade arose the issues of localization or circulation of region-specific money; this led to the proliferation of a number of people who took to the profession of money-changing. Ever since metal money began to be used, we have had experts studying coins. Though, of course they cannot be designated as numismatists, they were money-changers. The *rupadarshakas* or money-changers studied each type of coin coming to their counter and gathered information about their place of origin, issuer, metal content, purity, and so on to evaluate the exchange value with the currency/currencies circulating in their own zone. In a story from the *Mahavagga*, the fourth book of the *Vinaya Pitaka*, young Upali's parents were trying to decide what profession he should opt for once he grows up. Their third choice was the profession of a money changer and, simultaneously, they were worried if Upali pursues the profession of money-changing his eyes would hurt (*Mahavagga*, 1.49.1). This no doubt reflects that money-changing was a coveted profession.

The rise of Magadha as an imperial power and the consolidation of a major portion of the subcontinent under the Mauryans changed the monetary scenario, bringing about a uniformity of currency. One can notice the impact of the imperial power on the monetary scenario or the state's control over minting. As far as the socio-economic arena is concerned, there emerged a strong state-trader nexus. However, in the Indian subcontinent we have a dearth of such direct evidence to delineate the process of transition.

Tax received in kind required logistical support from the state and it was imperative to maintain state-owned granaries for storing grains. These were perishable items and needed to be converted into a sustainable, imperishable, and durable element as the state reserve. This would have gone into building up the royal or state treasury. Metallic ingots of specific weights would have been considered a better solution than other durable and tangible objects of conversion. Hence this was the precursor to metallic currency. One may consider this a 'pre-coined' or 'pre-monetized' phase. It is difficult to assess the duration of this phase; this process would have begun in the Vedic period as well, as there are terms one comes across in the Vedic literature - *nishka*, *mana*, etc. - which could possibly be referring to bullion conversions of fixed weights. We do not have prolific evidences, such as the Persepolis tablets, to delineate the case of taxes being paid in the form of commodities and livestock like wine, sheep, grains, and so on. However, the present author (Basu Majumdar 2023) has argued elsewhere that the Mahasthan fragmentary stone plaque inscription and the Sohagaura bronze plaque inscription (Grierson 1907, 683–85) do provide us with details of state-

owned granaries and their functioning. On the basis of the *Arthashastra* (2.16: 34), one can argue that the director of trade, who worked on behalf of the ruler, was responsible for the conversion of goods/commodities stored in the state granaries into money. The director of trade looked after the sale of goods with the help of intermediary merchants and traders, and was responsible for submitting the converted amount/money in a wooden box to the royal treasury (2.16. 34: 14–16). The director of trade worked in close association with traders. The present author has suggested elsewhere that it was the nexus between the political authority, traders, and the need to convert the taxes in kind into cash for durability and an easy transferable form which led to the introduction of metal money.

In tracing the various stages through which the monetary revolution took place, one notices several disappointing beginnings that acted as prelude to this change; however, the successful adoption and adaptation of metal money in the case of several *janapadas* was the harbinger of the monetary revolution. The culmination was in the use of metal money in extending loans in cash. Romila Thapar mentions this as an 'economic innovation' associated with metal money (Thapar 1984, 102). This soon led to money-changing, banking, and highly coveted professions in the urban context, thus empowering traders and enhancing the flow of long-distance trade. With the establishment of the Mauryan Empire, the process of monetization received momentum and uniformity. The subcontinent was now strung together under a single system of assessment, valuation, taxation, and calculations. This simplified the issues at the administrative level on one hand, and on the other it made the economic scenario much more complex, with multi-layered networks of interactive stimuli and catalytic factors which shaped the events in the socio-economic sphere in the years to come.

In the Indian context one needs to take into consideration the role of traders in the process of minting official currency. However, such minting was not arbitrary and would have been initiated through an official mechanism, beginning with the seeking of permission from the royal authority, taking the officials through the administrative network and procedures before the activity of minting by traders could be undertaken and the issues minted could be put into circulation. Unfortunately, we do not have much evidence in this regard. The *Arthashastra* refers to the concept of minting money elsewhere other than the official mints, such as the highway mints and so on. But these mints were also official mints. The present author has shown elsewhere that official currency was minted outside the core territory by paying *vyaji* or a fee. Deyell draws our attention to the *Bhillamaladrammas* which were minted by a trading community, the Shrimalis, in c. thirteenth century CE, who took prior permission from the *Shilahara* ruler to mint their own familiar coinage (Deyell 2022, 13; Basu Majumdar 2024, 79–95). They minted such coins wherever they traded and this is proved from the circulation of the *Bhillamaladrammas* from Gujarat to Konkan, Malwa, and Maharashtra. The present author has taken this as strong evidence of traders managing the state granaries or the disposal of grains and their conversion into money. Thus, monetary history here involves the understanding of the nexus between varied agencies involved, money itself, and its mobilization in the market as a currency.

One of the major issues that monetary historians face is regarding how the economy of the Indian subcontinent dealt with the decline of major powers like the Mauryans. As previously discussed, the Mauryan imperial power unified major portions of the subcontinent under a uniform currency, but this did not last for long and by the end of the second century BCE the Mauryan Empire collapsed. With the collapse of this system, one would expect chaos throughout the subcontinent, however, on the contrary, one finds that the post-Mauryan phase saw several forms of money being issued by local powers at various levels. As the central political power collapsed, long-distance trade and other activities continued moving on at their own pace. This leads us to conclude that the post-Mauryan monetary immune system did not collapse as predicted. The monetary immune system has

two main branches: innate immunity (present from the inception of metal money and its use by a society) and adaptive immunity (developed over time through exposure to challenges). The innate immune system provides the first line of defence, while the adaptive immune system is more specific and provides long-term survival even in the absence of a strong political power.

Once an economy is monetized, it is tough to revert to a prior state, though the forms of money can change; demonetization may also take place but under normal circumstances a monetized society does not revert to a non-monetized state. Monetary history has to take into consideration alternate forms of money like cowrie shells, spices, and so on, which were accepted forms or media of exchange. As far as the cowries are concerned these were legal tender in Bengal and parts of north India. There were mainly imported or procured from the Maldives via maritime routes. Cowries became common currency in a zone that included Bengal, parts of South-East Asia, Yunan, and China. Deyell, in his article in the present journal, has elaborately discussed these issues. The present author designates these as 'non-issues' as cowries were not issued or minted. In the context of monetary history, cowries need to be dealt with both as commodity and commodity money. Hence, they have to be mapped on a larger canvas.

While dealing with monetary history, one has to take into account different forms of money, such as transactional money, money of account, commodity money, ritual money, and so on. The case of Roman coins is also quite interesting and has to be seen from varied angles. This was not an official currency in India, but their influx in large numbers had a huge impact on the monetary history of the region of their arrival. Roman coins are mostly found in the far south of the subcontinent and portions of the Deccan. But when one goes through the text of the *Periplus Maris Erythraei*, we understand that Roman coins were received by money-changers of Barbaricum in the north-west; Barygaza, a port in Gujarat; and Muziris in Kerala. Besides this, one also has to take into consideration the fact that these coins were demonetized in the Roman world and were then brought as bullion to the East. After reaching the Indic zone, the coins again played an important role and were not always seen as bullion. The impact of the influx of Roman coins on the monetary history of India has to be considered from varied angles. Their implications extend far beyond the specimens found, as these were replicated at the local level. The intentions behind creating such imitations are also a concern of monetary historians. These coins, known as hybrids, were replicated with queer obverses and reverses. The reason behind the creation of such hybrids is another issue that needs to be addressed.

A historian's exploration cannot be complete without referring to studies of coins in hoards or hoard studies, which demands a lot of rigorous study and precision. Descriptive studies of coins in the field of numismatics will always have its importance, though publishing catalogues has fallen out of fashion. At this juncture it needs to be mentioned that cataloguing has taken a new turn; instead of published catalogues one now sees online documentation of specimens in the museums, with new vistas opened up via digitization for documenting and cataloguing museum collections for a wider audience. However, there is a dearth of publication of hoards in the recent years. In this volume we have added an article on hoards to reflect upon the significance of such publications and the methodology of hoard studies. Comparative studies of hoards can also yield excellent results for monetary historians. Sutapa Sinha's persistent efforts on comparative study of hoards and their further implications have unravelled new facets and facts for understanding monetary patterns. Her efforts to look at the broader framework of trade and coinage through a comparative study of hoards, concentrating both on regions and time frames, not only provide clarity on the production of coins but also highlight their distribution and circulation pattern.

Monetary theory is formulated on the basis of real money and its circulation and impact whereas monetary history depends on the dynamic and sequential context generated due to the circulation and shortage of money, use of alternate money, and even the withdrawal of monetary

specimens and resultant combat processes. In the case of monetary history, the immediate region of circulation of money is extremely significant; however, at the same time besides understanding the origin and evolution pattern of money, it is also imperative to understand the continuity and change in the monetary sequence (Cribb 2005). Situating money in an immediate time-frame and exploring its interconnectedness in the broader network and larger time canvas provides a better understanding of money as an integral part of an economic system and helps mapping of monetary activity and ultimately in formulating theories on monetary history. Monetary theory must consider the specific historical and institutional context in which money operates. Study of typological progression further helps us understand the continuity of money and its usage in a specific region and beyond. In the same way, one should also attempt to map the typological progression of monetary patterns by attempting sequential analysis. As far as historical events are concerned, an in-depth analysis of the flow of money and monetary patterns can help in developing a comprehensive understanding of the growth and fluctuations in monetary patterns as well as its impact on the overall structure of the economy. There is a necessity to analyze the interactions between markets and the impact on monetary policies in case of early India.

The epigraphic records and other sources on economic history must be taken into consideration before formulating the final hypothesis on monetary history. There still is another desideratum in this context: studying the interplay of money, the state, and traders on one hand and the historical context, typological progression, and monetary analysis on the other. This can lead to a better understanding of monetary phenomena. Collaborations between numismatists, epigraphists, monetary and economic historians can help in building a bond and bridging this gap. It is only then that one can create a dynamic and integrated view of money and monetary history within the broader economic system.

Professor Susmita Basu Majumdar

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Indian numismatics' is at once the description of a popular hobby, the title of a widely-subscribed college postgraduate course, and the name of a scholarly discipline of great age and distinction. In the latter guise, it has been pursued in its own right, and also comprises a key component of economic, cultural and political history.

The disciplines that are most informed by numismatics have undergone much change during recent decades. In the 1980s, economic history gained considerable attention, with a number of memorable and well-received conferences laying the groundwork for both national economic histories and the emerging consciousness of global economic history. In that decade, there was a strong emphasis on monetary history and global bullion flows (Richards [1983] 2000, vii).¹ In the 1990s this abated somewhat. Indeed, by the year 2000 there was a crisis in academia, with many economic history programmes around the world terminating or being folded into other disciplines (Economic History Society 1998).² Other compelling concerns emerged that attracted attention, ranging from deconstructionism, world history, women in history, institutional history, Indian Ocean World history, and even a community focus. Numismatics soldiered on regardless, since its mastery was an essential aspect of certain other institutional disciplines like archaeology and museology.

Recently, there have been encouraging signs of an awakening interest in monetary matters. Daud Ali hosted a workshop on monetary history and the cultures of money use in pre-modern South Asia. His premise was that, 'Since the 1980s, cultural history has dominated South Asian historiography, and this conference will resuscitate and build on an earlier generation of scholarly work on monetary history, economic change, and capitalism in non-western societies' (UPenn workshop prospectus 2018). Tellingly, the workshop attracted the participation of eminent numismatists. Thus, the prospect of numismatic studies contributing to broader historical inquiries related to business communities, and their relations with governments in the creation and distribution of tangible money, is promising.

Concerning the interface of numismatics and history, what precisely was the orientation of earlier generations? It was said some time ago by Lallanji Gopal, that Indian numismatists seem more attuned to the needs and methodologies of historians than historians seem to be aware of the nature and utility of numismatic evidence (Gopal [1990] 2009, 162). Likewise, A.K. Narain commented that in his day, the best numismatists were quite scientific in their analysis, and prized objectivity in pursuing their craft (Narain [1973] 2009, 93). Contrarily, he felt that many historians were quite subjective, focused on a compelling narrative that was often quite selective in its use of numismatic evidence (*ibid.*, 94). We must recognise, of course, that these eminent numismatists were reflecting the conditions of their day. Post-Independence India enjoyed a flourishing numismatic renaissance, under the tutelage of the generation of A.S. Altekar. Indeed, D.D. Kosambi, through his new methodologies, promoted 'scientific numismatics' (Kosambi 1981, 145–56). In contrast, the generation of historians before R.S. Sharma, attempting to encourage a proud new

national identity, were sometimes accused of extending patriotic narratives into the past eras they wrote about, with some poetic license. K.M. Shrimali has reminded us that the so-called 'golden age' of the Guptas taught in school textbooks, probably didn't feel that way to the mass of people then alive, who had to cope with many challenges, both natural and man-made (Shrimali 2019, 192).

After Independence, a number of economic histories of India or its regions were published. These tended to be scholastic in form, emphasising encyclopaedic lists of topics and issues extracted from a variety of original sources, many of them normative (Niyogi 1962; Gopal [1965] 2013; Saletore 1973). With some exceptions, not a great deal of emphasis was placed on underlying forces or long-term trends.

With the emergence of the so-called 'Marxist' school of thought in Indian history, which placed stronger focus on the stories of India's people rather than the exploits of their elites, economic aspects of history moved from the periphery to centre stage (Habib 1995). One of the concerns of this school was the nature of the evolution of India's political economy, reflecting specific models of state and economic development. A key premise of this school, championed by R.S. Sharma and a generation of like-minded historians, was the growth of feudalism in post-Gupta India (Sharma 1987; Sharma 2001). This transformation was felt to be characterised by the transformation of revenue collection into service relationships, accompanied by (or perhaps caused by) a slowing of trade and the concomitant withering of urbanisation (or increased ruralisation) in North India. Spirited discussion amongst historians on the major political and social tenets of this interpretive model continue to this day, although the focus is shifting from the evidence of land grants and literature to the nature and quality of the archaeological evidence of that period (Kennet 2013, 336).³

One key premise of this interpretive model was the growing 'paucity' of coinage prior to the second half of the first millennium (Sharma 1969). Sharma and Shrimali have been persistent exponents of this interpretive model (Shrimali 2019, 192–207). There is a large amount of literature on this subject, and the term itself has passed into mainstream historiography. In recent years, the issue of 'paucity' of coinage (as an India-wide phenomenon) has effectively been laid to rest, by a number of detailed numismatic studies (Bhandare 2017, 159–202). Numismatists have noted that, for the narrow topic of coins (physical money), historians have been quite selective in their choice of evidence, and have tended to confuse quality (the aesthetics and purity of coins) with quantity (the volume of coinage produced and placed in circulation) (ibid., 164). Also, it has been demonstrated that there was much regional variation in patterns of coinage use. Numismatists have convincingly demonstrated, that for much of Northern, Western and Central India in the eighth through twelfth centuries, significantly large quantities of crudely-fashioned anonymous or eponymous base silver coins were produced and circulated, leaving their mark in both the epigraphic and archaeological record (Maheshwari 2010). Contrarily, Eastern India, from Bihar to the Meghna River, evolved a governance model in which coinage had no role, relying instead on 'moneys of account' for purposes of evaluating revenue collection, state expenditures and land transfer (Basu Majumdar 2018, 257; Pal 2019, 53–76). This was also the region with the greatest number of land grants in the epigraphic records; hence, this was not incompatible with a feudal analysis (Sharma 1987, 108).

This debate has highlighted the issue of what exactly is meant by the term 'money'*per se*. At the outset it must be admitted that, although the concept is of universal interest, there are many different understandings of the meaning of the word 'money'. Numismatists are concerned with money's physical manifestations, usually coins, but also banknotes, and occasionally exonomia or so-called 'primitive moneys'. Economists have a much broader definition of money. The Bank of

Canada on its website defines money as '...*any asset* that is widely accepted as a means of making payments or settling debts. Whether a tangible object or [intangible], money is based on a social agreement to recognize value' (Bank of Canada 2012, 1). So the scope of the word 'money' depends on the user's field of interest.

This implies that the term 'monetary history' will have a different connotation to a numismatist, an historian, and an economist. In his review of the so-titled 'monetary history of north India', *Living without Silver*, Shrimali commented that the book was a history of coins, rather than a monetary history (Shrimali 2002, 7). In this observation he was quite right; that early work was very much shaped by the source material available to the author, which by and large comprised hoards of the coins of the period. Ideally, a pre-modern monetary history would concern all forms of money circulating in its region and era, above and beyond coins, including paper money (where it existed), deposits, credit instruments and bills of exchange. The reality is that the older the period, the fewer the surviving written records, whereas coins of all periods have been recovered (being virtually indestructible). So inevitably, the more ancient the focus of a monetary history, the more reliance on coins, to the exclusion of other forms of money. This dilemma of imbalance in the availability of evidence, is more of a problem for historians than for numismatists, who are quite happy if a monetary history only deals with coins. Who would doubt that P.L. Gupta's classic primer, simply titled *Coins*, is not one of the greatest and most useful monetary histories ever written in India?

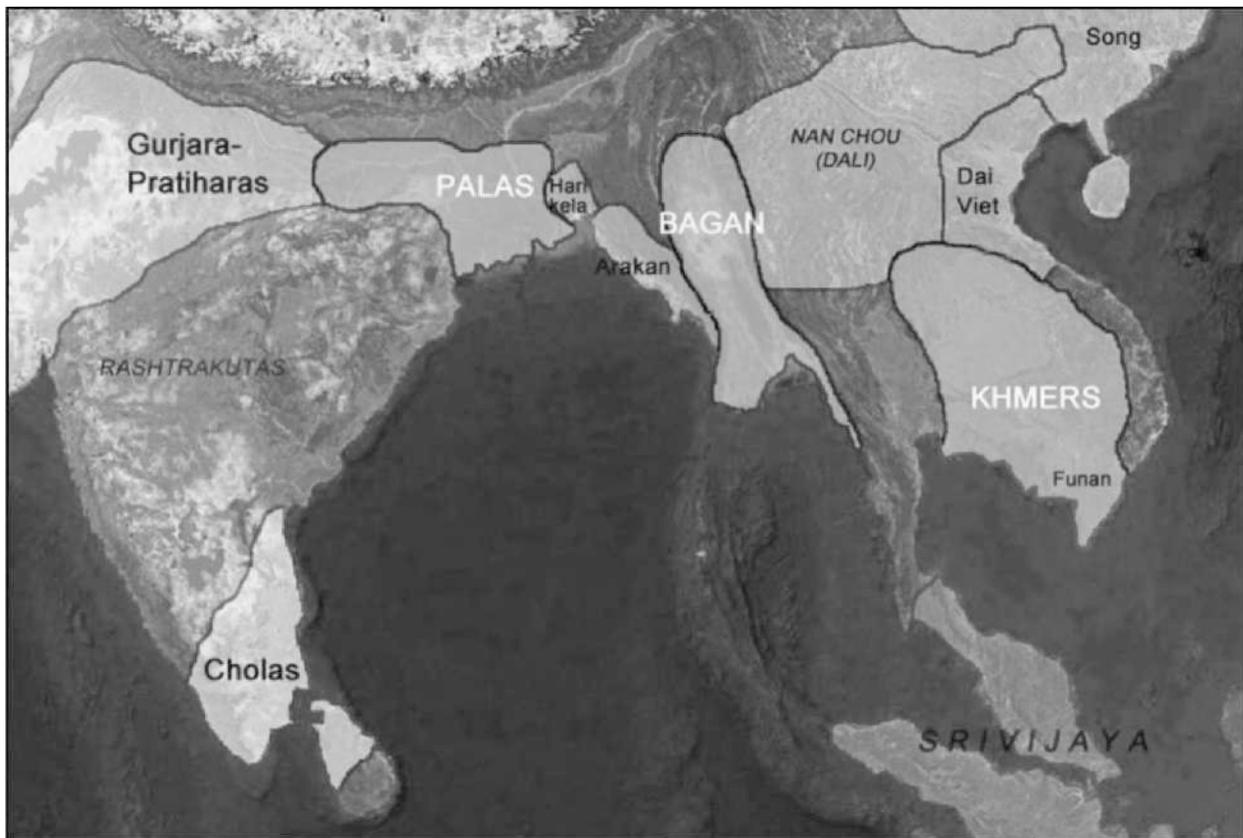
At the same time, numismatists must not lose sight of the fact that historians have a broader meaning in mind when they speak of monetary history. Coins are but one form of money, occasionally the dominant form (as during the Mughal Empire), but sometimes not the most important aspect of money at all (as in the Sena Kingdom which had no metallic currency of its own) (Majumdar 2018, 254–55). We mentioned the modern view that money is at base a social convention, which may take a physical form (Carney 2021, 58; Ferguson 2008, 29; Ingham 2000, 22). Coins help accounting and exchange, but are by no means the only, or even the principal, form of money during many periods and in many places. If we focus only on coins, we leave unexplored many other forms of money like credit, money of account and ledger entries. We also ignore the money forms probably used by the most people over the longest periods of time in pre-modern societies, namely moneys of the people like cowrie shells, bitter almonds, etc. (Flynn 2022).⁴ So we should be clear in our minds that for economic historians, monetary history goes well beyond coins to include all the myriad other forms of credit and debt (Chaudhuri and Denzil 2008; Graeber 2011).

If we have alternative definitions of money and monetary history, depending on the horizons of our interests and academic orientations, what might we mean by the term 'monetization'? Context is all-important here: there have been societies and civilizations that were highly monetized, but which used no coins (Aymard 1980, 15; Chattopadhyay 1994, 114, fn 108)⁵. Conversely, there have been coin-using societies that were demonstrably under-monetized (Selgin 2008).⁶ So the presence or absence of coins in the archaeological or historical record may or may not have been an indicator of degree of monetization of the economy.

Some time ago, Robert Wicks undertook a detailed study of the monetary systems of early medieval Bengal, Myanmar and Indo-China. He noted that all these areas utilised broadly similar silver coinages early in their development, but that they progressively abandoned use of coinage in later years (Wicks 1992, 3). Sayantani Pal has done considerable work on this phenomenon in the successive Pala and Sena kingdoms, finding that although the region based its land-record values on the Gupta gold *dinara* in early years, it gradually abandoned notation of values in actual coins,

adopting progressively a notional ancient silver denomination, the *karshapana*, and ultimately a money of account, the *kapardikadramma* based on cowries and long-obsolete coins (Pal 2019, 57; Wicks 1992, 66). Susmita Basu Majumdar furthered this study, and concluded that although the use of cowries was widespread, the successive Pala and Sena kingdoms circulated no coins of their own (Basu Majumdar 2014b, 595–99).

In conventional terms, were these kingdoms thus not monetized? Let us consider these realms, home to the great Buddhist universities and temples adorned with magnificent sculptures, protected on land by armies of horsemen and on water by a powerful navy, in correspondence with overseas monarchs in Southeast Asia (Majumdar 1971, 94–198; Chowdhury and Chakravarti 2018). Who would assert that they ruled a modest economy suffering from poor monetization? Quite the contrary, their economy exhibited all the characteristics of contemporary empires. So in the broader economic sense, the absence of coins cannot be taken as proof of under-monetization. We have to accept that financial systems based on moneys of account (i.e. intangible money) have flourished in the past, as they do in our own times.



Map 1: The late first-millennium kingdoms of South and East Asia. Coin-issuing states are rendered in lighter green non-coin-issuing states are in brown with white lettering. Overlay: the author. Underlay: © Google Earth.

This raises a parallel issue, that of the nature of monetization. Rila Mukherjee has pointed out the roughly simultaneous abandonment of coined money in their economies, by the three kingdoms of the Palas, Bagan and the Khmer, Map 1. She initially posited a common thread of response to a dearth of bullion, due to trade disruptions in Southeast Asia during the eighth and ninth centuries (Mukherjee 2011, 94–98). Now, it's noticeable that all three were riverine civilizations, along the Ganga, Irrawaddy and Mekong River systems, respectively. They were heavily dependent on paddy

cultivation, which through agricultural revenue formed the basis of state finances. All three undertook massive public works, sometimes in the hydraulic sector, but more often focused on prestigious religious buildings, for the most part Buddhist but with considerable Hindu influence (Deyell 2019, 198). Notably, all three had well-defined trade routes with Yunnan, then comprising the Nan Chou and Dali kingdoms in succession. That area was replete with gold and silver mines throughout this period (Deyell [1983] 2000, 225). Thus, easy availability of precious metals was never an issue for the three coinless realms.

It is noticeable that all three kingdoms bordered other states that used coins. The Palas were bordered on their west by the Gurjara-Pratihara Empire, which used an extensive silver coinage (Deyell [2001] 2005, 393–415). On their east they bordered Harikela, which initially used gold coinage, then converted to silver later on (Acharjee 2006; Bose and Nasir 2016, 60–92). By the time of the succeeding Sena Kingdom, Bengal was in close communication with South India's Chola Kingdom, which struck and used gold, silver and copper coinage (Biddulph 1968; Hall 2014, 69–98).

Bagan was bordered on the west by Arakan, which had a prolific silver coinage (San Tha Aung [1979] 1982; Robinson and Shaw 1980, 44–65; Mitchiner 2000, 128–49). The Khmers absorbed Funan, a coin-using state (Wicks 1992, 186)⁷. They bordered Champa, which likewise traded without coinage, but in the late Song period the more northerly Dai Viet used a copper coinage in the Chinese fashion (Barker 2004, 50). The Song Empire of southern China struck immense quantities of copper cash, much of which was exported to Southeast Asia, then under the hegemony of Srivijaya and Majapahit (Wicks 1992, 291; von Glahn 2014, 629–30). The use of coinage was so widespread, that we must conclude that the lack of coinage in these three contemporary states must have been due to economic policy decisions and was not a response to coinage metal shortages.

Perhaps significantly, all three experienced the increasing influence of seaborne Arab traders, bearing gold *dinars*, silver *dirhams* and copper *falus* in their wake (Kholis et al. 2022; Chutamas 2017). While the question is simply posed here, and the research is yet to be undertaken, there is some possibility that the abandonment of metal coinage, or more properly the re-adoption of institutionally-mediated financial accounting systems, was at least in part, a common response of Indianized elites to the threat posed by emerging new realities in the greater Indian Ocean World (Deyell 2019, 198–99). Whether this can be described as 'feudalism' is best left to historians.

Traditionally, Indian numismatics has been concerned with India's coinage. Perhaps this is a tautology, but nonetheless meaningful in its description of a circumscribed horizon. There were some exceptions, due to the cultural biases of the individuals. We note how British officials in India were attracted to any coinage system showing a Greco-Roman influence; likewise, Parsi numismatists were happy to include Sasanian coinages in their purview. But as noted above, the viewpoint of Indian historians has expanded in recent decades, to include, for instance, the broader Indian Ocean World (Chaudhuri [1984] 2005; Das Gupta 2004; Ray and Alpers 2007; Malekandathil 2013; Hall, Ghosh, Gangopadhyay and Mukherjee 2019; Chakravarti 2020). Students of Indian numismatics have considerable scope to do likewise (Haider 2007, 181–205; Bhandare 2007, 206–44; Garg 2007, 245–62).

Despite strong regional patterns of coin use, Indian coins did not exist in a geographic vacuum. There is already a strong literature regarding foreign coins found in India, including Greek, Roman, Sasanian, Arab, Persian, and Venetian, to name but a sample (Turner 2023; Codrington 1882–83, 339–70; Digby 1980, 129–38). But equally important was the influence of Indian coinages elsewhere (Mahlo 2012, 15)⁸, and the influence of imported coins on local issues (Bhandare 2021,

24–62). So it is entirely legitimate for Indian numismatists to adopt a wider geographic focus than hitherto has been the case.

Geographic scope aside, some monetary topics are easier to study than others. There are tensions in the study of tangible and intangible forms of money as they are very dependent on the nature of the evidence available to us. It is axiomatic that the closer we get to the present day, the greater the quantity, quality and diversity of source materials available for study. The outstanding work on Mughal monetary history done by generations of historians, notably Irfan Habib (1982, 360–81), Shireen Moosvi (1987, 351–62) and Najaf Haider (1996, 298–364; 1991–2, 309–48), is due in no small measure not only to the availability of contemporary archival material, but also to well-documented hoard evidence. Danish Moin has recently made a presentation on this very topic (Moin 2023).

As we move our purview to earlier periods, the written material diminishes, throwing ever sharper light on the surviving coins. If we had to rely only on written accounts, we would have a very poor knowledge of medieval Bengal. We note that a full study of the coins as historical documents has allowed Syed Ejaz Hussain to prepare his authoritative work on the Bengal Sultanate's economy, politics and money (Husain 2003). Likewise, patient and decades-long sleuthing through museum holdings has enabled Sutapa Sinha to re-create the corpus of hoards of Bengal Sultanate coins discovered over the last two centuries which were, for the most part, dispersed long ago to institutions in India and elsewhere (Sinha 2017). She has, in effect, rescued primary evidence that was inadvertently lost, and in the process created an invaluable database for future studies.

Needless to say, the further back in time we go, the fewer written sources remain, and all the more important become numismatic, epigraphic and archaeological evidence. A study of the early medieval period relies heavily on inscriptions and coins. For some ancient epochs and regions, the coins stand virtually alone as illuminators of past realities.

Sinha, in a recent presentation, advocated the utility of coin hoards for historical analysis (Sinha 2023). This writer is also a firm proponent of the importance and efficacy of the study of coin hoards for economic history (Deyell 1991, 1–15). For numismatists, there is no better grounding in a series than the sifting and sorting of coins, deciphering their legends, comparing physical attributes, sorting out by metal, weight and size, and basically imposing a classification system on the unruly mass of metal. For historians, the comparison of the composition of different hoards by region or era, enables deductions about the production, distribution, circulation pattern and intensity of use of the coins. Indeed, in his Presidential Address to the Numismatic Society of India, Irfan Habib said, 'I intend to... speak about how the numismatists' finds and analyses of treasure-troves or hoards can be used for historians' reconstructions of monetary and economic history' (Habib 2010, 118).

Unfortunately, the analysis and reporting of treasure-trove hoards is often undertaken by officers of archaeological departments or museums who have little or no formal training in numismatics. Habib had a positive view of the utility of hoards, first because Mughal coins themselves were information-rich, bearing issuing authority, minting place, date, regnal year, and sometimes even the month of issue. Second, he was fortunate that when the hoards were being inspected in the early-to-mid twentieth century, the persons undertaking the work, like Richard Burn, Henry Neville, C.J. Brown, Prayag Dayal and C.R. Singhal, were all experts in Mughal coins.

In contrast, the early medieval coin hoards are often full of anonymous coins bearing either no legends or rudimentary enigmatic letters. They bore neither name of issuer nor place or date of issue. Looking through K.K. Maheshwari's massive study of the so-called Indo-Sasanian series, it is clear that only occasionally is there enough information on the coins to enable an attribution

(Maheshwari 2010). Quite often, it is barely possible to sort the coins into different classes based on distinctive features. Thus, the treasure trove reports on these coins are terse, simply classifying the entire hoard by the generic name 'Indo-Sasanian' or, infrequently, 'Gadhaiya'. Hence the utility of the reports of early medieval hoards is greatly reduced. Only personal inspection is adequate, which can be problematic for institutional holdings. For example, by a lifetime of patiently sifting through such hoards found intact in the holdings of cooperative museums, the late Pratipal Bhatia managed to map their distribution (Bhatia 1988, 105–106). Maheshwari has gone a step further and demonstrated some tentative attributions, based on find spots and mentions in archeological digs, that carry forward our understanding considerably (Maheshwari 2010, 69, Map 3).

Of course, there were earlier periods and regions where numismatic conditions analogous to the Mughal era, applied. The wealth of information on the invader coins of India's northwest frontier, specifically those of the Indo-Greeks, Sakas, Pahlavas and Kushans, has enabled generations of numismatists to offer valuable data to historians. The notable work of Robert Senior, sifting through dozens of hoards of Indo-Scythian coins, is one example of this (Senior 2000, 173–96). And of course, the greatest hoard report ever undertaken was by Osmund Bopearachchi, in his reporting on the colossal Mir Zakah deposits, as well as numerous other hoards otherwise lost to posterity (Bopearachchi 2015, 636–76).

As mentioned earlier, not all hoards of utility in monetary studies are still intact. In such cases, patient detective work has enabled numismatists to reconstitute the entire hoard from its parts scattered throughout public and private holdings. One such notable effort was undertaken by Basu Majumdar, in gathering together the details of the remnants of the earliest Gupta gold coin hoard ever reported, the renowned Kalighat hoard (Basu Majumdar 2014a). Its publication has brought together once more these classical Indian coins, enabling future historians to draw their own conclusions from this irreplaceable data.

Over the last several decades, there have been some, although not many, efforts to use hoard analysis to advance historical writing. Moosvi's work on the economy of the Mughal Empire used hoard analysis to gain a sense of the relative volumes of Mughal coinage (Moosvi 1987, 356)⁹. Others could be mentioned.

Relatively recently, Phillip Wagoner created a corpus of hoards of gold coins in the medieval Vijayanagara and Bahmani kingdoms, using archaeological survey reports as well as other published sources (Wagoner 2014, 457–80). He analysed the coins' physical distribution through a geographic information system or 'GIS' computer program. The GIS takes into consideration the number of coins in each hoard, as well as the location of each hoard by latitude and longitude. Hence it will skew towards the greatest density of coins. Interestingly, he found that the 'centre of gravity' of the coins' distribution was *north* of the border of Vijayanagara, and that Vijayanagara gold coins were the predominant circulating gold of the Bahmani Sultanate, despite the fact the sultanate issued its own gold coins. In turn, he was able to link this to the dominant role of Hindu moneylenders in the collection of Bahmani agricultural revenue, and their preference for coins with familiar religious motifs, regardless of where they undertook their business (ibid., 457, 472–3).

Although hoards proved their utility in the past, can we still encourage young scholars to turn their attention to coin hoards? The answer must be somewhat equivocal. In a sense, much of the low-hanging fruit of previously-published hoard material has already been harvested. And regrettably, not much fresh material is being published nor can this be expected in the near future.

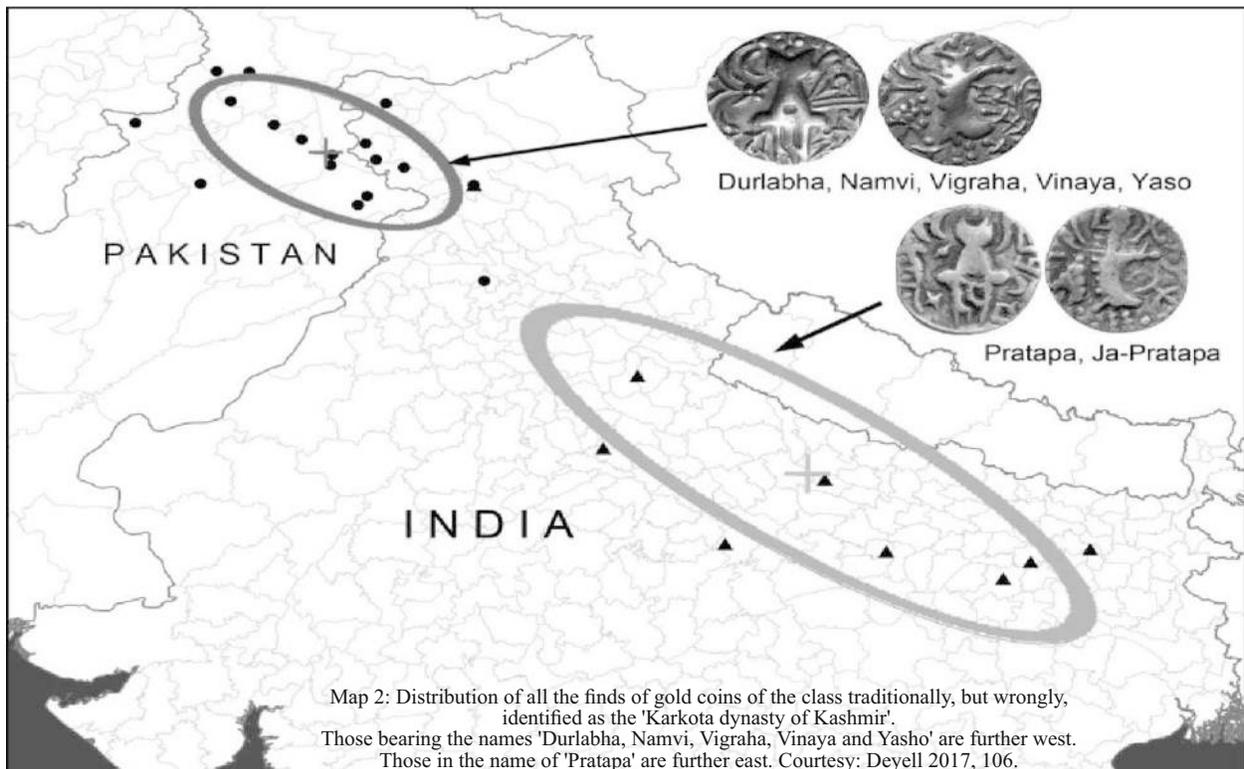
The reporting of Indian treasure-trove hoards has, at the best of times, been very spotty,

differing in intensity and detail tremendously from state to state. For many states, there are simply no published treasure-trove records. For others, the published reports are decades out of date. The quality of reports is uneven, both over time and from place to place. Recently, I had the opportunity to go through the original treasure-trove acquisition records of a state archeological department. They were organized on an as-received basis, that is, year by year. I found the records of the 1950s, 1960s, and 1970s to be terse but adequate, recording the coins' quantity, metal, average weight, type, and find spot. Records in the 1980s became shorter and limited to quantity, metal and find spot. In the 1990s, the type of coin was no longer recorded. More currently, only the gross weight of the whole hoard, metal and find spot are recorded. If published, these records will carry little useful information. Only direct personal inspection can bring any utility to these holdings, but in most circumstances there is little to no likelihood of outsiders ever having access to the officially-held hoards themselves.

This raises a second issue, often highlighted by past Presidents of the Numismatic Society of India in their annual addresses: the poor or non-existent access for serious researchers to the actual holdings of museum coin vaults. Some museums routinely grant scholars access to inspect the coins, and even to sort through hoards. Most others place considerable inventive barriers in the way of such access.

Given the uneven coverage of treasure-trove reports, and the uncertain access to museums, it is noticeable that researchers are seeking information from the coin trade. This has its own perils, as dealers are often hesitant to share accurate information about find spots, or even the complete composition of a hoard. However, there are occasions where there is no alternative, as this case will demonstrate.

Map 2 depicts a class of seventh–ninth century electrum coins of the same post-Kidarite type, clearly comprising two geographic groups, differentiated by hoard content. The geographic information system (GIS) software identified two clusters, giving their radius of concentration and



centre of gravity, seen here. By serendipity, the two groups fall separately into modern Pakistan and India, although no such borders existed in their period of issue, the seventh through ninth centuries.

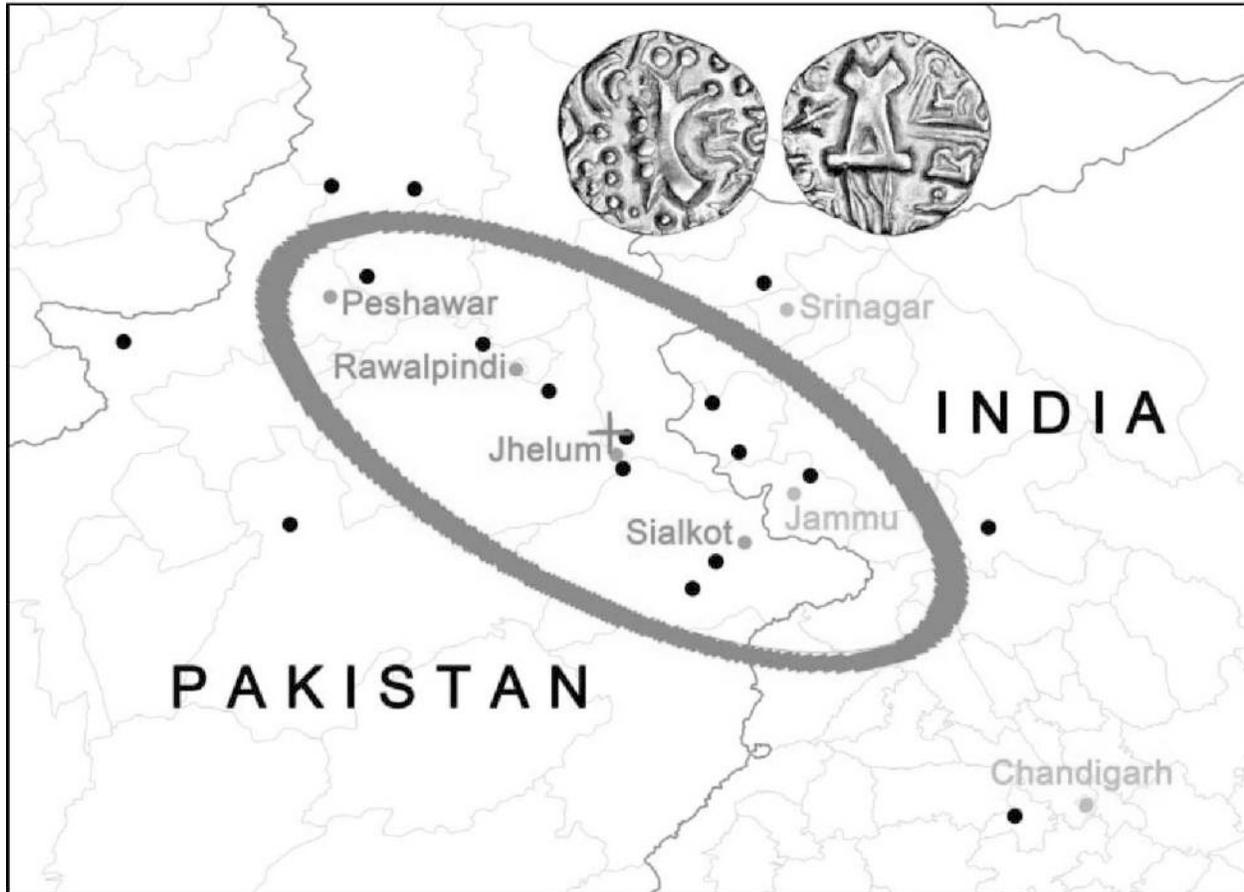
Map 3 gives a closer look at the eastern concentration, which was comprised exclusively of electrum (base gold) and copper coins in the names '*Sri Pratapa*' or enigmatically, '*Sri Ja-Pratapa*'. Conventionally, these had been attributed to a Kashmir raja, Lalitaditya, who was claimed to have conquered all of North India as far east as Kashi. But as the distribution shows, the Pratapa coins were limited to the Ganga valley, from eastern Bihar to Rohilkhand. A few reached Chamba, but there is no known distribution into Jammu-Kashmir. So clearly the coins were issued by a Gangetic ruler, not a Kashmiri interloper.



Map 3: The eastern group, exclusively in the names '*Sri Pratapa*' or '*Sri Ja-Pratapa*'. Courtesy: Deyell 2017, 184.

Map 4 gives a closer look at the western concentration, which was comprised of all the other five known rulers in this series, two of whom had names of Kashmir rajahs. At present, modern Pakistan has no known published treasure trove reports. Thus, except for the lone hoard in the Kashmir valley, the entire hoard data came from Pakistani numismatists, confirmed where possible by Indian numismatists knowledgeable in the series. The GIS analysis is quite dramatic: the coins' distribution lies in the lowlands of north and northwest Pakistan, with a few occurrences in the Punjab foothills and the lone occurrence in the valley of Kashmir. Clearly these coins were not issues

of Kashmir rulers at all, but were issued throughout the territories of the post-Kidarite rulers of the western Punjab and adjacent foothills.



Map 4: The western group, of hoards comprising 'Durlabha, Namvi, Vighraha, Vinaya and Yasho'. Courtesy: Deyell 2017, 195.

Technology has provided the means to overcome some of these access problems. Increasingly, museums have been posting online the photos and accompanying description of the coins in their possession. The American Numismatic Society is notable in this regard (American Numismatic Society “Mantis database”). Interestingly, one of the earliest and most massive efforts to digitise official holdings was undertaken by the Rajasthan Government Museum, posting large numbers of their treasure-trove hoards online about 2010¹⁰. Each hoard had a text file giving particulars of find, and description of each individual coin (metal, weight and diameter), and a photo file giving a reasonably high-resolution photo of each coin. The project was admirably ambitious: one hoard alone had a lakh of coins posted. About a hundred hoards were fully exhibited. Although the website was not overly user-friendly, this researcher was able to download the particulars of tens of thousands of coins. Then, quite unexpectedly and unannounced, the website went dead about 2013, and has not functioned since. No explanation has ever been given. This ephemeral nature of websites is a concern that we can extend to all digital forms of communication, including video recordings of lectures and presentations. In a century from now, the hardcover books we write will still be accessible, but all our virtual exchanges may have long become inaccessible or forgotten.

Fortunately, there have been notable institutional efforts to compile and make available hoard data and related supporting literature. I would be remiss if I did not mention the former Indian

Institute of Research in Numismatic Studies (IIRNS) near Nasik, now renamed the Indian Numismatic, Historical and Cultural Research Foundation (INHCRF)¹¹. For some forty years, this facility has hosted researchers and students, offering methodological courses, holding research seminars, accumulating an in-depth library holding, compiling a photo collection of coin hoards of all periods, and building a focused collection of coin hoards, mostly in base metals. Over the years it has published both a newsletter and a journal. Significantly, this institution has undertaken on behalf of the central government, the cataloguing and digitization of official coin holdings hitherto hidden in museums, notably of the Asiatic Society in Mumbai, the Sri Pratap Singh Museum in Srinagar, and several Punjab museums¹².

This positive development is mentioned because it has fostered new discoveries, simply by offering easy access to basic data. This writer's recent work on the seated-Lakshmi gold coins of the eleventh to thirteenth centuries benefitted greatly by pioneering work done at IIRNS by a staff member, Biswajeet Rath (1994, 75–116; cited in Deyell 2022, 70, 198–206). Examining their records of the Dalmau hoard, he was able to discover the typological linkages between Kalachuri, Gahadavala and Ghurid iterations of this coin type. More recently, two scholars who met by chance while undertaking research at the IIRNS, Pankaj Tandon and Phillip Wagoner, collaborated on the analysis of a large hoard of Bahmani copper coins on deposit with that institute (Wagoner and Tandon 2017, 227–68). Their joint paper is, in effect, a monetary history of the Bahmani Sultanate, tying the history of the base metal coinage to the major endogenous and exogenous shocks to the sultanate over time.

Of course, perceptive researchers have managed to creatively leverage other numismatic resources to extract new understandings. Basing his study on the published catalogues of coins, Pushkar Sohoni has shown how a complex mixture of residual authority, ritual status and 'consumer bias', resulted in the distinct preference of Bahmani successor states, predominantly in Maharashtra, for obsolete copper coinages, foregoing the minting of their own new coins (Sohoni 2018, 645–59).

Often, it is a new way of looking at old issues that enables breakthroughs even in relatively well-documented periods for which we would not normally expect radical departures. The negative British colonial attitude to Princely State minting privileges was determined by their centralized imperial ambition. The late R.E. Frykenberg and this writer documented this struggle for minting hegemony long ago (Deyell and Frykenberg 1983, 1–25), and more recently Sanjay Garg has produced a superb opus summarizing the whole issue (Garg 2022). But the British orientation permeated our numismatic attitudes to simple local copper coins, which have long been dismissed as crude forgeries. Some decades ago, Frank Perlin, using documents from the Peshwa Daftar, started pushing back on this view, arguing the proliferation of local base metal coins after the break-up of imperial Mughal monetary unity, reflected the growth of local markets and local exchange (Perlin [1987] 2000, 232–373; Perlin 1993, 131–228).

Labour historian Jan Lucassen has gone further, demonstrating that in the nineteenth century, Indian workers' preferences for heavy, simple, crudely-struck copper coinage was a widespread feature of public works projects. This stubborn monetary preference gave rise to a brisk trade in the manufacture and sale of spurious imitation copper coins. East India Company officers, who had their own imperial machine-made coins, were forced to use these local forgeries to undertake their canal-building (Lucassen 2007, 349-90; Lingen and Lucassen 2010-11, 148-83). Shailendra Bhandare has undertaken a long study of these so-called '*kachchapaisas*' and their

emerging role in local economies. So we are learning that the simplest money sometimes had the greatest economic significance (Bhandare 2014a and 2014b).

One orientation or filter affecting numismatic studies, is the usual focus on coins as objects or 'things'. To make our observations more relevant for historians, we must not lose sight of their creators: the mint workers who fashioned them or the financiers who commissioned them. Indeed, this was an intended focus of the project launched by Daud Ali, mentioned earlier. His colleague Sudev Sheth has published a work on the complex interaction of the *sarrafs* of Gujarat, with the Mughal functionaries and Maratha *sardars* who fought for control of that Mughal *subah* (Sheth 2024). His work highlights the importance of the unseen in those military campaigns: the financing of war through control, not only of the revenue collection but the operation of mints, and the complex of financiers who were relied on by both sides of the struggle.

In my own work, it has become evident that in the period 600-1300 CE, the traditional financial communities that operated mints on behalf of some rulers and channeled bullion into them to be fashioned into coin, were central to the very existence of metallic money and its circulation in both revenue and trade. It also identified that this relationship had a social aspect: there are various indications that the coins themselves, specifically gold, featured in the worship practices of their creators. The close association of traditional business communities and the creation and circulation of money is evident as well in the written record later in this period: both the *Dravyaparisksha* and the *Lekhapaddhati* specifically tie the early medieval minting process, undertaken for rulers of disparate backgrounds, to the Jain, Oswal and Shrimali communities (Prasad 2007, 29).

In fact, there are tell-tale signs that show the great longevity of specialized knowledge involved in minting coins, which suggest that minting techniques have survived intact in those communities over great periods of time. To name but one such example, one can trace the Hellenic tradition of placing the ruler's image on the lower or anvil die, through the Indo-Greek, Western Kshatraps and Indo-Sasanian series, which has remained intact for over a thousand years (Deyell 2011, 12–13). In fact, the Calcutta mint, under British rule, followed the same tradition for the same reasons, i.e. to safeguard the carefully-engraved portrait of the nominal ruler. All these instances are revealed by the same tell-tale sign: the fact that brockages (inverse impressions) exist for the obverse portrait only. This is true of the Western Kshatraps *drammas*, and of the imperial rupees.

What is the scope for future work? Evolving technology has at last allowed us to focus on the metallurgy of coins. In the past, it was extremely difficult for numismatists to gain access to chemical laboratories. When on rare occasions they were able to obtain lab services, significant findings resulted. One notable example was the use of Atomic Absorption Spectrophotometry (AAS) by Amiteshwar Jha and Dilip Rajgor, who determined that over a period of three centuries, there was only a slow and gradual reduction of the net silver content of *drammas* issued by the Western Kshatrapas of Gujarat (Jha and Rajgor 1992, 57-67). That work was an exception. Fortunately, nowadays the wide availability of X-Ray Fluorescence (XRF) scanning technology, now commonly used in jewellers' bazaars, allows us to determine the metal content of coins much more frequently. The equipment is more accurate for gold than for silver, but even that has allowed significant new work in otherwise tired old fields. An early adopter of this technology was Alex Fishman, a numismatist who is also a scientist specializing in chemistry. He tested hundreds of tiny, hitherto poorly-studied silver so-called 'three-dot coins' of early medieval Sind and Multan. The resulting correlation of metrology, metallurgy and stylistic analysis enabled him accurately arrange these coins in a temporal series, and to catalogue them in depth for the first time (Fishman and Todd 2018).

Recently, Tandon has published the first fruits of the metallic analysis of almost 400 gold *dinaras* of the Gupta emperors, scanned either by himself or by Gupta expert Sanjeev Kumar (Tandon 2022, 33–43). Preliminary results raise the possibility of a refinement of the Gupta chronology and sequence of rulers that has been unsettled and contentious for generations. Science may bring objective precision to bear where previously subjective judgments ruled. My own work greatly benefitted from access to this metallurgical data, in recent studies of seventh through ninth century post-Kidarite coins, and the eleventh to thirteenth century seated-Lakshmi coins. Metal testing helped me realise the coins were trimetallic, i.e. gold-silver-copper alloys, a fact not known to S.K. Maity when he performed his classic specific gravity tests of ancient and early medieval gold coins (Maity 1970, 80–90). Interestingly, this fact was well known to Thakkura Pheru, the Khalji mint's assay master, who in 1318 CE labelled these coins 'trimetallic' (Jinavijayaji [1961] 1996, 17–38; English tr. Agrawala 1966, 87–101)¹³. The fact of varying and complex precious metal content, unobservable to modern numismatists and contemporary users of the coins, has raised the whole question of the financial intermediaries involved in the minting and circulation of the coinage of that era.

In Summary

Indian numismatics has evolved considerably, and continues to evolve, as fresh perspectives are adopted, creative techniques are refined, new technologies are brought to bear, new linkages to other disciplines are reinforced, and better collaborations between scholars, museums and collectors are forged. While a local or regional focus remains valid, wider horizons and broader perspectives add great value to numismatic work. Young scholars can certainly expect to meet pitfalls in their journey, but should also seek out and recognize possibilities for new and effective pathways for their research.

Notes

- 1 John Richards hosted a conference on inter-regional flows of precious metals during the period 1200 to 1750 CE in Madison, Wisconsin, in 1977: 'To my knowledge this was a first attempt to convene a meeting of scholars to consider both medieval and early modern monetary history on a world scale.'
- 2 Chairman's preamble: '...the origins of the conference lay in the ...crisis in economic and social history in UK higher education - a crisis which was also occurring in Europe, Australia and Canada and stemmed from a fall in demand for the services of teachers of economic and social history'.
- 3...if there was a general shift in urban centres at many sites towards the end of the Early Historic period, and if many of those locations continue to be occupied to the present day, the Early Medieval and later occupation history of many sites would remain completely obscured from archaeological investigation. Unfortunately, it seems highly probable that this is exactly what has happened. It is partly this coincidence of archaeological strategy and historical events that has led to the fact that hardly any medieval urban sites have been excavated in the whole of the subcontinent.'
- 4 'Why did specific cowries accumulate only in certain specific geographical locations? Yang establishes a general answer: *cultural preferences* for holding specific objects, including specific monies, determined where the shells were concentrated... Yang demonstrates repeatedly that distinct market locations and distinct market prices existed for specific cowrie and other shell monies (plural) throughout global history. His evidence starkly demonstrates inadequacies of mainstream monetary theory'.
- 5 'Maurice Aymard suggests that the role of money could be 'infinitely greater than the actual circulation of coins might suggest; even when physically absent, money dominated the core of economic activity and social relations'.
- 6 Throughout much of its history, England was chronically short of copper money, a deliberate policy of the Royal Mint that focused on high-value gold and silver coin production. This became a crisis during the Industrial Revolution of the

- 1780s, when new manufacturing enterprises needed large quantities of low-value coins for their burgeoning workforce.
- 7 Silver coins of Thai and Myanmar origin were found in excavations at the Khmer site of Oc Eo, so 'coin-using' but not 'coin-issuing'.
- 8 Of ancient Pyu/Mon coins of Myanmar: '...borrowing, reinterpretation and mixing from Indian-influenced prototypes...!'
- 9 I have constructed a 5-yearly histogram from my own sample... drawn from the coin-find reports'.
- 10 This is the website that is now unresponsive: <http://www.ancientcoins.rajasthan.gov.in/>.
- 11 Founded by Dr K.K. Maheshwari and maintained by a foundation he heads. Website: <http://inhcrf.org/>.
- 12 Information provided by Dr Amiteshwar Jha, former IIRNS director and project head.
- 13 Literally, *tridhatumishritamudrah* ('coins of three metals'), title of the section comprised of *gathas* 62-72, pp. 24-5, in Thakkura Pheru, *Dravyapariksha* (1318 CE).

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The word 'numismatic', which comes from the Latin 'numisma' (i.e. currency), denotes 'the study of coins' according to its origin. Nonetheless, numismatics is an interdisciplinary field that includes economics, history, art, and archeology, among other subjects. Coin analysis sheds light on a society's history in a number of areas, including trade, culture, political systems, and contact with other civilizations. The history of numismatics in India seems to have its roots in the late eighteenth and early nineteenth centuries, when historians, particularly British civil servants in Bengal, began to recognize the significance of coins as primary sources for understanding India's history (Shankar 1998). These early efforts involved collecting information and artefacts related to coins, especially those from ancient civilizations like Rome. The first mention of numismatics in India appeared in the second volume of *Asiatic Researches* in 1790, where Roman coins and medals were discussed (Tiwari 1961, 21). But it wasn't until the early nineteenth century that the systematic and structured study of ancient Indian coinage really took off. As historians and academics studied coins in greater detail, it became more evident that they contained a multitude of historical information. This led to debates and discussions about establishing dedicated institutions or departments focused on numismatics, often under the umbrella of organizations like the Archaeological Survey of India (ASI). In order to facilitate a more thorough comprehension of India's past, these groups sought to systematize the gathering, recording, and examination of coinage discovered at archeological sites. Additionally, groups and individual researchers arose with the express purpose of developing frameworks for historical inquiry based on numismatic data. The methods and strategies used to decipher coins and their relevance in larger historical contexts were influenced by these endeavours.

The use of coins as historical source material dates back to Kalhana, who claimed to have used numismatic evidence in the writing of his *Rajatarangini* (Rajatarangini 1995, 23). However, the study of coins gained significant prominence in the modern era, largely due to the interest shown by European Indologists and historians. This interest led to more systematic and scholarly approaches to numismatics, contributing to our understanding of various historical periods and civilizations (Lallanji 2010, 159–75).

One of the notable figures in this context is Alexander Cunningham (Cunningham 1891; 1894). He was a British archaeologist and numismatist who made significant contributions to the study of ancient Indian coins. His works, such as *Coins of Ancient India: From the Earliest Times Down to the Seventh Century A.D.* and *Coins of Mediaeval India*, published towards the end of the nineteenth century, provided foundational knowledge and methodologies for numismatic researchers. The main goal of Cunningham's work was to correctly decode and assign coins to the appropriate issuing authorities. Because coins frequently contained inscriptions, symbols, and other information that could provide insight into the kings, dynasties, and historical periods in which they were struck, this method was essential for establishing the historical context. His work on coin classification and analysis prepared the way for later numismatist generations.

With the publication of several catalogues and articles during the first half of the twentieth

century, it's remarkable to observe how numismatic studies progressed. We now have an improved understanding of ancient Indian coins and their historical relevance because of the work of researchers like V.A. Smith, John Allan, and C.J. Brown.

V.A. Smith's (Smith 1906) *Catalogue of Coins in the Indian Museum, Part I* (1906) stands as an important contribution, providing a comprehensive description of ancient Indian coins. This work, which offered a methodical way to arrange and describe coins, probably set the standard for later cataloging initiatives. The field was further enhanced by John Allan's (Allan 1914) *Catalogue of the Coins of the Gupta Dynasties and Sasanka King of Gauda* (1914), which focused on the Gupta dynasties and provided comprehensive information about the coins from that time period. More thorough examination and comprehension of particular dynasties and their coins were made possible by this type of specialization. The practice of specialist cataloging was maintained by C.J. Brown's (Brown 1920) *Catalogue of Coins from the Gupta, Maukhari and Other Dynasties Found in the Provincial Museum at Lucknow* (1920), which expanded the body of knowledge by covering several dynasties and geographical areas.

These catalogues played an essential part in recording the weight and other physical characteristics of coins as well as the images and inscriptions they contained. Understanding the historical background, cultural significance, and economic elements of these coins requires an understanding of this information. These catalogues gave academics a plethora of textual and visual material by including pictures, descriptions, and the coins' histories or motifs. By making it easier to identify, categorize, and understand coins, these resources let researchers learn more about ancient India's cultures, rulers, and historical occurrences.

Prior to Independence, coin research mostly concentrated on coin collection, cataloging, and decipherment; nevertheless, attempts were made to look at a variety of features, such as weight, depiction, and so forth. As was natural in the beginning, European numismatists were primarily engaged in coin collecting to satisfy their recreational needs. The beginning of publication of the Numismatic Supplement to the *Journal of the Asiatic Society of Bengal (JASB)* in 1906 (Narain n.d.), and the establishment of the Numismatic Society of India (NSI) at Allahabad in 1910, as a result of the efforts of Nelson Wright, G.P. Taylor, Richard Burn, R.B. Whitehead, and others, are two other significant activities that occurred during the first decade of the twentieth century that led to the study of coins on a large scale. In 1938, the NSI decided to launch the *Journal of the Numismatic Society of India (JNSI)*. In addition to being one of the most reliable numismatic journals, this journal soon became the main vehicle for the imaginative the NSI and its journal, and with his passing in 1960, a period of numismatic study came to an end.

The study of numismatics in India has advanced significantly in the last few decades since independence. The quality and sophistication of research in this subject have improved and now covers a wide range of topics. Coins can now be described by numismatics using more than just their physical attributes - such as metal, standard, fabric, style, and kind - as well as fundamental historical information like issuance and issuer. Instead, the emphasis has shifted to the study of type-motifs in order to determine their exact historical meaning. Numerous numismatics-related publications have been published under a variety of titles as the research landscape has grown, and many of these have made their way into the *JNSI*, considered a prestigious publication in the field.

Scholars have sought to extract nuanced historical insights from numismatic evidence. For instance, the discussion around type-motifs like 'Triton catching dolphin' and 'Dolphin twined round anchor' on coins associated with Hippostratus and Nicias, respectively (Bopearachchi 1991),

presents a case where these motifs could be interpreted as representing the resistance offered by the Indo-Greek rulers (Yavanas) against the Scythians (Sakas) in the western Punjab region. These motifs are suggested to symbolize battles on both land and river, implying a historical narrative. However, it's important to note that such interpretations can sometimes be speculative and open to different viewpoints.

More compelling examples are also discussed, such as the reverse type on certain silver tetradrachms of Eucratides featuring the Dioscuri charging with spears while riding galloping horses (Holt 1981, 17). This type-motif is proposed to signify the warlike nature and successful military endeavours of the Indo-Greek ruler Eukratides. Similarly, the 'ship coin' of Sri-Pulumavi is seen as an indicator of the maritime and commercial activities during the reign of the Satavahana ruler Sri-Pulumavi.

These observations, drawn from numismatic data, can contribute significantly to historical narratives and fall within Class I for historical writing. However, it's important to acknowledge that while these interpretations provide valuable insights, they can also involve an element of speculation. Numismatics continues to be a dynamic and evolving field where careful analysis of numismatic evidence contributes to our understanding of history; but, at the same time, it is crucial to approach interpretations with a degree of caution and consideration for alternative viewpoints.

In Class II of numismatic investigations, a categorization can be made for studies that primarily focus on the analysis of coin types and legends. These investigations delve into the lineage and historical context of rulers and dynasties through the careful examination of the symbols, inscriptions, and motifs present on coins. Two notable examples within this category are the research efforts involving the Indo-Greek ruler Strato II Philopator and a possible Saka leader associated with Gondophares.

1. Indo-Greek Ruler Strato II Philopator: Rapson's work in the *Corolla Numismatica* (Rapson 1906) exemplifies the type of investigation falling within this category. Rapson undertook the task of tracing the lineal descent of the Indo-Greek ruler Strato II Philopator using numismatic evidence. By analyzing the coin types and legends present on the coins attributed to Strato II, Rapson aimed to establish a genealogical connection and understand the historical lineage of this ruler. This type of investigation involves meticulously examining the iconography, inscriptions, and other elements on coins to draw conclusions about historical relationships.
2. Saka Strategos of Gondophares: In a similar vein, the research conducted by R.B. Whitehead (Whitehead 1947, 28–51), as presented in the *Numismatic Chronicle* (1944 and 1950), offers another example. Whitehead's investigation revolves around a possible Saka leader who may have held the position of a strategos under the rule of Gondophares. Through the analysis of coin types, inscriptions, and legends, Whitehead attempted to reconstruct the historical context and potential relationships within the Saka leadership during the reign of Gondophares.

Both of these examples highlight the significance of numismatic investigations centered on coin types and legends. These studies contribute to historical narratives by utilizing numismatic evidence to unveil details about rulers, dynasties, relationships, and historical events. This type of research involves a deep understanding of the symbolism and historical context behind the visual elements present on coins, enabling scholars to create narratives and hypotheses based on the numismatic data available to them.

In due order, studies of monograms, symbols, mintmarks, or any other artistic themes distinctive to dynasties, locales, or cities also evolve and may be classified as falling under Class III. The best example of its kind is Allan's research on the symbols found on ancient indigenous coins, which may be found in the British Museum's catalogue of 'Ancient Indian Coins' or in Altekar's study of Gupta coins from the Bayana Hoard (Altekar 1954; Allan 1914). Whitehead meticulously catalogued the Indo-Greek and Indo-Scythian monograms found on coins, and Cunningham and Von Sallet studied them in a learned manner. This form of inquiry is best exemplified by a critical analysis of the self-styled Soter Megas symbol, which first appeared in the *JNSI* in 1968 (Macdowell 1968, 28–48). It is unquestionably a fascinating contribution that needs to be carefully examined. However, it is important to note that no mint and monogram have been discovered by a numismatist at this time. This category also lends itself to extremely speculative research.

In the last quarter of the twentieth century, Indian numismatics experienced remarkable progress, with scholars taking innovative approaches that don't fit neatly into the previously mentioned three classes of numismatic research. These approaches have opened up new avenues of investigation, highlighting the evolving nature of the field.

Four distinct avenues of inquiry have emerged as a result of these scholarly endeavours:

1. **Comprehensive Study of Deities on Coinage:** Scholars have ventured into studying coins from a different perspective by comprehensively analyzing the deities depicted on coinage. This involves investigating the symbolism, iconography, and cultural contexts of divine figures portrayed on ancient coins. The iconographic study of deities contributes to understanding religious practices, cultural beliefs, and artistic influences of the time.
2. **Foreign Influence on Coins:** Another avenue of research focuses on exploring the influence of foreign cultures on the naming conventions of coins. This involves investigating how names and titles on coins reflect external cultural interactions and influences. Such research sheds light on historical connections and cross-cultural exchanges.
3. **'Gravity Flavour' of Antique Coins:** The term 'gravity flavour' suggests a focus on the intrinsic weight and physical characteristics of ancient coins. Scholars may study the metallurgical composition, standardization, and variations in weight of coins to uncover details about minting techniques, economic systems, and trade practices of the past.
4. **Numismatic Data Digitization:** The digital age has brought about the digitization of numismatic data. This avenue involves the use of technology to create databases, catalogues, and digital repositories of coin-related information. This not only facilitates access to information for scholars and enthusiasts but also allows for the analysis of large datasets for patterns and trends (Upadhyay and Bishwas 2025).

These new avenues of investigation represent a departure from the traditional classifications of numismatic research. They showcase the evolving nature of the field and its ability to adapt to changing research methodologies and technological advancements (Ganguly, n.d.).

It's important to acknowledge that with these novel approaches come challenges and potential contentions, especially in areas like iconographic study where interpretations can vary. As the field continues to evolve, the collaboration of scholars, interdisciplinary insights, and ongoing critical evaluation will contribute to the growth and refinement of these new avenues of numismatic research.

II

The study of hoards is another way to learn about the past through numismatic evidence (Majumdar 1961). A hoard is an accumulation of coins left behind as savings, booty, or treasure that were typically purposefully hidden by the original owners. These are sometimes discovered in buried containers such as copper or clay pots. They range in size from a few copper pieces left in a hole to over 2,000 gold coins, the original size of the famous Bayana Hoard. A numismatist may value a trove for producing new coin kinds: the Bayana trove produced previously unseen types of Gupta gold coins. However, the fundamental fact of its presence does not really matter whether a coin-type, errant private item, or hoard turns up in the bazaar. A hoard may also reveal information regarding the types and percentages of coins that were used, as well as their real uses. Therefore, before using a hoard's evidence, its character must be established. It is usually advisable to use the contents of many hoards from the same period to determine the nature of the most widely used currency. However, it is unfortunate that a majority of the time, hoards are polluted by being despoiled or, worse yet, selectively despoiled, before they reach the hands of scientific researchers.

Scholars such as Irfan Habib and Bhaskar Chattopadhyaya have attempted to map the locations where coin hoards were discovered (Habib 2010). In this process, most stray or minor findings were excluded. According to these scholars, this method helps identify the circulation zone of coins. For instance, hoard evidence suggests that a Kushana coin circulated across northern India, except for Gujarat and the southern and western parts of Malwa. Notably, hoards found east of Mathura and Harsinghpur in the Doab, extending south and east, contained predominantly copper coins, with no traces of Kushana gold coinage. Researchers have also sought to explain the absence of gold coins in this region.

Similar studies have been conducted for other historical periods, but drawing conclusions about territorial expansion solely based on hoard discoveries remains challenging. The absence of Roman coins in Gujarat, for example, has been cited as numismatic evidence suggesting that the region was not part of Indo-Roman trade networks.

Another intriguing find is the Gupta coin hoard discovered in Ethiopia (Goyal 2010). This discovery raises questions about the Guptas' interactions with the region and whether it indicates a loss of trade connections. Notably, this remains the only known Gupta hoard found outside India. However, many interpretations of such findings are speculative and lack corroborating evidence from the same historical period.

III

In addition, numismatic evidence was utilised in social studies in general and the Indian social structure in particular (Chatterjee 2010). Despite social improvement, it is thought that the barter system persisted despite the circulation of metallic coinage. Scholars have debated that the first coins were coined by merchants. When the state's grip on the economy loosened, guild merchants saw an opportunity to circulate their own coinage. This is, without a doubt, a critical question in the study of society. Although it is difficult to attribute the original authorship of the currency to the mercantile class or the ruling authority based on the uninscribed punch-marked coins, the inscribed coins of a later period strongly suggest that even after the State began to wield the authority of minting coins, the mercantile community continued to enjoy the authority of issuing their own coinage. The *sreshthis* and *sarthavahas* appear to have had a recognized place in Indian society that the ruling elite could not easily reject (Bandyopadhyay 1976). Another facet of society that

numismatic sources attempt to comprehend is the Indianization of foreign rulers. Furthermore, the process of assimilating foreign elements into the Indian population is a social phenomenon that can be studied via the lens of numismatics.

The circulation of money has increased the importance of determining the social status of various classes. It demonstrates that the mercantile and priestly elite received the lion's share of the country's riches. In terms of social classes, the ruling class, the Kshatriyas, relied on revenue collection, whilst the merchant class, the Vaishya, was involved in business (Singh 1976). Brahmanas accepted donations, whereas Shudras promoted the products of their crafts and enterprises. Certain studies have been conducted using numismatic evidence to better understand various aspects of society. However, it is important to recognize that society is a broader phenomenon.

IV

The value of coins in economic history is becoming more widely recognized. Coins serve as a measure of economic activity, and facilitate not just trade and commerce but also a wide range of social and political activities (Gopal 1965; Tripathi 1971). According to Upendra Thakur (Thakur 1961; 1972), the internal worth of a coin has more to do with economic history than the observable features of coins, as the observable features of coins are not very relevant for economic history. The study of the weight standard and the metallic composition of coins can yield useful data for economic history. Several researches have been conducted in the economic field, with the study of early mediaeval coinage being the most important. R.S. Sharma (Sharma 1976; Sharma 1965, 1–8) discusses the hypothesis of urban deterioration and the lack of currencies in the early medieval period in his article on the disappearance of coinage, particularly gold coins. In the last quarter of the twentieth century, his idea gained popularity and endorsement from a number of scholars. However, under the guidance of B.D. Chattopadhyay (Gopal n.d; Chattopadhyay 1994), this idea was challenged and a counter-argument was created. According to this viewpoint, there was no shortage of coinage throughout the period, as cans were used as a means of commerce in every corner of India. This group also presented various facts to counter Sharma's and others' viewpoints (Bhatia 2017). We can also observe the contentious outcomes provided by numismatic evidence here. Furthermore, it can be stated that the primary role of coins is as a medium of exchange. This is an important part of economic history in terms of numismatics. In this area, we need more targeted and purposeful probing. We would like to have a more precise understanding of the value of coins and their purchasing power in order to build a notion of pricing, salaries and wages, and living standards in various periods and areas. However, an examination of a coin's metallic composition will give us an estimate of its true metallic value. However, we have no way of determining its true worth during its period of circulation. Numismatists believe that scientific analysis of coins can supply us with information such as the identification of mines that supplied raw material. However, this part of the numismatic studies remains untapped.

V

Our museums play an important role in the field of numismatic research since they are the primary depositories of coins of any numismatic value that come from treasure troves, acquisitions, or bequests. However, rather than providing study facilities for students and serious collectors, many of our museums are nothing more than coin dumping grounds or safe deposit boxes. Nobody disputes

the issue of security in coin rooms, and indeed, norms and regulations governing the viewing of coins by outsiders should be strictly enforced. However, in the interest of security, scholars should not be denied the opportunity to study coins, nor should red tape be allowed to make such studies almost impossible.

Today, very few museums plan to publish catalogues of various currency series that they may own. Even reprinting out-of-print catalogues is not being considered. Many of our museums also have significant disadvantages. What about published catalogues? Many of them lack systematic and detailed coin acquisition registers. As a result, curators in charge of the numismatic areas are frequently unable to assist researchers in displaying specific coins that they may have. This dreadful state of affairs frequently results in the loss of priceless coins from the museum's cabinets. All museums are expected to keep a complete acquisition registry with descriptions, measurements, and weights of individual coins. In addition to descriptions, the record should include authenticated copies of photos of all important, rare, and precious coins. Consider the State Museum Lucknow's (SML) coin collection, which was came about through the acquisition of coins obtained through treasure-trove findings under the Treasure Trove Act of 1878. Between 1882 and 1980, 1,145 coin hoards were reported from Uttar Pradesh, which equates to around eleven hoards each year or one hoard per month. The acquisition of a hoard is a standard administrative procedure, but the examination, analysis, report, and disposal of the hoard might take a longtime. In 1980, A.K. Srivastava (Srivastava 1980) published *Coin Hoards of Uttar Pradesh*, a complete list of the coins in the state. However, no precise documentation or images of the dispersed or returned coins are retained in the SML, resulting in the loss of an important piece of monetary history to posterity. Over 100,000 antiquities are housed at this museum, including 40,824 coins, 258 medals, and 518 seals. As is evident from this breakdown, coins are the most common antiquity in the museum. This is the case in many Indian museums where a thorough examination of currency is still required.

VI

In today's world, numismatic research has become multi-faceted, making it extremely complicated and challenging. Recent difficulties include:

- a. Gold coins, like precious figures of stone or metal, are being smuggled out of the country.
- b. While genuine gold coins and even rare silver coins have been smuggled out of the country, fabricated gold and silver pieces are slowly infiltrating museums and private collections, maybe undiscovered.
- c. Forgery is also a challenge that is generally of two kinds: (i) hand-made and (ii) machine made.

We have no reliable evidence of the second type of forgery in ancient times. Though it is evident that forgers were active in ancient times, like their modern counterparts, and prepared fake coins, which has now created a problem for modern numismatists. A.S. Altekar was the first numismatist to discuss the question of forgery in modern times. He rightly pointed out that in modern times, coin dealers have prepared moulds from the genuine coins from which they forge their duplicates.

In addition, there are numerous unanswered concerns and problems about India's early indigenous currencies. The nature and age of so-called 'numismatic phrases', which appear in different ancient literary writings, are the most mysterious. We must first determine the metal and metrology of the actual coins. We must also establish their purchasing power and the extent to which

they are used in society. We also need to know who was responsible for issuing them. The existence of coins must also be determined. What about *nishkas*, *palas*, and *satamanas*? Were they, in fact, coins in any sense? If that's the case, what were their respective metals and metrology? Our understanding of the silver concerns known as *dharanas*, *puranas*, *karshapanas*, or *kahapanas* is likewise limited. We must also consider the relationship between these terms. Were they interchangeable? What metal did the *panas*, mentioned in the *Arthashastra*, consist of? If they were silver coins, as some scholars believe, their purchase power must have been substantial in those days. So how could an ordinary individual pay for anything? We must also determine how different authorities determined the theoretical weight of a specific numismatic unit. Where did the silver punch-marked coins come from? Were they from the same region of the country's mines or from separate regions? Were they imported and, if so, where did they come from? The answers to these questions may explain the coin's distribution direction as well as the nature and extent of internal and external interactions. Indians had recognized the value of and used gold since the time of Harappan. There are numerous references to gold and gold ornamentation in Vedic, Buddhist, and subsequent literature. But why are the first gold coins found only in the first and second centuries AD, when the Kushanas are said to have established their grasp on India? Why are there so few gold coins in the post-Gupta period? Is it because gold was so scarce in India at the time? What was the origin of the gold? To minimize confusion in the market economy, coins of the given dynasty must adhere to a basic weight standard. It has also been shown that coins from the same series have a minor weight fluctuation.

Finally, it can be said that there is a considerable amount of numismatic evidence accessible to scholars, but no definitive outcome has been achieved. Scholars have interpreted the sources in a variety of ways, leading to contentious findings in historical literature. Numismatists/scholars have advocated writing a comprehensive history of numismatic studies, but the scholarly world is still waiting. It is also true that across the centuries, the fact provided by numismatic evidence has been incomparable to other types of proof. This results in monotonous writing. Numismatic sources are still used appropriately to grasp the continuity of the content and to grow culturally. Cultural studies have recently emerged in the sector, although more research is needed. The situation worsened when scholars realized that whatever idea we have formed of our ancient historical past, notably of India, is based on only 10 per cent of the total accessible coin hoards. This means that 90 per cent of the coins are still under-researched, which has a great impact on the study of history. It is also true that proper research relies on the individual numismatist's competence. Numismatists must be devoid of all biases, and it is vital to have a thorough understanding of relevant scripts, ancient geography, and other pertinent information relating to political, economic, and social conditions. A good understanding of the language in which the record is written is also required for satisfactory decipherment and interpretation. Coin legends are typically faded and fragmentary. The scarcity of well-rounded epigraphists and numismatists in India is undoubtedly attributable to the nature of the subject at hand. Numismatists usually conduct this decipherment with the use of magnifying glasses. Traditional methods, particularly for the external examination of interpreting any coin, are quite labourious and limited in nature, requiring a high level of professionalism because there is always the possibility of human error. As a result, the final decipherment results, provided by old manual procedures, are not always universally accepted among historians. Also, it must be kept in mind that

if there is a possibility of receiving a new type or variety of coin, this limits the scope of whatever traditional cataloguing has been done thus far. When examining coins using manual/traditional methods, the researcher/scholar(s) may not necessarily pay attention to every feature of the coins. Another option for resolving certain challenges is digitization.

India's numismatic studies must be recognized on the international level. The field shouldn't be restricted to a select group of elite universities, and scholars should contribute to the advancement of this field of study. Coins have been unearthed in unexpected places, such as while tilling soil or excavating a well. Most of these, unfortunately, have been lost or ruined in some way. Unless a diligent numismatic organization exists, there is a risk that valuable source material for historical, cultural, political, or economic studies will be lost or misplaced. It has been noted that Indian coins aid in historical verification but not in its correction, and when they do, it is not significant.

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For three centuries copper coinage provided the basic monetary instrument of the Kushan Empire. In this article the progression of that coinage through time is chronicled as its issuers struggled to maintain a workable monetary system. Unlike many other ancient states, the Kushan Empire's monetary issues were only of gold and copper, with no significant issues in silver. The issue of gold coins remained fairly stable in weight, losing only about 6 per cent of its standard weight from its beginning in the early second century until the end of the dynasty about 350 CE, but its gold content was gradually reduced to about 40 per cent. In spite of the debasement, the gold coinage was so well regarded that it inspired issues of the same denomination, known as dinar in later sources, by the successor states of the Sasanian Kushanshahs, the Kidarite Huns, the Guptas and the kings of Kashmir. The copper coinage did not fare so well and went through several periods of disruption which progressively reduced it in both size and weight. Its problems began from the first reign of the empire and continued to recur until its last. Ancient texts and contemporary inscriptions contain no information on the monetary system, so it is only from the coins themselves that the changes to the coinage can be documented and any reasons for the progressive degeneration of the copper coinage can be conjectured. This study is based in part on the finds of Kushan coins from Begram and Taxila (Cribb 2021; Khan 2007, 2009, 2010 and 2014; Khan and Cribb 2012) and on the research for the British Museum catalogue of Kushan coins (Cribb and Bracey 2025).

Origins of the Kushan Copper Coinage

When the first Kushan emperor Kujula Kadphises rose to power in the mid-first century CE and extended his rule southwards to take control of the regions of the Kabul valley, he began to issue coins to fit into the pre-existing monetary system of this region. When he arrived there seem to have been two types of coin in circulation there, Indo-Scythian copper imitations of silver Indian-standard tetradrachms in the name of the Indo-Greek king Hermaeus and copper coins on the same weight standard issued in the name of the Indo-Parthian king Gondophares. Kujula Kadphises issued new copper coins matching these. The coins being replaced weighed c. 9.5 grams, and represented the final stage in the progressive debasement of the Indo-Greek silver tetradrachm. When the Indo-Scythian imitations began they set out to continue the Indo-Greek monetary system with silver tetradrachms and drachms and square copper coins. The imitation tetradrachms and drachms copied the latest silver coins in the name of Hermaeus, the last Greek king of the region, but the square copper imitations were based on the issues of earlier Greek kings Apollodotus I and Eucratides I (Senior 1999). Unfortunately, the supply of silver in the Kabul region was limited and the Indo-Scythian issuers gradually debased the tetradrachms and drachms and reduced the weight of the copper imitations. By the time of the Indo-Parthian and then Kushan versions, only the tetradrachm denomination was in use and it no longer contained any silver. To the east of the Kabul valley the situation was similar, and the coinage issued by the Indo-Scythians and Indo-Parthians in Gandhara, Swat and the Taxila region also became very debased and the accompanying copper coins

reduced in weight and were often debased with lead; in a few instances the copper coins were completely replaced with lead issues.

The Kushan's main copper mint seems to have been based in Begram, then the main city of the Kabul valley. Its location is perhaps related to the ready supply of copper mined at Mes Aynak. It was probably a continuation of the mint used by the Indo-Scythians and



Fig.1



Fig.2

the Indo-Parthians to coin their copper tetradrachms. The first Kushan issues retained the obverse design of the Indo-Scythian imitations, with a portrait of the Greek king Hermaeus surrounded by a Greek inscription giving his name and title, Fig.1. The Kushan portrait was a slight adaptation of that on the latest Indo-Scythian types and the inscription contained an error in the Greek, replacing ΒΑΣΙΛΕΥΣ ΣΩΤΕΡΟΣ ΕΡΜΑΙΟΥ (of King Hermaeus the Saviour) with ΒΑΣΙΛΕΥΣ ΣΤΕΡΟΣΣΥ ΕΡΜΑΙΟΥ. On the reverse, the Zeus of the Indo-Scythian and the Nike of the Indo-Parthian issues were replaced with Heracles and a Gandhari inscription written in Kharoshthi script naming the Kushan king with his traditional title and a new epithet *kujulakasadkushanayavugasadhamatidasa* (of Kujula Kadphises Kushan Yabgu firm in the law). When the issue began it weighed c. 9.5g, the normal weight of the Indian standard tetradrachm. The downward pressure on the monetary system which had reduced this denomination from silver to a copper coin continued, but as there was no longer any silver to replace,



Fig.3



Fig.4

the copper content began to be reduced and the weight of the coins began to fall. From the surviving coins it appears that part of the downward pressure was not in the hands of the minting authority but in the hands of the market, as many of the lighter versions were unofficially made copies. The mint responded by reissuing the denomination at full weight, but replaced the Greek inscription with the Kushan ruler's name ΚΟΖΟΥΛΟ ΚΑΔΦΙΖΟΥ ΚΟΡΣΕΝΟΥ (of Kujula Kadphises Kushan), Fig.2. This issue also gradually reduced in weight and was copied unofficially. The Kushan coins collected from Begram by Charles Masson (Cribb 2021) included over 590 coins issued by Kujula Kadphises, but the majority of these were unofficial copies, some weighing as little as 0.6g, Figs.3 and 4.



Fig.5

When Kujula Kadphises added the Taxila region to his domain he brought the Begram coinage with him and began to issue it in Taxila too (Khan and Cribb 2012). The city already used debased Indo-Scythian tetradrachms still containing a little silver, but the money introduced must have circulated well as over 2,000 examples were found in the city by the excavator (Marshall 1951). New variations of the Begram types were struck in the city, still retaining the Hermaeus or the Kujula Kadphises Greek inscriptions, but very badly executed, and attempting to set a new weight standard at about 6g, Fig.5. As in Begram, many unofficial copies were also made

Fig.1: Kujula Kadphises, Begram mint Hermaeus imitation Indian standard tetradrachm. IOC.256, 8.33g.

Fig.2: Kujula Kadphises, Begram mint Hermaeus imitation in own name. IOC.258, 9.31g.

Fig.3: Kujula Kadphises, Begram Hermaeus imitation unofficial copy. IOLC.1373, 2.76g.

Fig.4: Kujula Kadphises, Begram Hermaeus imitation unofficial copy. IOLC.1373, 1.39g.

Fig.5: Kujula Kadphises, Taxila mint Hermaeus imitation in own name Indian standard tetradrachm. IOC.261, 6.41g.



Fig.6

and the attempts to maintain the weight standard failed as at Begram, Fig.6. Another region taken by Kujula Kadphises was Kashmir, but here he issued a new coinage, copying the issues of the last Indo-Scythian ruler Zeionises/Jihonika. Zeionises still had access to silver as he issued his own silver tetradrachms and copper coins weighing about

10g. Kujula Kadphises, however, only issued his own version of the copper coins, replacing Zeionises' bull and lion designs with bull and camel designs, Fig.7. He retained a corrupt version of the Greek inscription of Zeionises, but introduced a new Gandhari/Kharoshthi inscription with various versions using the title 'king' rather than 'yabgu', and on some issues extending the royal title to king of kings and adding the title *devaputra* (son of god/ son of the gods).



Fig.7

In the later years of Kujula Kadphises, reign attempts were made at Taxila, at an unknown location and at Begram, to reform the coinage and set a



Fig.8

new standard. The reform at Taxila took two steps. The first was to introduce a new denomination, weighing c. 3.5g, with a new design, featuring a Roman imperial bust on the front and Kujula Kadphises seated on a cross-legged stool on the other with inscriptions in Greek and Gandhari/Kharoshthi naming the king with his *yabgu* title, Fig.8. The denomination appears to match approximately the lowest

weight of the latest official version of the Begram denomination and its unofficial copies at Taxila. The unofficial copying and the falling weight of both official and unofficial coins continued, so another attempt at reform was made, with a new denomination and design. The new coins averaged c. 1.75g and featured the king seated cross-legged on one side and a standing Zeus-like god on the other; the inscriptions were ill done but still gave Greek and



Fig.9

Gandhari/Kharoshthi versions of the king's name and *yabgu* title, Fig.9. These reforms didn't last beyond the end of Kujula Kadphises's reign. Another type of reduced-weight Indian-standard tetradrachm issued at an unknown location has been reported from Hazara (to the north of Taxila) and at Begram, Fig.10. They seem to represent a replacement for the reduced-weight Begram Heracles coinage when it had dropped to c. 6g. The inscriptions named



Fig.10

Kujula Kadphises and his title Kushan *yabgu*, but the obverse inscription was written in Bactrian using Greek script, rather than Greek itself. The designs featured a helmeted bust of the king and a warrior holding spear and shield. This type is relatively rare, so can be seen as a failed attempt at stabilising the coinage.

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- Fig.6: Kujula Kadphises, Taxila Hermaeus imitation unofficial copy. IOLC.1373, 3.81g.
 - Fig.7: Kujula Kadphises, Kashmir mint bull-camel copper denomination. 1894, 0506.1831, 10.54 g.
 - Fig.8: Kujula Kadphises, Taxila mint reformed unit Augustus head type. IOC.264, 2.79g.
 - Fig.9: Kujula Kadphises, Taxila mint reformed unit cross-legged king type. 1922, 0213.62, 1.69g.
 - Fig.10: Kujula Kadphises, unidentified mint helmeted king type 1888, 1208.530, 4.54g.

The reform at Begram was more successful and continued into the reign of the second Kushan king, Wima Takto. The reform introduced two denominations, a c. 2.25g coin to match the circulating light-weight copies of Kujula Kadphises's Heracles coins and a multiple denomination weighing c. 8.5g, Figs. 11 and 12. The denominations



Fig.11



Fig.12

were clearly chosen to conform with the Attic weight standard which the Kushan administration was already using in Bactria. The denominations could be understood as Attic hemidrachms and didrachms. The coins did not bear the kings' name, just the titles in Greek, ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΣΩΤΗΡ ΜΕΓΑΣ, 'King of Kings, the Great, the Saviour'. Their designs showed the king on horseback surrounded

by Greek inscription and a bust of the god Miiro on the other side, with a distinctive tamga on both sides (Cribb 2014). On the first issues the tamga had four prongs. This reform was more carefully planned so that the coins already in use could easily be exchanged for the new coins, which modern numismatists refer to as Soter Megas coins. The production of new coins was



Fig.13

immense and the old coinage was successfully demonetised. Stability was achieved and the Begram coinage spread throughout the Kushan territory (Cribb 2015).



Fig.14

Alongside the Begram and Taxila coinages and their reformed versions, Kujula Kadphises also issued copper coins in Bactria, made in the Termez region. These coins were copper copies of Attic weight standard silver tetradrachms (c. 17g) and drachms (c. 4.25g), copying the bust and Zeus designs and inscriptions of the coins of the Greek king Heliocles I, Fig.13. Their weights suggest a reduced version of the Attic standard as examples of the tetradrachm as low as c. 12g are reported. Towards the end of Kujula



Fig.15



Fig.16

Kadphises reign the design of these coins was changed and the reverse showed a standing horse in place of the figure of Zeus copied from the coins of Heliocles, Fig.14. The horse often shows the tamga used on the Soter Megas coins on its rump.

Wima Takto and Wima Kadphises: The Creation of a New Copper Coinage System

Kujula Kadphises's Begram reformed coinage was continued into the next reign under his son Wima Takto, but with the tamga only having three prongs, Figs.15 and 16. Finds of the coins suggest they

Fig.11: Kujula Kadphises, Begram mint reformed issue Soter Megas type hemidrachm. 1894, 0506.775, 2.06g.

Fig.12: Kujula Kadphises, Begram mint reformed unit Soter Megas type didrachm. 1894, 0506.772, 8.23g.

Fig.13: Kujula Kadphises, Bactria Heliocles imitation with Zeus tetradrachm. 1890, 0404.23, 15.13g.

Fig.14: Kujula Kadphises, Bactria Heliocles imitation with horse drachm IOLC.1520, 3.83g.

Fig.15: Wima Takto, Begram mint Soter Megas type didrachm. 1838, EIC.76, 8.35g

Fig.16: Wima Takto, Begram mint Soter Megas type hemidrachm. IOLC.2270, 2.01g



Fig.17

circulated into most parts of the Kushan domain he inherited. During his reign the Kushan empire expanded to include Gandhara and Mathura and new coins were issued for these territories. The Gandhara coinage borrowed features from the Soter Megas coinage, but also retained features of the Indo-Parthian coins of Sasan it replaced. These coins featured the mounted image of the king on

one side and a Zeus-like god on the other, Fig. 17. Its inscriptions repeated those of the Soter Megas coinage, but in both Greek and Gandhari/Kharoshthi, the king is only identified by his initial, the single letter *vi* in Kharoshthi in the field. Although the surviving examples look like copper coins they are very base



Fig.18



Fig.19

silver Indian standard tetradrachms (c. 9g) and drachms (c. 2.12g). Alongside them a copper denomination, weighing c. 1.6g, was issued with Kushan standing gods on each side, Oesho and Ardochsho with the waterpot symbol which appeared on the Gandharan tetradrachms and drachms, but no inscription apart from the single letter *vi* in Kharoshthi,

Fig. 18. The coinage issued in Mathura used the inscription from Soter Megas coinage, but used designs based on the bust and Zeus type copper reduced Attic tetradrachms, issued by Wima Takto's father in Bactria, Fig. 19. The denomination appears to be an Attic drachm, c. 4.25g. Wima Takto also issued a new coinage in Bactria to replace the Heliocles imitations, Fig. 20. This new



Fig.20

coinage was also based on the Soter Megas type from Begram, but had a helmeted bust in place of that of Miuro. Like the Gandhara issues the king was only identified by the Kharoshthi letter *vi*.



Fig.21

The Soter Megas coinage seemed to have successfully replaced the other coinages introduced by Kujula except in Kashmir where the bull and camel coinage continued. Initially the c. 10g standard inherited from Zeionises/Jihonika and Kujula Kadphesies continued, but then a new denomination was introduced, approximately an Attic drachm of c. 4.25g, Fig. 21. Wima Takto's coins replaced his father's name with his own. The Greek inscriptions remain corrupt, but on some examples Wima Takto's name can be read.



Fig.22

The success of the Soter Megas coinage in eliminating the old currency of light weight unofficial coins meant that in its final phase there were no issues of the lower c. 2.12g denomination and the c. 8g coin alone was issued as the new stable currency. Late in his reign there appears to be evidence of another change being planned as two examples have been recorded of a drachm coinage weighing c. 4.25g with an portrait of the king enthroned with the tamga appearing on the Soter Megas coinage on the obverse (Fig. 22). One example was collected in Hazara to the north of Taxila,

Fig.17: Wima Takto, Gandhāra mint Soter Megas type Indian tetradrachm. IOLC.1567, 9.42g.

Fig.18: Wima Takto, Gandhara copper denomination. 1894, 0506.827, 1.30g.

Fig.19: Wima Takto, Mathura mint Soter Megas type. 1894, 0506.815, 4.35g.

Fig.20: Wima Takto, Bactria Soter Megas type. IOC.247, 12.52g.

Fig.21: Wima Takto, Kashmir bull-camel drachm, 1998, 1202.17, 4.36g.

Fig.22: Wima Takto, unidentified mint enthroned king type. 1922, 0423.27, 3.74g.

the other was observed in trade, so it is unclear where this type was issued. The inscription on this new type was in Bactrian using Greek script ΟΟΗΜΟ ΤΑΚΤΟΟ ΒΑΟ. The type could link this coin to the Kashmir mint where the drachm denomination was already in use and the first issue of Kanishka I also showed the king enthroned with a Bactrian inscription.



Fig.23

The third Kushan king, Wima Kadphises, built on the success of the Soter Megas coinage by replacing it completely. As part of his reform of the coinage, he retained the Soter Megas Attic weight standard, but introduced new denominations, Fig.23. He raised the weight of the main denomination from Wima Takto's didrachm to a tetradrachm of c. 17g and also issued a copper drachm (c. 4.25g). In his second phase of coinage he also issued didrachms (c. 8.5g), but in smaller numbers. The limited issue of didrachms could suggest the continuing circulation of Soter Megas coins filling that gap. These coins were inscribed in Greek ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΣΩΤΗΡ ΜΕΓΑΣ ΟΟΗΜΟ ΚΑΔΦΙΣΗΣ (King of Kings Wima Kadphises the Saviour the Great) and in Gandhari/Kharoshthi *maharajasarajadirajasasarvaloga'isvarasamahisvarasa v'imakathpiśasatratarā* (of King, King of Kings, Lord of the Whole World, Great Lord, Wima Kadphises, the Saviour) (the brief first issue of coins were only inscribed in Greek). Alongside these copper coins he also issued gold coins on a slightly reduced Attic standard, with a standard unit, weighing c. 8g, later known as a dinar because of its similarity in size to the Roman gold denarius, together with a double weighing c. 16g, a half weighing c. 4g and a quarter weighing c. 2.g. With this reform he established a monetary system that continued until the end of the dynasty in the mid-fourth century, but with a gradually reducing number of denominations, the gold reduced to the unit and its quarter and the copper to a single unit, based on the tetradrachm but progressively reducing in weight.



Fig.24

Kanishka I to Huvishka: Success and Failure

The next reign, of the fourth Kushan king Kanishka I, continued the system established by Wima Kadphises, using the Attic weight standard. Curiously, the first issue of copper coins was only of didrachms, Fig.24, perhaps to replace the disappearing Soter Megas coins. This issue showed the standing king making an offering at a small fire altar on the obverse and a deity on the reverse, and was inscribed in Greek with the king's name and title ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΚΑΝΗΒΚΟΥ (of King of Kings Kanishka) and the Greek name of the god (either ΗΛΙΟΣ or ΝΑΝΑΙΑ). This was soon replaced with a second issue consisting of tetradrachms and didrachms made at Kanishka I's main copper mint at Begram, Fig.25. The second issue replaced the Greek of the first issue with an inscription in Bactrian, written using Greek script, giving a



Fig.25

Fig.23: Wima Kadphises, Begram mint tetradrachm. 1894, 0506.1868, 17.10g.

Fig.24: Kanishka I, Begram mint Greek inscription didrachm. IOC.286 8.54g

Fig.25: Kanishka I, Begram mint Bactrian inscription tetradrachm with headdress 1. 1989, 0904.4013, 16.85g.



Fig.26

simplified version of the king's title $\text{PAO KANH}\text{P}\text{KI}$ (of King Kanishka). The names of the gods on the back were also in Bactrian (MIPO , NANA , MAO , $\text{A}\text{O}\text{PO}$, OAO or OHPO). About midway through Kanishka's reign a third issue, Fig.26, with the king wearing a different headdress, was made which omitted the didrachm.

Alongside the main copper mint at Begram there were two subsidiary copper mints. One seems to be in Gandhara and only came into production late in the reign, issuing only tetradrachms, distinguished from the production of the main mint by style and by the inclusion on most of them of a tamga on the obverse, Fig.27. The other was located in Kashmir, where there was another ready supply of copper, distinguished by the inclusion of enough iron in the coins to make them responsive to a magnet, Fig.28. The Kashmir mint only issued



Fig.27



Fig.28

drachms and more rarely hemidrachms, most of which were distinguished by the presence of a Kharoshthi control mark before the king's face. The production of coins at this mint began with a rare issue of coins showing the king enthroned and inscribed $\text{KANH}\text{P}\text{KI KO}\text{PANO}$ (Kanishka Kushan), followed by issues showing the king standing and inscribed $\text{PAO KANH}\text{P}\text{KI}$ (of King Kanishka) or $\text{PAO KANH}\text{P}\text{KO}$ (King Kanishka). Examples of this coinage have been seen overstruck on copper drachms of the Wima Takto bull and camel type, suggesting that they may still have continued in circulation and perhaps production during the reign of Wima Kadphises. During the reign of Kanishka I there were also a few exceptional issues which are difficult to locate in time and place, apart from the tetradrachms with images of the Buddha. The Buddha coins depicting both the historical Buddha Sakyamuni and the future Buddha Maitreya seem to have been a brief special issue which also included didrachms and drachms, all apparently issued at the main mint very late in the reign (Cribb 1999–2000), Fig.29. The other small issues are of drachms and hemidrachms with designs not matching the productions of the three identified mints.



Fig.29



Fig.30

At the beginning of the next reign of Huvishka, coins were issued on the same Attic standard as those of Wima Kadphises and Kanishka I, but only tetradrachms at the main mint and drachms in Kashmir. The Kashmir coins continued the standing king design of Kanishka I, but the main mint introduced new designs. Three different obverse designs were employed, seemingly to distinguish the workstations or workshops in use at the mint. The

designs featured: 1. the king riding an elephant, holding an elephant goad and a sceptre, Fig.30; 2. the

Fig.26: Kanishka I, Begram mint Bactrian inscription tetradrachm with headdress 2. IOLC.2691, 16.03g.

Fig.27: Kanishka I, Gandhara mint Bactrian inscription tetradrachm. 1894, 0506.1442, 15.89g

Fig.28: Kanishka I, Kashmir mint drachm. 1922, 0424.3637, 3.90g.

Fig.29: Kanishka I, Begram mint Buddha type didrachm. 1847, 1201.175, 8.17g.

Fig.30: Huvishka, Begram mint elephant rider tetradrachm IOC.347, 15.74g.



Fig.31

king lying on a couch-like throne, holding a cup, and with one foot on the floor, Fig.31; and 3. The king seated cross-legged on a mountain top holding a club and a spear, Fig.32. These designs appear to have been inspired by those on the gold coins of Wima Kadphises. The Bactrian inscriptions on these coins were longer than those used on Kanishka I's coins: PAONANO PAO OOHPE

KOPANO (of King of Kings, Huvishka Kushan).

Although the Attic weight standard was intended, the actual weight of Huvishka's copper tetradrachms was not maintained and many examples weigh as low as c. 12g. The cause for this is not evident in the coins themselves, but it could have been a sharp decline caused by a crisis. The decline prompted the production of unofficial copies mostly of inferior weight; in fact, specimens as low as c. 1g have



Fig.32



Fig.33

been recorded, Figs. 33 and 34. The mint seems to have reacted to this and produced its own light-weight issues. A possible cause of this crisis could be the plague which beset the Roman Empire from c. 166 CE until 180 CE. The plague was also prevalent in China during the period c. 161–185 CE, i.e. midway through Huvishka's reign. Whatever the cause, this crisis had a long-term effect on Kushan

copper coinage. From this point onwards there was a steady decline in its weight standard and fractional denominations of the main unit were no longer issued. During the crisis there was a massive proliferation of unofficial copies, so that very quickly all the earlier full-weight coins were removed from circulation. Some were recycled into new lighter coins of unofficial copies, but many were exported out of the Kushan Empire into northern India, where they found a new role as the



Fig.34



Fig.35

currency of the region. Most of the hoards of Kushan coins found in northern India are composed of worn examples of the full-weight coins of Wima Kadphises, Kanishka I and Huvishka (e.g. Basu Majumdar and Ahamad, 2010). As the supply ran out unofficial copies of these coins, particularly of Kanishka I, were made and circulated in place of the original coins. In the eastern parts of northern India, particularly Bihar and Odisha, cast copies of Kanishka I's coins were also made and remained in circulation until the fifth century (Tripathy 1986; Cribb 1985a; Jongeward and Cribb 2015, 243–250).

Once the crisis was over, the Kushan authorities began to regain control and set a new weight standard, c. 10g, and the main copper mint restarted the issue of official coins, initially using the earlier designs, Fig.35, but soon replacing them with a single type with the king riding an elephant on the obverse and a standing image of Oesho on the reverse, Fig.36.



Fig.36

Fig.31: Huvishka, Begram mint enthroned king tetradrachm 1894, 0506.1520, 15.09g.

Fig.32: Huvishka, Begram mint mountain top tetradrachm 1847, 1201.234, 14.85g.

Fig.33: Huvishka, Begram unofficial elephant rider copy 1922, 0116.48, 3.47g.

Fig.34: Huvishka, Begram unofficial enthroned king copy IOLC.3393, 1.69g.

Fig.35: Huvishka, Begram mint enthroned king reduced standard tetradrachm IOLC.3173, 8.58g.

Fig.36: Huvishka, Begram mint final phase elephant rider reduced standard tetradrachm 1922, 0424.2984, 9.93g.

The Gandhara mint is only known to have issued a handful of tetradrachms on the Attic standard, mostly with the elephant rider obverse, distinguished from the issues of the main mint by the king holding a club and a Kharoshthi inscription *yodhavade*, probably the name of an official, alongside the deity on the reverse. The main production of this mint started after the official weight reduction,



Fig.37



Fig.38

but the Gandharan mint issued its copper coins at a slightly higher standard c. 12g, mostly with the elephant-rider type, but with a few rarer issues featuring the throne and mountain-top designs. At first, the *yodhavade* types continued at the reduced weight standard, Fig.37, but were then followed by a new series which returned to naming the deity on the reverse. The Gandhara mint used a different set of deities to the main mint, still featuring

Mao, Miuro and Oado, but adding Heracles, Ardochsho and Pharro, with a few rare instances of Oesho, Athsho and Nana, Fig.38. The majority of the issues continued to feature the elephant rider, but towards the end of the reign the reverse were reduced to only feature Ardochsho, Fig.39. Curiously, during the post-crisis period, a new wave of unofficial copies began to appear in Gandhara, copying the designs of the Gandhara mint but rarely weighing less than c. 7g, Fig.40.



Fig.39



Fig.40

During the period after the crisis, the Kashmir mint did not reopen but another mint, located in Mathura, came into action. Its designs followed those of the main mint before the crisis but developed its own distinctive style and made coins at a lower weight standard than the other two mints, c. 8.5g, Fig.41.

Vasudeva I and the Beginning of the Decline

By the end of Huvishka's reign the coinage had been restabilised, with the two most productive copper mints each issuing a single type of coin—the main mint at Begram issuing elephant rider with Oesho and the Gandhara mint issuing elephant rider with Ardochsho types. The new coinage of the next king, Vasudeva I, followed the same pattern and had a single type, with the king wearing armour standing before a small fire altar on the obverse and the god Oesho standing before a bull on the reverse, with the Bactrian inscription giving the king's name and the usual title $\text{PAONANO PAO BAZOΔEO KOPAHO}$ (King of Kings,



Fig.41

Fig.37: Huvishka, Gandhāra mint elephant rider Yodhavade reduced standard tetradrachm 1922, 0424.3622, 12.67g.

Fig.38: Huvishka, Gandhāra mint elephant rider reduced standard tetradrachm 1893, 0506.23, 13.24g.

Fig.39: Huvishka, Gandhāra mint final phase elephant rider reduced standard tetradrachm 1982, 1117.28, 11.58g.

Fig.40: Huvishka, Gandhāra elephant rider unofficial copy reduced standard tetradrachm 1922, 0424.3590, 8.80g.

Fig.41: Huvishka, Mathura mint enthroned king reduced standard tetradrachm 1989, 0904.4033, 8.74g.



Fig.42

Vasudeva, Kushan), Fig.42. It is likely that two mints were in production, but it is not yet possible to distinguish the coins made in Gandhara from those made at the main mint in Begram. At first, the coins retained the c. 10g weight standard of the main copper mint under Huvishka, but soon

dropped the weight of the coins to c. 8g, Fig.43. While the 10g coins were in circulation the later issues of Huvishka also continued in circulation as they were close in weight standard. A trade hoard parcel examined by Gul Rahim Khan(2006) illustrates this well, as in this large parcel of 224 10g standard copper coins of Vasudeva I, there were also 37 late Huvishka coins on his 10g standard. The same hoard also shows a tail of earlier heavier coins, 5 units of Wima Kadphises, 10 of Kanishka I and 3 of Huvishka, still available for hoarding, but not necessarily in circulation.

Many of Vasudeva's new c. 8g coins were struck on a flan with one edge cut off, suggesting that either earlier Huvishka and Vasudeva I coins were recycled after their weight was reduced by a single cut, or a lot of blanks at the old weight had been prepared and then cut down to fit the revised standard. Now the coins were half the weight of the standard set under Wima Kadphises but had almost the same design. The coins of Huvishka on the lighter weight standard and their many unofficial copies seem to have disappeared from use once Vasudeva I had restabilised the coinage at c. 8g.



Fig.43



Fig.44

A curious exception to the general progress of the coinage is a group of copper coins weighing c. 5g. They have the same designs as the main mint coins, but in a different style and were inscribed just $\text{PAO BAZO}\Delta\text{EO}$ (King Vasudeva), Fig.44. Examples are only reported from north-western India, so it is possible that they are a continuation of the Mathura mint, where under Huvishka a weight standard of c. 8.5g, lower than that of the main mint, was in use. Their size and style suggest a copper drachm like that issued at the Kashmir mint under Kanishka I and early Huvishka, but the weight suggests a half unit of Vasudeva I's first issues. What is more likely is that they are a low-weight unit exclusive to the Mathura region.

Sasanian Invasion of Kushan Territory and the Final Decline of Kushan Copper Coins

At the end of Vasudeva I's reign, the Kushan Empire met with another catastrophe as parts of its northern territories were captured by the Sasanians. A new state was formed and ruled over by the Sasanian kings who styled themselves with the title Kushanshah. The next Kushan king, Kanishka II, ruled over a much smaller territory than his predecessors. His coins were made at only one mint and had a single design, the standing king wearing court dress (an overcoat over a belted tunic with leggings) making an offering at a small fire altar on the obverse and an enthroned figure of the goddess Ardochsho on the reverse, Fig.45. The inscription on the obverse was the usual Bactrian name and



Fig.45

Fig.42: Vasudeva I, Begram mint early phase reduced standard tetradrachm IOLC.3495, 10.14g.

Fig.43: Vasudeva I, Begram mint late phase reduced standard tetradrachm IOLC.3663, 8.26g.

Fig.44: Vasudeva I, Mathura mint reduced standard tetradrachm 1983, 0119.3, 4.38g.

Fig.45: Kanishka II, Begram mint early phase reduced standard tetradrachm 1894, 0506.1544, 7.84g.

title $\text{BAONANO BAOKANHPKO KOBANO}$ (King of Kings Kanishka Kushan) and on the reverse the name of the goddess APAOXPON , but the inscriptions were often not to be seen as they were off the edge of the coin, with just a few letters to be seen. Finds of his coins suggest that the eastern part of Bactria was still under Kushan control, but western Bactria,



Fig.46

including the former Kushan capital Balkh, was now ruled by the Sasanians. The Sasanian Kushanshah issued copper coins based on the obverse of Kanishka II's coins and the reverse of Vasudeva I's; these issues are often referred to as 'Vasudeva imitations' and will be discussed further



Fig.47

below. The copper coinage of Kanishka II began the reign at the same weight c. 8g as those of the end of the reign of Vasudeva I, but through the reign they reduced to c. 6g, Fig.46, and many unofficial copies, Fig.47, were made. The impact of the Sasanian invasion must have greatly increased military expenditure and the loss of tax revenue, so the reducing weight of the coins probably reflects the pressure on the Kushan state at the time. The falling official weight would have triggered the production of unofficial copies as forgers would have been encouraged to melt down heavier coins to recycle the copper into lighter coins.

The Sasanian pressure on Kushan territory continued and under the next Kushan king, Vasishka, further territory was lost. By the end of Vasishka's reign the Sasanian emperor Shapur I (240–270 CE) could claim to rule up to the gates of Peshawar. Vasishka issued copper coins at three mints. Two mints issued coins showing the king wearing armour in the same pose as the coins of Vasudeva I and Kanishka II, with the god Oesho with bull on the reverse (Cribb, Khan and Amanullah 2012). Bactrian inscriptions were no longer to be seen and the coins are



Fig.48



Fig.49

distinguished by the style and the frequent presence in the field of a Brahmi letter *chu*, which also appeared on many of Vasishka's gold coins. The first of these mints seems to have been at the location of the former Kushan main mint at Begram, Fig.48, and the second appears to be the same mint relocated eastwards as the Sasanians captured the Kabul valley region and pushed into Gandhara, Fig.49. The two mints are distinguished by the shape of the king's armoured skirt, with the first have a straight hem and the latter a curved one. The third mint's coins showed the king in the usual pose but wearing court dress and the enthroned goddess Ardochsho on the reverse, Fig.50. This mint was also located eastwards of the Sasanian advance as it continued into the next reign of King Kanishka III. The coins of Vasishka seems to have started at the same standard weight, c. 6g, as the late coins of Kanishka II and seem to have maintained throughout his reign.



Fig.50

Fig.46: Kanishka II, Begram mint late phase reduced standard tetradrachm IOLC.4129, 5.50g.

Fig.47: Kanishka II, Begram unofficial copy IOLC.4164, 1.76g.

Fig.48: Vasishka, first mint Oesho type reduced standard tetradrachm. 1889, 1203.23 5.62g

Fig.49: Vasishka, second mint Oesho type reduced standard tetradrachm. OR.7002 5.14g

Fig.50: Vasishka, third mint Ardochsho type reduced standard tetradrachm. In trade, 5.6g.



Fig.51

The next Kushan king Kanishka III, the son of Vasishka, seems to have only controlled part of Kushan territory as he only issued copper coins at the third copper mint operating under his father, Fig.51. During his apparently short reign he continued to issue copper coins with the Ardochsho reverse, but the king on the obverse wore armour. Like the coins of his father, his coins lacked a Bactrian inscription, but can be recognised as they had the same Brahmi control marks as his gold coins. His coins were struck to a standard of c. 5.5g

The reason for Kanishka III's limited copper coinage and short reign seems to be the challenge to his rule by another Kushan king, Vasudeva II.

This challenge can be demonstrated by Vasudeva II's direct succession to Vasishka at one of the Kushan gold mints where no coins of Kanishka III were issued. At Kanishka III's only gold mint, Vasudeva II also succeeded. His copper coinage is distinguished from those of his predecessors by the placing of the first part of his name in Brahmi, '*vasu*', on the obverse. He issued copper coins at three mints. The main mint, which seems to have



Fig.53

been located in Gandhara or Taxila, issued two types of coins. The earlier issue featured a standing king in court dress on the obverse and enthroned Ardochsho on the reverse, Fig.52; the latter had the same reverse, but the king on the obverse was also enthroned, Fig.53.

Vasudeva II's copper coins were lighter than those of Vasishka and Kanishka III and continued to decrease in weight. The first issue of the main mint weighed c. 4.5g and the second issue c. 3.5g. These issues also suggest conflict with the Kushanshah as the coins of the earlier issue have been seen overstruck on coins of Peroz I, Fig.54, the third Kushanshah who



Fig.55

conquered the Kabul region, and the later issue consisted of many coins overstruck on coins of Hormizd I, the fourth Kushanshah, Fig.55. This issue suggests the capture by the Kushans of a large quantity of the Kushanshah's coins (Cribb 1981, 1985b; Khan 2008). Vasudeva II's other two mints are more difficult to locate and were very limited in their production. One mint



Fig.57

issued coins weighing c. 3.5g with the king in armour on the obverse and Oesho and bull on the reverse, Fig.56. The other mint also issued c. 3.5g coins which replaced the image of the king on the obverse with his *vasu* monogram or a Brahmi letter control mark and the Kushan tamga on the reverse, Fig.57.

The coins of the following reigns of the Kushan kings - Mahi, Shaka and Kipunadha - are difficult to identify as they do not include the king's name in their designs or control marks which link them to the gold coinage, but show a continuing reduction in the weight



Fig.52



Fig.54



Fig.56

Fig.51: Kanishka III, Ardochsho type reduced standard tetradrachm. 1956, 0409.176, 5.83g.

Fig.52: Vasudeva II, Gandharan mint early phase Ardochsho type reduced standard tetradrachm 1992, 0119.7, 3.01g.

Fig.53: Vasudeva II, Gandharan mint late phase Ardochsho type reduced standard tetradrachm 1922, 0424.3688, 4.50g.

Fig.54: Vasudeva II, Gandharan mint early phase Ardochsho type over-struck on Kushanshah Peroz I coin 1981,0735.1, 4.42g.

Fig.55: Vasudeva II, Gandharan mint late phase Ardochsho type over-struck on Kushanshah Hormizd I coin 1992,0119.23, 2.80g.

Fig.56: Vasudeva II, second mint Oesho type reduced standard tetradrachm 1990, 0921.112, 3.5g.

Fig.57: Vasudeva II, third mint monogram type reduced standard tetradrachm 1893, 0506.27, 3.56g.

standard. The first phase of issue during this period has two types, probably issued at two different mints. One weighing c.3.5g has a standing king on the obverse and Oesho and bull on the reverse, fig.58;



Fig.58



Fig.59

the other, weighing c. 3g, has a crudely drawn king accompanied by a Brahmi letter control mark on the obverse and enthroned Ardochsho on the reverse, Fig.59. The

second phase featured coins weighing about 2.5g with standing king on the obverse and enthroned Ardochsho on the reverse, Fig.60, followed by crudely made coins in a slightly different style with the same designs, but weighing c. 2g, Fig.61. A third phase had even lighter coins still with the same design



Fig.60



Fig.61

weighing c. 1g, Figs.62 and 63. All these coins have been found in the Gandhara and Taxila

region. Their light-weight denominations set the pattern for the coins of the Kidarites who succeeded the Kushans in this region.

In spite of all these changes in the coinage a few earlier coins survived. Even in the chaotic situation of the currency in the Kushan territory caused by all these changes in the weight standard, further chaos was caused by the penetration into the currency of the coins being issued by the Sasanian Kushanshahs. These included both their official issues and the



Fig.62



Fig.63

imitation Vasudeva coins they had initiated together with the resulting copies they prompted (see below). The gradual reduction of the weight standard of the official coinage and the other coins in use, however, tended to eliminate from use the earlier heavier coins, following the general principle of Gresham's Law that bad coins chase out good.

'Vasudeva Imitations' and Kushanshah Issues

Alongside the later Kushan copper coins, two other kinds of coins circulated into Kushan territory (Cribb 1981 and 1985b). The first series began when the Sasanians captured Kushan territory and began issuing gold and copper coins. Both were initially crude copies of Kushan types. The gold coins mostly copied the last issues of Vasudeva I as it is likely that they took over his main gold mint in Balkh when they captured the city. At first they just added dots to the Vasudeva I designs of standing king in armour on the obverse and Oesho and bull on the reverse, but then as they continued to issue coins, the design became distorted, the inscriptions were corrupted and control marks were added. This continued until the reign of Peroz I, the third Sasanian Kushanshah, when he changed the design of the gold coinage, adding his own name in place of that of Vasudeva and renaming Oesho as the high or exalted god OOPZAOANΔO IAZAΔO *oorzaoandoiazado* (on later coins this was changed to BOPZAOANΔO BAΓO, *borzaoandobago*, but with the same meaning). The copper

Fig.58: Mahi-Shaka, early phase Oesho type reduced standard tetradrachm 1992, 0119.621 3.58g

Fig.59: Mahi-Shaka, early phase Ardochsho type reduced standard tetradrachm 1992, 0119.3 2.77g

Fig.60: Mahi-Shaka, second phase Ardochsho type reduced standard tetradrachm 1992, 0119.347 3.22g

Fig.61: Mahi-Shaka, third mintlate phase Ardochsho type reduced standard tetradrachm 1994, 0707.15 1.65g

Fig.62: IOLC.4438, 1.47g.

Fig.63: 1980, 1004.83, 0.84g.



Fig.64

coins issued during this period were of two kinds, pieces with Sasanian designs for use in Balkh and imitations of Kushan coins elsewhere. These imitation coins, the so-called 'Vasudeva imitations', were based on the obverse of Kanishka II coins and the reverse of Vasudeva I coins, Fig.64. They shared control marks with the later gold imitations being made by the Kushanshah, either a swastika or the Brahmi letter *er*.



Fig.65



Fig.66

The latter control mark became fixed, placed under the king's arm and was soon simplified to a triangle, Fig.65. Their initial weight standard was c. 7g, but quickly fell, corresponding with the weight standard of contemporary Kushan copper coins.



Fig.67

When the Kushanshah Peroz I extended Sasanian control to the Kabul valley he began to issue new coins there with his bust on the front with his name and title in Bactrian and a fire altar/throne surmounted by the bust of the high god on the reverse, Fig.66. The first issues weighed about 4.5g, but the weight standard continued to drop so that the weight of the coins of the next reign, Hormizd I, was c. 3.8g, Fig.67, and of the following reigns of Hormizd II and Peroz II, was c. 3.5g. All had the same design distinguished by each king's crown. The final Kushanshah coinage in the Kabul valley was issued by the Sasanian emperor Shapur II (309–379 CE).



Fig.68

His coins initially also weighed about 3.5g, Fig.68, but soon the weight standard dropped to c. 2g, Fig.69. At some point during his control of the region, he tried to re-establish an earlier weigh standard and issued coins weighing c. 4g which had flames in place of the god on the fire altar/throne, Fig.70, but the majority of the coins issued with his bust were on the reduced standard. There were also very crudely made copies of his coins which often weigh as little as c. 1g.



Fig.69



Fig.70

Although the official issue of the 'Vasudeva imitations' seems to have stopped when Peroz I began to issue coins in the Kabul valley, copies of these imitations continued to be made throughout the period of Sasanian rule. These copies became increasingly crude, Fig.71, and the late issues turned the Kushan king into a stick figure resembling a bird and Oesho and his bull became a series of lines, Fig.72. The weigh of these crude copies dropped as low as c. 1g over time, Fig.73. The imitations and their copies, along with official Kushanshah issues



Fig.71



Fig.72

Fig.73. The imitations and their copies, along with official Kushanshah issues



Fig.73

- Fig.64: Kushanshah, imitation Vasudeva unit with Brahmi *er* under king's left arm. IOLC.3787, 6.19g.
- Fig.65: Kushanshah, imitation Vasudeva unit with triangle under king's left arm. IOLC.3813, 5.48g.
- Fig.66: Peroz I Kushanshah, Begram mint unit. IOLC.4248, 4.23g.
- Fig.67: Hormizd I Kushanshah, Begram mint unit. IOLC.4298, 3.70g.
- Fig.68: Shapur II I Sasanian emperor Begram mint unit. IOLC.4371, 3.89g.
- Fig.69: Shapur II I Sasanian emperor Begram mint unit. IOLC.4390, 2.46g.
- Fig.70: Shapur II I Sasanian emperor unidentified mint unit. 1845, 0613.70, 4.20g.
- Fig.71: Imitation Vasudeva crude copy. 1980, 0610.11, 5.43g.
- Fig.72: Imitation Vasudeva crude copy. 1981, 0325.33, 3.56g.
- Fig.73: Imitation Vasudeva crude copy. 1983, 0531.320, 1.22g.

with busts and fire altar/throne designs, circulated alongside Kushan copper coins and their falling weight standard closely matched that of the official Kushan coins (Cribb 1981, 1985; Khan 2008). When Vasudeva II captured and overstruck the coins of his contemporaries Peroz I and Hormizd I he didn't need to adjust the weights of the overstruck coins as



Fig.74

they fitted into the weight standard of his own copper coinage.



Fig.75

The takeover of both Kushan and Sasanian Kushanshah territory by the Kidarite Huns, c. 350 CE, brought to an end the issue of official Kushan and Kushanshah copper coins. Some imitations featuring the standing king, Ardochsho and Oesho types, continued to be issued under the Kidarite Huns and in peripheral areas of the Punjab. Imitation has

even been reported from the eastern Punjab and the Gujarat region, Figs. 74 and 75. These imitations combine the Kushan designs with Brahmi letters and wheels (Cribb 1985b; Rajgor 1991). In circulation they were sometimes mixed with late Kushan, 'Vasudeva imitations' and Kushano-



Fig.76

Sasanian coins. Kidarite Huns also included some



Fig.77

design on their own copper coins elements from Kushan coins alongside novel designs often inspired by Sasanian coin types, Figs. 76 and 77, (Cribb 2010; Vondrovec 2014). Their copper coins tended to be very small and weighed between c. 2 and 1g, like the Kushan coins they followed.

Conclusion

The initial period of Kushan copper coinage was unsuccessful in countering the disruption of the currency resulting from the monetary conditions encountered by the first Kushan king Kujula Kadphises as he gained control of the region - first Bactria, then of territories south of the Hindu Kush in the Kabul valley, the Taxila region and Kashmir. At the end of his reign, he managed to begin the stabilisation of the copper coinage by introducing the Attic weight standard at his main copper mint in Begram. By the end of reign of his son Wima Takto, this new standard, manifested in copper didrachms of c. 8.5g made in Begram, circulated through most of the Kushan domain. This enabled the next king to extend the range of Attic standard denominations and shift the leading denomination from a didrachm to a tetrachm of c. 17g. This denomination became the mainstay of the Kushan copper coinage until the end of the dynasty. However, the weight of the denomination could not be sustained and gradually fell over the next two centuries to c. 2g.

The causes for the reduction in the weight standard can only be guessed as there are no written records to explain these progressive reduction. Those occurring during the reign of Huvishka and his successors suggest a different pattern to that of the initial problems of the Kushan coinage under Kujula Kadphises. Kujula Kadphises took over a failing monetary system and this affected his attempts to replace the previous coinage with a more stable one until the adoption of the Attic weight standard in his final years. His reign saw the widespread circulation of unofficial copies and the

Fig.74: Imitation Vasudeva copy with standing king and wheel designs. 1994, 0707.37, 1.34g.

Fig.75: Imitation Vasudeva copy with enthroned Ardochsho and wheel designs. 1994, 0707.38, 1.21g.

Fig.76: Peroz Kidarite ruler Gandharan unit with ram's horn crowned bust and goddess seated on lion designs. 1991, 0640.12, 1.62g.

Fig.77: Kidara Kidarite ruler Gandharan unit with ribboned crowned bust and Brahmi letter *sha* designs. 1921, 0331.50, 0.82g.

inability of the authorities to prevent the continuing decline in the value of each monetary unit. This collapse of the Indo-Greek monetary system had been in progress since the Indo-Scythians took over the Indo-Greek coinage system in the mid-first century BCE. This can be explained by the loss of access to the Panjhir silver mines in central Afghanistan, causing a gradual reduction in the stock of silver which could only be remedied by removing part of the silver content of the Indo-Greek standard tetradrachms and drachms. By the time Kujula Kadphises took possession of the territories where such coins circulated, the silver had already been completely removed from the currency of the Kabul valley region and had reached less than 12 per cent in Gandhara and less than 3 per cent in the Taxila region. The only alternative to continuing the reduction was to abolish the old failing system and replace it with a new one based on the Attic standard and to avoid the mistake of issuing silver coins in these regions. This step can be compared with the 1923 replacement of the failing deutschmark with the Renten mark, which saved Germany from the disastrous inflation of the previous three years (Rowley 1994).

The later declines in the weight standard have to be associated different causes. Above, I have speculated that the problem began in the middle of Huvishka's reign due to plague. This idea relies on a coincidence but cannot be proved. The gold coinage managed to remain stable with very little reduction in its gold content in the same period. One can, however, detect a deterioration in the quality of die engraving of the gold coinage in this period, suggesting some disruption at the mint. The quality of the die engraving suggests that the mint had no access to skilled die engravers. Such a loss of personnel could also indicate plague, but again this is pure conjecture. The only other factor which could cause such widespread disruption is war, and there is no evidence in any of the sources or inscriptions of the period to suggest that cause. War could be the cause of later decline in the weight standard as the Sasanian invasion of the Kushan territory must have had an impact on the economy of the remaining Kushan realm. Such conflict seems to have continued as the Sasanians extended their control of Kushan territory from western Bactria eastwards and southwards until they threatened the Kushan state in Gandhara. The Kushans also seem to have lost control of northern India in the reign of Vasudeva II as there were no Kushan kings mentioned in inscriptions at Mathura after the reign of Vasishka (Skinner 2017). There must also have been internal conflict in the same period as Vasudeva II overthrew Kanishka III, the rightful successor of his father Vasishka. As has been seen in many modern contexts, most recently in Russia, the cost of war has a big impact on the national economy, resulting in inflation, which in the time of monetary systems based on coins means that the weight of copper coins and the gold content of the gold coinage had to be reduced. By the time of the last Kushan king, the weight of the gold coins had dropped about 6 per cent from the official c. 8g gold dinar down to c. 7.5g and its gold content had fallen below 40 per cent. Alongside the impact of maintaining military expenditure, the progressive reduction of Kushan territory must also have had an impact on the state's income as in the shrinking territory there would be fewer and fewer taxpayers, and the disruption of peace must have also limited collection of tax from trade. As stated above, there are no textual documents to substantiate the causes of these changes, or even of the Kushan state collecting taxes, so it is simply the evidence of the coins that enables us to guess at what might have been the cause of such changes. What remains clear is that the Kushan coinage gradually deteriorated, in spite of the continual adjustments made to stabilise it. The problems involved were beyond the control of the Kushan state. It fared no better than the many modern states who face the same kinds of problems, creating more and more government debt and issuing more and more paper money to cope with the impact of inflation.

Table 1: Summary of Decline in Weight Standard of Kushan and Related Copper Coins

Approx. CE dates	Approx. weight of standard unit	Kushans	Approx. CE dates	Sasanian Kushanshah	Approx. CE dates	Kidarite Hun
50–90	9g>1g	Kujula				
	8.5g	Kadphises				
90–113	8.5g	Wima Takto				
113–127	17g	Wima Kadphises				
127–151	17g	Kanishka I				
151–190	17g>1g	Huvishka				
	12g>10g					
190–230	10g>8g	Vasudeva I				
230–246	8g>6g	Kanishka II	230–235	Ardashir I		
246–267	6g	Vasishka	235–245	Ardashir II		
267–272	5.5g	Kanishka III	245–270	Peroz I		
267–297	4.5g>3.5g	Vasudeva II	270–300	Hormizd I		
297–302		Mahi	300–303	Hormizd II		
302–342	3.5g>2.5g	Shaka	303–330	Peroz II		
342–352	2.5g>1g	Kipunadha	330–379	Shapur II	345–350	Kirada
	c. 2g>1g				350–355	Peroz
						355–385

Source: For chronology see Cribb 2018 and Cribb and Bracey 2025.

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Photo Courtesy

All figures are of British Museum coins, by courtesy of the Trustees of the British Museum (except fig. 50 which is of a coin seen in trade). They are shown at approximately actual size.

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The Audumbaras, known also as the Udumbaras or Odumbaras, were one of the six sections of the Shalvas mentioned in the *Shatapatha Brahmana* (X.4.1, 10) as very eminent and prosperous people (Dasgupta 1961, 44–47; Handa 2007, 25–27). The other sections were the Tilakhalas, Madrakaras, Yugandharas, Bhulingas and Sharadandas as known from later Vedic and historical literature (Bharadwaj 1986). The Madrakaras have been mentioned in the *Aitareya Brahmana* (VII.14, 3) and king Yaugandhari is referred to in the *Apastambiya Mantrapatha* (II.11, 12) by Shalvi women playing on the spinning wheel near the river Yamuna. The antiquity of the Audumbaras thus goes back to very early times and they are still known as one of the oldest tribes of ancient India. Panini in his *Ganapatha* (circa fifth century BCE) placed the Audumbaras under the Rajanya class of people and mentioned them with some other people (IV.2, 53; IV.1, 99). They have also been referred to in the *Mahabhashya* by Patanjali (II.4, 58) as well as in the Great Epic (Sabhaparvan 52.13) too. Various Puranas like the *Harivamsha* (XXVII.1466), *Vayu* (91.98), *Brahmanda* (III.66, 70), *Markandeya* (58.10), *Vishnu*, etc. also refer to them (*Purana*, VII, no. 1, 186–90). Pliny (V.17) mentioned the 'Odombeores' who lived on the mouth of the Indus. Cunningham ([1891] 1963, 66) located them in the Kachchha region while Jayaswal (1955, 161) identified them with the modern community of Gujarati Brahmins of the Audumbara caste and regarded them as the descendants of the Audumbaras who, like many other communities, may have migrated to Gujarat at some point in history. Some of the Sanchi inscriptions also mention donors of the Audumbara tribe (Marshall Foucher and Majumdar 1982, 318–19, 321, 365, nos. 191, 194, 216, 650 and 652), indicating clearly that branches of the tribe had migrated to different areas of the subcontinent. Varahamihira's *Brihatsamhita* (V.40; XIV.4; XVI.3), a work of the sixth century CE, also refers to 'Udumbara country' and its people, the Audumbaras, in Madhyadesha. The *Vinayapitaka* (II.299) (Przyluski 1962, 10)¹ and the *Mahamayuri* (Levi 1915) refer to a place called Udumbara which seems to have been named after the tribe (ibid., Cunningham n.d.).² The *Chandrayakarana* (II.4, 103 and III.1, 62) of Chandragomin (circa CE 470 or sixth century CE), *Kashika*, and various medieval works -*Sarasvatikanthabharana* (IV.1, 76 & IV.2, 62) of king Bhoja, the *Ganaratnamahodadhi* (IV.266), the *Samkshiptasāra*, etc. - also contain references to the Audumbaras (Dasgupta 1961; Handa 2007).

Alexander Cunningham was the first archaeologist to discover and publish Audumbara coins (Cunningham n.d.; *CAI*, 67). He found six Audumbara coins (one circular silver piece of Dharaghosha and five square copper pieces) at Pathankot in district Gurdaspur in Punjab in 1872–73 along with the coins of Zoilus, Gondophares, Kanishka and Huvishka. One circular silver coin of Dharaghosha was found in a field near Jwala Mukhi and is now preserved in the Lahore Museum (*CAI*, 67; Whitehead 1914, 167, no. 136, Pl. XVI). In 1913, a big hoard of 363 copper coins was discovered at Irippal near Hamirpur in the Kangra district of erstwhile Punjab (now in Himachal Pradesh) and was published by R.D. Banerji. Of these, 103 coins were attributed to Shivadasa, Rudradasa and Dharaghosha. The rest did not bear clear legends and could not be definitively

assigned to any king (Banerji n.d.).³ Two copper coins exist in the collection of the Indian Museum (Mukherjee 1983, 20-21, Pl.III.6-7) and a silver coin of Dharaghosha - from a hoard of Kuninda, Vemaka and Mahadeva type coins, probably found from Palampur and smuggled to London - is now in Jan Lingen's collection (Handa 1997, 41-42, Pl.V.2). Many stray copper pieces have been obtained by private collectors in trade. Some coins of apsidal shape and a hoard of more than 450 square copper coins with new types and varieties and different styles of disposition of the legends are noteworthy finds in recent years (Handa 2015, 30-40; Handa 2022, 2-5). Silver coins may be put in Class I while the copper specie form Class II.

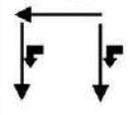
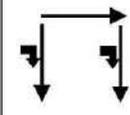
Class I, consisting of three round silver coins of Dharaghosha, depicts the following on the obverse: on the left a filleted trident with a kettle-drum below the prongs and a battle-axe attached to the shaft further below on the right; a tree in an enclosure on the right; a Brahmi legend around *Mah[a]d[e]vasa rano Dharaghoshasa* from 9 to 5 o'clock and *Odu(m)barisa* below from 8 to 6 o'clock. On the reverse is bearded Vishvamitra standing facing with right hand raised and holding a (lion?) skin on the *katyavalambita* (akimbo) left hand; the Kharoshthi legend *Vishpa* on his left (viewer's right) and *mitra* on his right; *Mahadevasarana Dharaghoshasa* around from 3 to 8 o'clock and *Odu(m)barisa* below from 4 to 7 o'clock, Pl. I.9-10.

Class II consists of square and apsidal copper coins, one anonymous, Pl. I.1, and others carrying the names of Shivadasa, Pl. I.2-3, Rudradasa, Pl. I.4-6, Dharaghosh, Pl. I.7, and Shivadatta, Pl. I.8. They show the following on the obverse: a temple with trident-battleaxe on right or left with the Brahmi legend *Mahadevasa Rana* (or *Rana Mahadevasa*) *Shivadasasa/Rudradasasa/Dharaghoshasa/Shivadatasasa Odumbarisa* above and on two sides. The reverse shows the forepart of an elephant to the left (very rarely right also) facing a tree-in-railing in the centre with a Kharoshthi legend above and on two sides. Some coins have preserved an undulating line below the central devices on the obverse or reverse, or even on both sides, while most others have lost this through wear and tear or partial accommodation of the die impression.

The coins bear identical bi-scriptual legends in Brahmi and Kharoshthi. The inscriptions are generally very fragmentary, and it is only through cumulative evidence that their legends have been reconstructed as follows:

- (i) *Mahadevasa Rana Shivadasasa Odubarisa*
- (ii) *Mahadevasa Rana Rudradasasa Odubarisa*
- (iii) *Mahadevasa Rana Dharaghoshasa Odubarisa*
- (iv) *Mahadevasa Rana Shivadatasasa Odubarisa*

The legends in Brahmi and Kharoshthi, with some exceptions, are generally disposed as illustrated below:

Serial No.	Legend Details	Kharoshthi	Brahmi
(a) Title	(Mahadevasa raña)	Above	Above
(b)	Name of issuer	On left	On right
(c)	Name of the tribe	On right	On left
			

Association with Udumbara

Cunningham thought that 'the name of Odumbara, or Audumbara, is derived from the Udumbara fig tree (*Ficus glomerata*)' (CAI, 66). Referring to Panini's aphorism, which laid down that any country abounding in Udumbara trees may be called Audumbara, Cunningham found this applicable to Nurpur district (between Pathankot and Kangra). He says that the old Hindu name of Nurpur was Darmeri or Dharmeri, which is not an improbable abbreviation of Audumbara. The old name was changed to Nurpur by Jahangir in honour of his wife Nurjahan (CASR V, 155; CASR XIV, 115-16; Dey 1927, 13).⁴ Rapson (1900, 533ff.), however, was doubtful of this identification of the name Udumbara with Cunningham's Damari or Dahmari, which he sought to connect with the Damara mentioned in the *Brihatsamhita* (XIV.30).

D.C. Sircar suggested that 'the Udumbara tree had some sort of totemic value with the Audumbaras as the Kadamba tree had with the Kadambas' (Sircar 1960, 161-62, fn4).⁵ We have referred above to the silver coins of Dharaghosha bearing a male figure on the obverse with the label inscription reading Vishpamitra, i.e. Vishvamitra, and a tree in an enclosure on the reverse. Allan held that 'Vishvamitra's connection with the Audumbaras is otherwise unknown' (Allan 1975, lxxxiv). The relation of the Audumbaras with the Udumbara tree and Vishvamitra has, however, been established firmly by Dasgupta (Dasgupta 1961, 15-19; Dasgupta 1974, 43-44; Dasgupta 1965, 6-7). He refers to the story of the birth of Vishvamitra, traceable from the *Mahabharata* (MbhIII.115; XII.49; and XIII.14) and narrated in the *Kalikapurana* (Chapter 82; Chapter 85; Hazra 1963, 243ff.).⁶ The story says that in order to have a child, the mother of Vishvamitra hugged an Udumbara tree. Dasgupta observed that:

The association of the tribe with the fig tree on the one hand and Vishvamitra on the other is supported by other sources as well. For instance, the tribe has been described as belonging to the family of Vishvamitra in the *Harivamsha*. The tradition regarding the common origin of Vishvamitra and the Audumbaras is known from the combined testimony of the *Rigveda* and the Puranas, for while in the third book of the *Rigveda*, which is attributed to Vishvamitra, the sage calls himself the son of Kushika (III.33, 5), the *Vayu* and the *Brahmanda Puranas* assign the Audumbaras to the Kushika or Kaushika *gotra*. Thus it appears to be certain that the name of the tribe was derived from *udumbara* or fig tree and Vishvamitra was their 'national sage' (Dasgupta 1965, 44).

Dasgupta's view is widely accepted now.

While there is no doubt that Vishvamitra may have been the 'national sage' of the Audumbaras and that they believed his birth resulted from an embrace of the fig tree by his mother, to regard the depiction of the tree-in-railing on their coins as the fig tree seems to be rooted in the same belief of their origin from Vishvamitra or, as Cunningham suggests, in the Udumbara tree being the *sthala-vriksha* (tree of the land). We have already noted above that Cunningham's suggestion of deriving Darmeri/Dharmeri, a former name of Nurpur, from Audumbara, was not regarded as beyond doubt by Rapson. Fig trees thrive in the lower, coastal, and southern tropical heat and not in hilly regions. As such, fig trees are mostly confined to the western parts of Maharashtra, Gujarat, Karnataka, Tamilnadu and some parts of Uttar Pradesh like Lucknow and Saharanpur, where winter temperatures do not fall below 15° Fahrenheit. Also, the fig is not the *sthala-vriksha* of the Pathankot-Kangra region. Fig trees have large leaves growing singly. But if we see the depiction of the tree-in-railing on Audumbara coins, it becomes clear that the tree has branches with trefoil leaves

and abundant round fruits as , resembling the Bael/Bilva tree (*Aegle marmelos*, stone apple), also called *Shivadruma* (Shiva's tree), which is an important medicinal plant used to treat diabetes, diarrhea, dysentery, inflammation and respiratory system. Its fruits are also rich in bioactive constituents and is used for beverages. It is believed that the Bael emerged from the sweat droplets of goddess Parvati and is imbued with her essence. When, during the churning of the ocean, a deadly poison named *Halahala* emerged, and Shiva consumed it to protect the world, Bael leaves were offered to soothe the intense heat and pain caused by the poison. Since then, Bael has been an essential item in Shiva worship. The Bilva tree is also believed to be the residence of goddess Lakshmi, the deity of wealth and prosperity. Its leaves are also offered to Shiva in worship as described in the *Bilvashtakam: Tridalamtrigunakaramtrinetrām cha trayayudham/ Trijanmapapasamharamekabilvam Shivarpanam//* [(the leaves of the *bilva* tree) have three petals, they are an expression of the three qualities of life (*sattva, rajas* and *tamas*), three eyes (*trinetra* is an epithet of Shiva also), three weapons of Shiva and an offering of a single *bilva* leaf to Shiva destroys the sins of three lifetimes]. Another verse reads: *Darshanambilva-vrikshasyasparshanampapanashanam/ Aghorapapasamharam eka-bilvam Shivarpanam//* [Seeing or touching a *bilva* tree destroys the most horrible sins; therefore offer a single *bilva* leaf to Shiva]. The tree-in-railing on Audumbara coins thus looks more like a Bael or Bilva tree having trefoil leaves and branches laden with fruits, Pl. II. Dharaghosha's silver coins show a trident-battleaxe -representing Shiva or a Shaiva temple - and the tree-in-railing as the main devices on the obverse and the figure of Vishvamitra as the exclusive main device on the reverse. The tree-in-railing on all other Audumbara coins is depicted on the reverse, but on these specific silver coins it has been brought to the obverse with trident-battleaxe to show its association with Shiva and not with Vishvamitra. It is notable that the tree-in-railing on the anonymous coin, Pl. I.1, does not seem to be the Bilva tree and differs in form (); its obverse shows a temple flanked by a *svastika-dhvaja* on the left and *chakra-dhvaja* on right , indicating the Vaishnavite leaning of the issuer. The tree-in-railing on this coin may have been a Tulsi plant (Holy Basil), considered holy by Hindus and related to the worship of Lord Vishnu. Had the Audumbaras derived their lineage from Vishvamitra or the fig tree, the issuer of this coin, too, would have put a similar tree with trefoil branches and leaves on the coin. The depiction of the tree-in-railing on the anonymous coin also negates its possibility of being the *sthala-vriksha*, as it is not found on other Audumbara coins. Describing the features of Audumbara coins, Allan had rightly observed that 'The obverse type is a tall tree in an enclosure; this type is so common on early Indian coins that it is doubtful if we need identify it, as Cunningham does, with the *udumbara* fig-tree . . .' (Allan 1963, lxxxiii). Our belief that the tree-in-railing on Audumbara coins is a Bael tree is strengthened as we find the names of all the other rulers of this tribe bearing Shaivite names. This belief is further corroborated by the depiction of a Shaiva temple with trident-battleaxe on the coins.⁷ Some Puranas like the *Shiva* and *Skanda* also refer to the sanctity and religious merit of Shiva's worship with *Belapatra* (Bael leaves) and the importance thereof.⁸ Thus, the tree-in-railing on the Audumbara coins, except the anonymous one, should be regarded as the Bael or Bilva tree and not the fig tree as held by all scholars till now.

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I am thankful to Sarvashri Amit Udeshi, Sanjeev Chagti, Rajnarain Maurya, Jeevandeep Singh and Jan Lingen for the coins illustrated in Plate I. The illustrated coins, however, are not to scale.



Plate I
Depiction of tree-in-railing
on Audumbara coins

Plate II
Bael tree leaves and fruits



Notes

1. Przulski refers to *U-du-ma* of the *Dulva*, the Tibetan version of the *Vinaya*, and equates it with Udumbara of the Sanskrit *Vinaya*.
2. Cunningham had also observed that 'The name Odumbara must be that of the town or district in which they (i.e. coins) are discovered'.
3. Ten coins of this hoard without decipherable names are preserved in the Asiatic Society of Bombay. I have read the name of Rudradasa on them.
4. Dey also located the country of the Udumbaras in 'the district of Nurpur (or rather Gurudaspur)'.
5. Some connection is also suggested between the Adamvira or Admera section of the Johiya Rajputs and the ancient Audumbaras.
6. *Kalika Purana* dates this Purana between seventh and tenth centuries CE. The Pauranic version differs in minor details from the *Mbh.*, though the kernel is the same.
7. The silver coins of Dharaghosha show on the obverse trident-battleaxe with tree in railing on right. The trident-battleaxe on these coins represents the Shaiva temple and the Bilva tree near it.
8. The coins illustrated belong to the British Museum, Sarvashri Jan Lingen, Amit Udeshi, Rajnarain Maurya, Jeevandeep Singh, Sanjeev Chagti, and Classical Numismatic Gallery and are not to scale. Plate II is collated from Wikipedia with thanks.

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Ancient Tamralipta/Tamralipti was a maritime hub in the Bay of Bengal interaction sphere functional from c. third century BCE to the eighth century CE. Tamralipta or Tamralipti is identified with the modern town of Tamluk situated in the Purba Medinipur district of West Bengal, Fig.1. Located strategically on the right bank of the Rupnarayan River, Tamralipta is mentioned in a wide array of classical texts and foreign travel accounts as a flourishing port city that connected the Indian subcontinent to a broader maritime network across South and South-East Asia. The present article deals with a coin collection

preserved in a local school, including a hoard that was discovered by chance on the bank of the Rupnarayan River in the last quarter of the nineteenth century. This hoard, along with a few other discoveries from Tamluk and nearby villages like Moyna, were preserved in the museum located in Tamluk Hamilton High School, established in 1852 by Robert Charles Hamilton, a salt merchant and a philanthropist, Fig.2. These coins were reported in two different articles but were not documented in detail till date (Ramachandran 1951, 226-39; Dikshit 1924, 74-75). The present authors visited the school in March 2025 and documented these coins; the present paper is the final outcome of our visit.

Early un-inscribed cast copper coins have been reported from various sites in Bengal like Bangarh (Dakshin Dinajpur), Dihar (Bankura), Jaypur (Bankura), Mangalkot (Burdwan), Chandraketugarh (North 24 Parganas), Atghara (South 24 Parganas), Tilpi and Dhosha (South 24 Parganas), Kankandighi (South 24 Parganas), Deulpota (South 24 Parganas), Harinarayanpur (South 24 Parganas), Pakurtala (South 24 Parganas), and Tamluk (Purba Medinipur) (Middya 2022, 100-101; Mukherjee 2012, 20; Roy 2006, 1-11; Sarkar 2023, 47). As far as coin hoards of the early historic phase of Bengal are concerned, one finds very few hoards being documented or catalogued

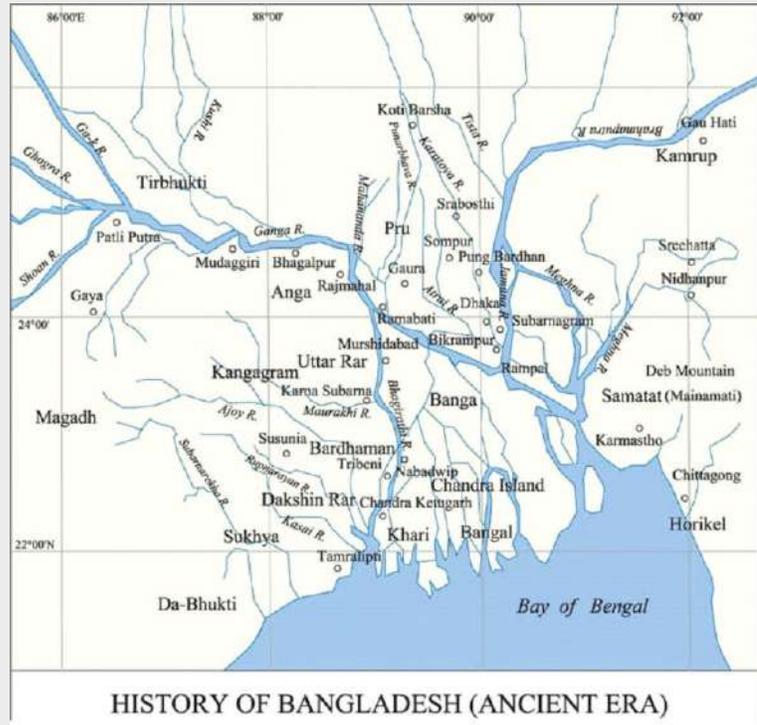


Fig 1: Map of early and early medieval sub-divisions of Bengal
Photo Courtesy: Banglapedia.org

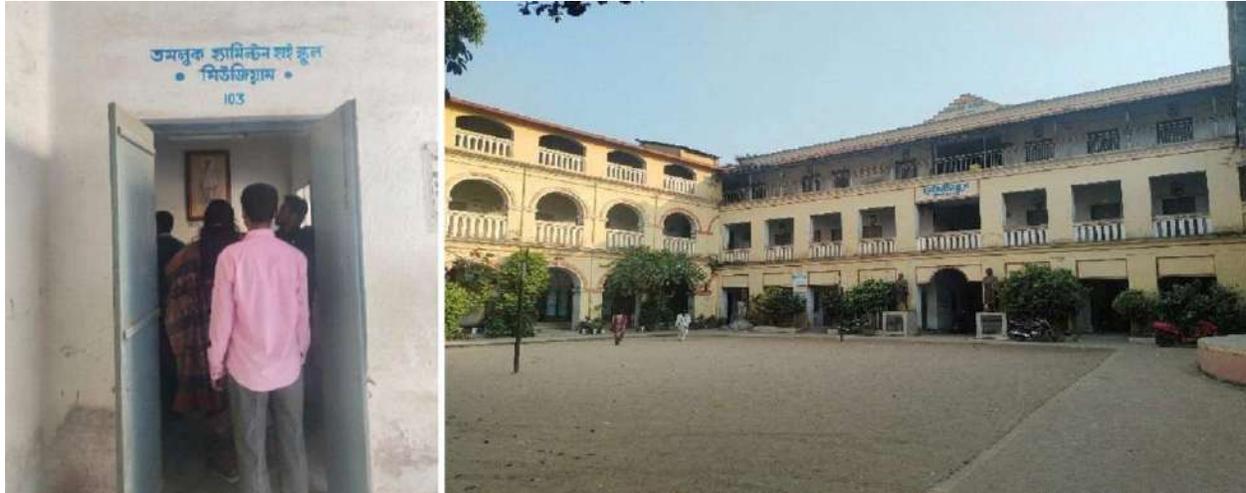


Fig.2: Hamilton School Museum and outer facade of Hamilton School

in detail. The present paper is an attempt to catalogue these coins and situate them in the broader historical framework. We have taken into consideration the early historic coins in this collection; hence punch-marked coins and early un-inscribed cast copper issues have been catalogued here.

Coin Hoard Contextualized

It is worth mentioning that in 1868, a local resident of Tamluk named Dinabandhu Mitra discovered a 'copper coin of Mauryan Period', probably a copper punch-marked coin or an early un-inscribed cast copper coin from the riverbed of the Rupnarayan. Again, in April and May 1883, Gaurdas Bysack recovered a terracotta figurine of c. second century BCE along with some copper coins from the bed of the Rupnarayan (Bysack 1888, 113–14; Chattopadhyay 2019, 47). Such discoveries raised the interest of the local people, and in this course more coins were discovered from a mound. These coins were initially preserved in the local school premises at Hamilton High School. The school museum has a collection of some 234 coins.¹ The collection includes three punch-marked coins (two silver coins and one copper coin), 191 un-inscribed cast copper coins, 38 unidentified coins and coin fragments and 2 Sri Lankan Lakshmi plaques. All these coins have been documented here in the appended Catalogue.

Early un-inscribed cast copper coins of the universal type are Mauryan issues bearing an elephant on the obverse and *three arched hill* with a crescent on the reverse, and the other type is the four or five symbol on the obverse and four on the reverse, usually square or rectangular in shape are mostly Mauryan issues some of which also continued in the post-Mauryan phase. The Tamluk Hamilton museum collection has one such hoard of cast copper coins. Unfortunately, all documents and data related to the Hamilton School Museum were lost in a flood in 1978, and no documents related to the coin find have survived in the school. This hoard is mentioned to have approximately 350+ coins as Dikshit reported that 'A collection of some 350 coins, mostly of the rectangular cast type was examined by me...Two main types...the first represented by some 250, the second by some

100 specimens' (Dikshit 1924, 74). The use of the term 'some' by Dikshit leaves room for doubt regarding the exact number of coins, which may or may not be 350. Despite the fact that the hoard was partially preserved in the Hamilton High School Museum and remainder of the collection went to the Indian Museum, the latter does not have a clear account of the acquisition of the partial hoard. Interestingly, Roychowdhury had mentioned that 'More than 200 coins found during these piecemeal excavations were transferred to the Indian Museum' (Roychowdhury 2018, 265). Hence, we would like to assume that approximately some 120 to 200 coins could have entered the Indian Museum collection sometime before 1921. The partial collection was sent to the Indian Museum sometime between 1881 and 1921, i.e. around the time of its discovery and Dikshit's publication. Dikshit mentions that 'the antiquities recovered from the high mound on the river bank referred to above are now preserved, at least partially, at the local high school'. The use of the term 'partially' has led us to infer that the rest of the coins were sent to some other collection. The Hamilton school coin collection was published by T.N. Ramachandran in 1951, which was a result of his field trip and exploration wherein he was accompanied by G.S. Dutt and K.N. Dikshit. Ramachandran clearly mentions in his publication that the rest of the coins were with the Indian Museum (Ramachandran 1951, 230). The present authors contacted the Indian Museum authorities to verify how and when this partial collection reached them, but surprisingly there are no early cast copper or punch-marked coins in the Indian Museum from Tamluk or any nearby village which may be assigned to this hoard.

Dikshit mentioned that the hoard can be classified into two varieties—the universal round and the universal rectangular. However, Ramachandran mentioned that the hoard has seven varieties of cast copper coins, but he has not specified the varieties; he only mentions a coin with a rider, but none of the varieties are clearly spelled out. Our documentation also reveals that there were seven different varieties of early un-inscribed cast copper coins and two cast coins from Sri Lanka, popularly known as Lakshmi plaque. This was not reported by any of the previous authors. The present authors have identified these coins and it is worth mentioning that these are the first discovery of any Sri Lankan coins not only from Tamluk but from any region in West Bengal. However, one such plaque was reported from Bangladesh (Mitchiner 2000: 28) as found locally from Dhaka and preserved in a private collection. Such Lakshmi plaques have been reported from South India especially the region around Karur. We shall be discussing this in proper context below.

The coins in this hoard may be classified as follows:

1. Elephant: Mauryan royal emblem of *three arched hill* with a crescent - 57 coins
2. Universal round coins with elephant rider: *Three arched hill* with a crescent - 2 coins
3. Universal square/rectangular without ladder: four symbols - 60 coins
4. Universal square/rectangular with ladder: four symbols - 48 coins
5. Universal square/rectangular with hollow cross: four symbols - 18 coins
6. Universal square/rectangular with bull in place of elephant: four symbols - 1 coin
7. Universal square/rectangular hybrid type - 5 coins

Total: 191

Unidentified and fragmentary pieces: 38

Lakshmi plaque/cast coin from Sri Lanka: 2

It is worth mentioning here that Ramachandran in his publication provided only the description of 250 coins from the Hamilton School collection, which includes early un-inscribed copper issues, two silver punch-marked coins, one copper punch-marked coin, and a lead issue (Ramachandran 1951, 233). The two silver *punch-marked* coins and the solitary copper punch-marked issue were probably discovered previously from Tamluk and were not a part of the hoard discovered from the Rupnarayan riverbank. The defaced lead coin mentioned in the list of 250 coins by Ramachandran is probably not a numismatic specimen, Fig.3. As already mentioned, the hoard consisted of some 350+ coins of which only 250 were chosen for publication which reflects that Ramachandran did not have access to the rest of the hoard which according to him went to the Indian Museum collection. How, when or if at all the partial hoard from the Rupnarayan bank went to the Indian Museum collection still remains an unsolved issue. The present authors requested the Indian Museum authorities to provide us with details of the partial transfer of the hoard as well as access to the coins of this hoard. The museum informed us that their collection contains no cast copper coins from Tamluk or its vicinity. This response adds further complexity to the issue. Since the Hamilton School has lost all its records in the flood this further complicates the issue of the present location of the partial hoard which was transferred from the school museum.

Though scholars like Dikshit, Ramachandran, and Roychowdhury all mention the Indian Museum as the final destination of the partial portion of the hoard, the accession records of the museum do not reflect any such acquisition. Although we currently lack conclusive evidence, it is possible that the coins were transferred to one of three local museums: the Gurusaday Dutt Museum in Behala; the Archaeological Survey of India Museum in Tamluk; or a local museum founded in 1948, which had some connection with Rishikesh Mukherjee (Roychowdhury 2018, 265). The present authors would like to name this hoard as the Hamilton-Rupnarayan hoard.

Before we delve into the issue of monetary history, we would like to discuss the Tamluk Hamilton Hoard in detail. Here we have appended a catalogue of all 234 coins (see Catalogue). The only pieces which needs to be discussed in detail is the two Sri Lankan Lakshmi plaques or cast copper coins which dates back to the first century BCE. Mitchiner takes these as contemporary to the Pandyan occupation in South India and the cast copper coins of North India (Bopearachchi 2015, 282, 323, and 390). Codrington's catalogue of Sri Lankan coins in the Colombo Museum mentions the plaques as both cast and die-struck. The discovery from Tamluk is a cast copper specimen.

On the obverse there is an image of a standing Lakṣmī. Usually, the goddess holds lotuses in her two hands but on our specimen it is not very clear. On the reverse we have identified a standard with svastika on the top and a *nandipada* on its right. The coin or plaque from Tamluk is partially broken but the obverse and reverse are intact as some of the plaques from Sri Lanka break open from the centre, with the obverse detached from reverse. Codrington observed that some of the cast plaques were cast separately and joined together, as a result of which some of the plaques have split in the middle



Fig.3: Lead coin mentioned by T.N. Ramachandran however, our understanding is that this is not a coin

(Codrington 1975, 26–31).

These plaques have been reported from various sites in Sri Lanka like Alutwatta, in the town of Chilaw; Thuparama and Kiribat Vehera at Anuradhapura; and Vallipuram and Kantarodai in Jaffna. In recent excavations done by Sri Lankan and British archaeologists at Salgaha Watta in the early citadel of Anuradhapura (ASW 2), 42 plaques were found from the last phase G5, out of which 26 were Lakshmi type. Bopearachchi points out that these plaques are the local issues of early Sri Lanka, and one such plaque was recovered from the riverbed of Amravati, near Karur, west of Kaveripattinam (Bopearachchi 2015, 323, 390, and 407).

Due to its geographical proximity, Sri Lanka had established close relations with the Indian subcontinent since the protohistoric and early historic periods. Strabo in his account mentions that the commander of the fleet of Alexander knew that ships came to North India from Sri Lanka, which he calculates to be approximately twenty days voyage away (Strabo, Geography, XV, 1, 15). It was from the time of Mauryan Emperor Ashoka (c.268–232 BCE) and Sri Lankan King *Devananpiya* Tissa (c.250–210 BCE), through the spread of Buddhism, that close political, economic and cultural relations was established between North India and Sri Lanka. In the recent excavations at the citadel of Anuradhapura, a large amount of Grey Ware and Northern Black Polished Ware was recovered in successive strata, which were imported from North India in the early historic period (Bopearachchi 2015, 279). Due to the impact of the maritime linkages between North India and Sri Lanka, a large number of imperial punch-marked coins were imported to the island. It is worth mentioning that several punch-marked coins have also been found from Sri Lanka which were sent from the Indian subcontinent. Most of them were corroded or highly corroded. Still, the supply could not meet the demand; the supply of coins was also affected by the fact that the Mauryan Empire began to decline. Sri Lanka started issuing their punch-marked coins using casting technique wherein original coins were used as dies and moulds were prepared. Many terracotta moulds of punch-marked coins (*karṣapaṇa*) were recovered from the excavation at Gedige and other places (Bopearachchi 2015, 280–81). Bopearachchi further mentions that C-14 dating done by Robin Conningham at ASW2 at Anuradhapura citadel shows that the punch-marked coins were in circulation from 275 BCE to 250 CE. The indigenous issues of Sri Lanka, i.e. the cast copper coins, were a result of the Indian influence and were contemporary to the early un-inscribed cast copper coins of North India.

To situate the coins in historical context, it is important to discuss the location of the site of Tamluk and its monetary scenario. 'Bengal' or undivided Bengal was never a composite socio-economic or political region before the Sultanate Period. State formation and the earliest circulation of 'money' can be traced in the northern part of Bengal to c. third century BCE (Basu Majumdar 2018, 233-68), due to the impact of Mauryan expansion or 'Secondary Urbanization'. At this time in the early historic period, one notices the emergence of five territorial units or sub-regions: Pundravardhana, Vanga, Radha, Suhma, and Samatata, all with their own distinctive socio-cultural,

political, and monetary positions. Literary sources are not unanimous about the inclusion of Tamralipta or its location within the broader sub-regional context; at times, we find it to be a part of Vanga janapada, and at others a part of Suhma. The earliest textual mention of Tamralipta appears in the *Shantiparvan* of the *Mahabharata*, listing it among the realms conquered by Bhīma alongside Paundra and Vanga (Bhattacharyya 1977, 46). As an administrative unit, the first reference to Tamralipta as a *vishaya* occurs in the non-canonical Jaina text, *Vasudevahindi* (Gangopadhyay 2018, 427). In early Buddhist literature, however, Tamralipta is mentioned as an ancient port, equated in antiquity with Pataliputra. The *Mahavamsa* (XIX. 5–6) notes that Emperor Ashoka dispatched a Bodhi tree sapling with Mahendra and Sanghamitra to Sri Lanka via Tamralipta in the third century BCE (Geiger 1912, xix, xvii and 128). Perhaps Tamralipta was the port that was alluded to in both *Milindapanha* and the *Mahanidessa*. On the other hand, the *Shankha Jataka*, *Samudra Jataka*, and *Mahajanaka Jataka* attest that traders from central India passed through Tamralipta enroute to their maritime voyages to Sri Lanka and Burma (Tripathi and Rao 1994, 35). The Jaina *Prajnapana* (fourth century CE) situates Tamralipta within the Vanga janapada as '*...Tamalitti Vamgaya*' (Smyth 1891, 375) whereas the *Raghuvamsha* of Kalidasa (fourth century CE) and Dandin's *Dashakumaracharita* (sixth century CE) refer to Tamralipta being a part of the larger Suhma territory (Bhattacharyya 1977, 46). Kalidasa situates the territory between the Bhagirathi and the Kansai rivers, extending southward to the sea, within the domain of the Suhmas, an area that encompassed Tamralipta. Similarly, Dandin refers to the city of 'Damalipata' (or Tamralipta) as a prosperous hub of commerce within Suhma. This raises an important question: how do these diverse sources contribute to our understanding of Tamralipta's geographical location?

As far as the foreign sources are concerned, Ptolemy in his *Geographike Huphegesis* (second century CE) mentions 'Tamalites', which beyond any doubt is the same as Tamralipta (Majumdar Sastri 2015, 167–68), which has been identified with modern Tamluk in Purba Medinipur. The surrounding fluvial network—including the Silai, Kamsavati, Kansai, and Mundesvari distributaries—reinforces the suitability of this region for port activity. Ptolemy's account places 'Tamalites' downstream from Palimbothra (Pataliputra), while Pliny's *Natural History* refers to the 'Taluctae', east of the Prasii (Gangopadhyay 2018, 428). Chinese texts from the third century CE mention a city called 'Tan-mei', likely a transliteration of Tamralipta, whose ruler reportedly sent emissaries to the Yellow Gate (Mukherjee 1990, 21). The *Shui-ching-chu* locates Tamralipta or 'Tan-mei' at the mouth of the Ganges, possibly along the earlier channels of the Bhagirathi–Rupnarayan system, and the *Fu-nan-chuan* claims the Ganges flowed through a city called 'Tamara' (Mukherjee 2004, 338).

Among the two distinct types of ports in ancient times, one may mention *pattana* and *dronimukha*. The former were typically located along the open seacoast, where ships could directly load and unload cargo, whereas in the latter case, the ports were situated at the confluence of river and sea, serving not only as maritime hubs but also as inland market towns. Tamralipta in the east and

Bharukaccha (*Barygaza*) in the west were among the most prominent *dronimukhas* in early India. In congruence, Dandin's *Dashakumaracharita* describes Tamralipta as a key emporium facilitating maritime trade with Sri Lanka, Suvarnavipa (Java), China, and the Yavana territories. Similar accounts appear in the *Brihatsamhita* and *Kathasaritsagara* (XIII.74), the latter mentioning a maritime route from Tamralipta to Kataha (modern Kedah on the west coast of the Malay Peninsula).

Regarding trade, indigenous texts remain vague, but the *Periplus* cites exports such as pearls, fine muslins, Gangetic spikenard, and *malabathrum* (Ramachandran 1951, 228). Other sources from around the first century CE indicate that items such as beads of semi-precious stone (produced by the bead-making industry at sites like Chandraketugarh, Deulpota, and Harinarayanpur etc.), jewellery, terracotta bangles, toys, as well as pearls and opaque glass, imported from the Pandyan Kingdom via Roman merchants, were exported to China and Southeast Asia (Mukherjee 2004, 338). Tamralipta was also a hub for the horse trade. The Chinese text *Liangshu* records 'During the epoch of the Wu dynasty in China (c. 220-280 CE) a King of Fu-nan (Cambodia) sent an envoy called Su-Wu to T'ien-chu (India). He first went from Fu-nan to the port of Chü-li (or T'ou-Chu-li) situated probably on the western coast of a portion of Malay peninsula now controlled by Thailand. From there by a sea-voyage directly to the north-west Su-Wu reached the mouth of the river of T'ien-chu. He returned with four horses of the Yüeh-chih country' (Mukherjee 2012, 70). The *T'ai-p'ingyü-lan* offers a detailed account of the sea-based horse trade, as 'The Yüeh-chih merchants are continually importing them (horses) to the Ko-ying country by sea (on ship). The king buys them all. If one (of the horses) is dead during the voyage and has to be helped by its man when it is shown to the king, the latter buys it at half-price' (Mukherjee 2012, 70). This leads us to question the procurement of the horses traded through Tamralipta. It is most likely that horses were brought from Central Asia via overland routes and brought to Tamralipta, from where they were shipped to various parts of East and South-East Asia. As corroborative evidence, Ranabir Chakravarti has drawn our attention to a seal discovered at Chandraketugarh, which bears the image of a horse aboard a ship (Chakravarti 1992, 155–59). Furthermore, B.N. Mukherjee has suggested that individuals from the north-western regions of the subcontinent may have migrated eastward and actively participated in the horse trade (Mukherjee 2012, 71).

The port seems to have lost its significance after the eighth century CE, as it does not receive much attention in literary sources. The Dudhpani rock inscription of the eighth century records the commercial arrival of three brothers from Ayodhya to Tamralipta, possibly marking the final phase before the decline of the port, likely precipitated by shifts in riverine courses (Kielhorn 1894, 344–45). Nonetheless, Tamralipta's faded glory seems to linger in the eleventh century lexicon *Abhidhanachintamani* by Hemacandra, which refers to it by various names such as 'Damalipta', 'Tamarinī', 'Stambhapura', and 'Vishnugriha' (Sircar 1985, 53). Even in the thirteenth century, an inscription found in Pegu refers to a Buddhist monk named Sivali Thera who journeyed from Tamalitti to South-East Asia, suggesting that although Indian sources remain silent after the eighth

century, the port may have continued to function, at least to a limited extent, until the thirteenth century (Gangopadhyay 2018, 429). By that time, however, the emergence of the port of Samandar had already eclipsed the former maritime prominence of Tamralipta.

The monetary scenario at this vibrant port located on the confluence of the Rupnarayan river and the Bay of Bengal would definitely have a brisk transactional history. Coins would have played an important role in the shaping of the economy of this region. As far as Bengal is concerned (undivided), there were three *janapadas* which issued their local punch-marked coinage between 3rd century BCE and 1st century CE. Basu Majumdar has discussed this in detail in a chapter on monetary history of Bengal (Basu Majumdar 2018, 233-68). She discusses about three indigenous coin issuing zones in undivided Bengal. These zones centered around Chandraketugarh complex, Wari Bateshwar (near Dhaka), and Dharas in the larger Tamralipta network. These three zones were located in three different *janapadas*. The coins were totally different from each other. The only hoard of local *punch-marked* coins of the *janapada* where the Tamralipta network was situated is reported from Dharas (Halder 2012-13, 37-41; Basu Majumdar 2014, 585-607; Basu Majumdar 2018, 233-68). However, it is unfortunate that till date no such punch-marked issue has been discovered from proper Tamluk. The port became extremely popular and significant not only due to the commodities mentioned above but also due to the horse trade, which connected the port with the north-western part of the Indian subcontinent on one hand and the peninsular south, especially the Malayaman territory, and also with South-East Asia on the other. Tamluk has yielded a large number of imperial punch-marked coins and also early un-inscribed cast copper coins, which directly indicates Mauryan control over this region. The supply of coins from Magadha was quite decent and met the local demand, and hence the tradition of minting local punch-marked coins in this region was discontinued. These coins need to be documented in detail, and the present publication is a step towards such documentation. A comprehensive study of the coins from Tamluk is extremely important, and the present authors would like to do so in the near future.

Comparative Catalogue (Based on Ramachandran's Documentation)

SI No.	Number of Coins mentioned by Ramachandran	Description of coins by Ramachandran	Remarks
1.	11	Uninscribed Cast Coins (I. M. C. pl. XXIII.3)	These are correctly identified, but the number of coins is 57 in our documentation, and it is not clear on what ground he has segregated 11 coins and 27 coins, as the reference for both are the same
2.	27	Uninscribed Cast Coins (I. M. C. pl. XXIII.3)	
3.	18	Uninscribed Cast Coins (Obv. Elephant moving left with rider (?))	We have identified only 2 coins of this variety in the collection.
4.	1	Uninscribed Cast Coins (Elephant moving right)	We could not identify any coin of this variety in the collection

5.	1	Uninscribed Cast Coins (Obv. And Rev. not clear)	Not clear
6.	39	Uninscribed Cast Coins (B. M. C. Ancient India, pl. XI.17; p. 88)	Ramachandran mentions B. M. C. Ancient India, pl. XI.17, p. 88 as the reference to these coins, which are 39 in number. However, we would like to point out that plate XI. 17 is 'variety n' of Allan's Catalogue (BMC) which portrays EUCC coins bearing the hollow cross on the obverse and tree-in-railing on the reverse. Whereas the page number mentioned by Ramachandran is 88, which does not confirm to this variety. It refers to coins of 'variety j' which has five symbols elephant, <i>indradvaja</i> , svastika, taurine, and ladder on the obverse and tree-in-railing, hollow cross, <i>three arched hill</i> with crescent, and taurine on the reverse. This is a discrepancy that needs to be sorted out.
7.	15	Uninscribed Cast Coins (B. M. C. Ancient India, pl. XI.11; P. 87)	Ramachandran mentions B. M. C. Ancient India, pl. XI.11, p. 87 as the reference to these coins, which are 15 in number. However, we would like to point out that plate XI. 11 is 'variety k' which has four symbols elephant, <i>indradvaja</i> , svastika, taurine on the obverse and four on the reverse i.e. tree-in-railing, hollow cross, three arched hill with crescent and taurine. Whereas the page number mentioned by Ramachandran is 87, which does not confirm to this variety. It refers to coins of 'variety i' of Allan's Catalogue (BMC) which portrays EUCC coins bearing four symbols on the obverse, i.e. elephant, <i>indradvaja</i> , svastika, and hollow cross, and four on the reverse, viz. tree-in-railing, taurine, <i>three arched hill</i> with crescent and <i>indradvaja</i> . According to our documentation, there is only one set of coins which are 18 in number and belong to variety i. Hence, we cannot identify this category mentioned by Ramachandran.
8.	68	Uninscribed Cast Coins (B. M. C. Ancient India, pl. XI.11, p. 89)	These probably are the square or rectangular EUCC without a ladder, but the number of such coins according to our documentation is 60.

9.	58	Uninscribed Cast Coins (B. M. C. Ancient India, Part III) Proper description not possible, the coins being damaged and defaced.	Not clear
10.	8	Defaced Coins	We have documented 38 coins, which are in the category of unidentified (27 coins) and coin fragments (11). Total 38 coins in our catalogue.
11.	1	Lead	Probably not a coin

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Notes

¹ The present authors have documented the coins and helped the school authorities to prepare a proper accession register.

² Early Un-inscribed Cast Copper Coins 11 (IMC Plate XXIII.3)+ 27 (IMC Plate XXIII.3) + 18 (elephant to left with rider) + 1 (elephant to right) + 1 (not clear)+ 39 (BMC, Ancient India, Plate XI.17, p.88)+ 15 (BMC, Ancient India, Plate XI.11, p.87)+ 68 (BMC, Ancient India, Plate XI.11, p.89)+ 58 (BMC, Ancient India, Part III)+ 8(Defaced Coins) +1 (Lead Coin).

³ Although after his death, Mukherjee's family reportedly donated his collection to the Tamralipta Research Collection at Hamilton School.

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Catalogue of Hamilton School Museum Collection of Punch-Marked Coins and Early Un-inscribed Cast Copper Coins Unearthed from Tamluk, West Bengal

Catalogue of Punch-Marked Coins Found from Tamluk

Imperial Type (Silver Punch-Marked Coins)

Sl No.	Accession No.	Weight (in g)	Size (in mm)	Obverse and Reverse	Gupta-Hardaker No.
1	TAMHSSPMC01	1.38 g	15.59 x 11.73 mm	Highly corroded on both sides, but in reverse two symbols are identified, and one of them is the tree-in-railing.	Series V or VI (?)
2	TAMHSSPMC02	2.58 g	13.35 x 12.28 mm	Obverse: Sun, Six-armed, Detached three arches in a baseline, Dog with puppy, and Tree-in-railing with seven branches. Reverse: Three-arched hill with crescent on top.	Series Va, No. 483

Janapada Type (Copper Punch-Marked Coin)

SL No.	Accession No.	Weight (in g)	Size (in mm)	Obverse and Reverse
1	TAMHSCPMC01	1.31 g	13.62 x 10.09 mm	Highly corroded on both sides.

Catalogue of Early Un-inscribed Cast Copper Coins Found from Tamluk

Type 1: Universal Round with Elephant

Obverse

Elephant moving left.

Reverse

Three arched hill with crescent on top.

SI No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC001	1.68 g	5.35 mm (with channel 6.60 mm)
2.	TAMHSEUCC002	1.86 g	12.72 mm (with channel 14.50 mm)
3.	TAMHSEUCC003	1.38 g	11.95 mm (with channel 15.54 mm)
4.	TAMHSEUCC004	1.65 g	11.82 mm (with channel 15.15 mm)
5.	TAMHSEUCC005	1.89 g	12.98 mm (with channel 15.87 mm)
6.	TAMHSEUCC006	1.37 g	12.20 mm (with channel 14.70 mm)
7.	TAMHSEUCC007	1.27 g	12.43 mm (with channel 14.04 mm)
8.	TAMHSEUCC008	2.22 g	12.86 mm (with channel 15.86 mm)
9.	TAMHSEUCC009	1.36 g	11.67 mm (with channel 14.45 mm)
10.	TAMHSEUCC010	1.88 g	13.91 mm (with channel 14.94 mm)
11.	TAMHSEUCC011	1.75 g	12.52 mm (with channel 14.11 mm)
12.	TAMHSEUCC012	1.44 g	11.95 mm (with channel 16.69 mm)
13.	TAMHSEUCC013	1.81 g	12.27 mm (with channel 15.40 mm)
14.	TAMHSEUCC014	2.80 g	12.54 mm (with channel 13.39 mm)
15.	TAMHSEUCC015	1.39 g	12.47 mm (with channel 15.06 mm)
16.	TAMHSEUCC131	2.43 g	12.77 mm (with channel 17.51 mm)
17.	TAMHSEUCC132	1.55 g	12.77 mm (with channel 14.20 mm)
18.	TAMHSEUCC133	2.52 g	13.03 mm (with channel 13.88 mm)
19.	TAMHSEUCC134	1.23 g	12.60 mm (with channel 14.70 mm)
20.	TAMHSEUCC135	2.17 g	13.73 mm (with channel 15.82 mm)
21.	TAMHSEUCC190	2.16 g	13.32 mm (with channel 14.46 mm)
22.	TAMHSEUCC191	1.58 g	12.52 mm (with channel 16.28 mm)
23.	TAMHSEUCC192	1.58 g	12.01 mm (with channel 14.94 mm)
24.	TAMHSEUCC194	3.05 g	13.51 mm (with channel 15.29 mm)
25.	TAMHSEUCC195	2.17 g	12.93 mm (with channel 16.98 mm)
26.	TAMHSEUCC196	2.12 g	13.33 mm (with channel 15.26 mm)
27.	TAMHSEUCC197	1.24 g	12.45 mm (with channel 13.71 mm)
28.	TAMHSEUCC198	1.65 g	13.38 mm (with channel 13.86 mm)
29.	TAMHSEUCC016	1.52 g	11.86 mm
30.	TAMHSEUCC017	1.81 g	13.73 mm
31.	TAMHSEUCC018	1.37 g	14.25 mm
32.	TAMHSEUCC019	1.09 g	12.28 mm
33.	TAMHSEUCC020	0.95 g	13.43 mm
34.	TAMHSEUCC021	1.08 g	13.04 mm
35.	TAMHSEUCC022	1.68 g	14.60 mm
36.	TAMHSEUCC023	1.72 g	13.04 mm
37.	TAMHSEUCC024	1.75 g	12.39 mm
38.	TAMHSEUCC025	1.67 g	11.81 mm
39.	TAMHSEUCC026	2.05 g	13.66 mm
40.	TAMHSEUCC027	1.90 g	13.31 mm
41.	TAMHSEUCC136	1.32 g	13.04 mm
42.	TAMHSEUCC137	1.42 g	13.46 mm
43.	TAMHSEUCC138	1.29 g	12.77 mm

44.	TAMHSEUCC139	0.88 g	13.11 mm
45.	TAMHSEUCC140	0.94 g	11.95 mm
46.	TAMHSEUCC141	1.35 g	11.66 mm
47.	TAMHSEUCC142	1.45 g	13.32 mm
48.	TAMHSEUCC143	1.06 g	11.29 mm
49.	TAMHSEUCC144	1.48 g	9.48 mm
50.	TAMHSEUCC199	1.42 g	12.70 mm
51.	TAMHSEUCC200	1.72 g	12.34 mm
52.	TAMHSEUCC201	1.73 g	12.50 mm
53.	TAMHSEUCC202	1.18 g	12.82 mm
54.	TAMHSEUCC203	1.92 g	13.48 mm
55.	TAMHSEUCC037	1.55 g	14.78 x 12.75 mm
56.	TAMHSEUCC056	2.21 g	14.91 x 13.44 mm
57.	TAMHSEUCC058	1.65 g	14.20 x 11.65 mm

Type 2: Universal Round with Elephant Rider

Obverse

Elephant with a rider moving left.

Reverse

Three arched hill with crescent on top.

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC130	1.55 g	11.53 mm (with channel 17.54 mm)
2.	TAMHSEUCC193	2.20 g	12.89 mm (with channel 15.47 mm)

Type 3: Universal Square/ Rectangular without Ladder

Obverse

Elephant moving left, Taurine on left, Svastika and *Indradhvaja* below.

Reverse

Tree-in-railing at right, *Three arched hill* with crescent on top at upper left, Hollow cross at below left, and Taurine in between *Three arched hill* and Tree-in-railing.

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC049	1.46 g	13.45 x 12.74 mm (with channel)
2.	TAMHSEUCC094	1.34 g	15.75 x 12.24 mm (with channel)
3.	TAMHSEUCC108	2.58 g	14.96 x 14.25 mm (with channel)
4.	TAMHSEUCC145	3.41 g	14.97 x 13.98 mm (with channel)
5.	TAMHSEUCC147	3.09 g	14.71 x 14.30 mm (with channel)
6.	TAMHSEUCC032	2.19 g	16.80 x 12.61 mm
7.	TAMHSEUCC033	1.50 g	14.97 x 13 mm
8.	TAMHSEUCC041	1.16 g	15.41 x 13.12 mm
9.	TAMHSEUCC044	2.11 g	16.69 x 12.78 mm

10.	TAMHSEUCC047	1.59 g	16.80 x 8.95 mm
11.	TAMHSEUCC048	3 g	15.01 x 14.80 mm
12.	TAMHSEUCC050	2.10 g	14.28 x 13.10 mm
13.	TAMHSEUCC052	1.09 g	12.52 x 12.19 mm
14.	TAMHSEUCC054	2.77 g	18.08 x 10.58 mm
15.	TAMHSEUCC055	2.32 g	15.45 x 13.62 mm
16.	TAMHSEUCC062	1.05 g	13.91 x 13.52 mm
17.	TAMHSEUCC067	2.57 g	15.13 x 14.61 mm
18.	TAMHSEUCC068	1.60 g	14.30 x 14.14 mm
19.	TAMHSEUCC072	4.20 g	14.30 x 14.22 mm
20.	TAMHSEUCC075	2.14 g	13.87 x 13.69 mm
21.	TAMHSEUCC078	2.09 g	15.64 x 13.32 mm
22.	TAMHSEUCC079	2.83 g	15.54 x 15.52 mm
23.	TAMHSEUCC080	2.57 g	14.58 x 12.95 mm
24.	TAMHSEUCC081	1.09 g	12.63 x 12.40 mm
25.	TAMHSEUCC086	2.78 g	14.37 x 13.47 mm
26.	TAMHSEUCC087	1.17 g	14.17 x 13.97 mm
27.	TAMHSEUCC089	2.37 g	15.47 x 14.04 mm
28.	TAMHSEUCC090	2.27 g	15.83 x 14.51 mm
29.	TAMHSEUCC092	1.00 g	12.66 x 10.39 mm
30.	TAMHSEUCC095	1.41 g	12.78 x 12.51 mm
31.	TAMHSEUCC096	3.25 g	14.93 x 14.21 mm
32.	TAMHSEUCC097	2.64 g	15.65 x 14.07 mm
33.	TAMHSEUCC098	3.74 g	15.70 x 15.34 mm
34.	TAMHSEUCC113	3.45 g	15.61 x 15.15 mm
35.	TAMHSEUCC116	2.11 g	14.78 x 13.51 mm
36.	TAMHSEUCC117	1.71 g	13.98 x 12.61 mm
37.	TAMHSEUCC120	2.69 g	15.06 x 14.49 mm
38.	TAMHSEUCC121	2.12 g	14.91 x 14.04 mm
39.	TAMHSEUCC146	2.46 g	14.37 x 13.34 mm
40.	TAMHSEUCC148	2.17 g	14.84 x 13.71 mm
41.	TAMHSEUCC154	1.60 g	13.53 x 12.57 mm
42.	TAMHSEUCC156	3.11 g	14.41 x 13.91 mm
43.	TAMHSEUCC158	1.71 g	14.89 x 13.87 mm
44.	TAMHSEUCC160	1.23 g	14.87 x 13.39 mm
45.	TAMHSEUCC161	2.60 g	14.50 x 13.94 mm
46.	TAMHSEUCC162	2.98 g	14.87 x 14.43 mm
47.	TAMHSEUCC163	3.33 g	14.48 x 14 mm
48.	TAMHSEUCC167	0.69 g	12.86 x 9.57 mm
49.	TAMHSEUCC170	0.62 g	11.23 x 9.25 mm
50.	TAMHSEUCC172	1.28 g	13.58 x 8.01 mm
51.	TAMHSEUCC182	2.59 g	15.10 x 14.15 mm
52.	TAMHSEUCC183	2.47 g	15.45 x 13.69 mm
53.	TAMHSEUCC186	1.76 g	14.02 x 13.70 mm
54.	TAMHSEUCC209	2.80 g	15.76 x 14.98 mm
55.	TAMHSEUCC211	3.65 g	16.39 x 15.27 mm
56.	TAMHSEUCC213	2.54 g	16.45 x 14.16 mm
57.	TAMHSEUCC219	2.02 g	14.99 x 13.56 mm

58.	TAMHSEUCC223	3.05 g	16.10 x 13.30 mm
59.	TAMHSEUCC224	1.77 g	14.15 x 13.65 mm
60.	TAMHSEUCC225	2.44 g	14.15 x 14.02 mm

Type 4: Universal Square/ Rectangular with Ladder

Obverse

Elephant moving left,
Indradhvaja at left corner,
Svastika and Taurine above on left
and Ladder below.

Reverse

Tree-in-railing at right, *Three arched hill*
with crescent on top at upper left, Hollow
cross at below left, and Taurine in
between *Three arched hill* and Tree-in-
railing.

SL No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC077	1.24 g	13.79 x 12.15 mm (with channel)
2.	TAMHSEUCC151	2.16 g	16.22 x 14.38 mm (with channel)
3.	TAMHSEUCC035	1.76 g	12.92 x 12.87 mm
4.	TAMHSEUCC036	1.62 g	13.75 x 11.92 mm
5.	TAMHSEUCC038	2.15 g	14.56 x 12.83 mm
6.	TAMHSEUCC040	1.33 g	16.23 x 9.49 mm
7.	TAMHSEUCC043	2.51 g	13.95 x 13.48 mm
8.	TAMHSEUCC045	2.61 g	14.98 x 14.78 mm
9.	TAMHSEUCC061	2.20 g	16.69 x 12.84 mm
10.	TAMHSEUCC063	1.47 g	15.28 x 12.38 mm
11.	TAMHSEUCC064	1.86 g	14.43 x 14.08 mm
12.	TAMHSEUCC069	2.26 g	16.03 x 12.51 mm
13.	TAMHSEUCC070	1.75 g	13.93 x 12.11 mm
14.	TAMHSEUCC071	1.85 g	14.42 x 13.50 mm
15.	TAMHSEUCC083	1.75 g	12.43 x 12.41 mm
16.	TAMHSEUCC088	3.22 g	15.62 x 13.78 mm
17.	TAMHSEUCC093	2.00 g	17.60 x 13.74 mm
18.	TAMHSEUCC102	2.36 g	15.73 x 14.61 mm
19.	TAMHSEUCC103	2.10 g	13.76 x 13.31 mm
20.	TAMHSEUCC104	2.07 g	14.10 x 12.96 mm
21.	TAMHSEUCC106	2.54 g	14.29 x 14.06 mm
22.	TAMHSEUCC107	2.39 g	14.50 x 13.47 mm
23.	TAMHSEUCC110	2.14 g	14.28 x 12.46 mm
24.	TAMHSEUCC111	1.48 g	13.35 x 12.10 mm
25.	TAMHSEUCC115	1.68 g	12.93 x 12.68 mm
26.	TAMHSEUCC118	2.65 g	13.50 x 12.95 mm
27.	TAMHSEUCC124	1.21 g	12.31 x 10.90 mm
28.	TAMHSEUCC125	2.56 g	14.96 x 14.83 mm
29.	TAMHSEUCC149	1.67 g	13.20 x 12.47 mm
30.	TAMHSEUCC150	2.34 g	16.14 x 13.80 mm
31.	TAMHSEUCC152	2.82 g	14.78 x 14.62 mm
32.	TAMHSEUCC153	2.39 g	14.25 x 14.14 mm
33.	TAMHSEUCC155	2.20 g	13.83 x 13.13 mm
34.	TAMHSEUCC157	3.09 g	15.50 x 14.05 mm

35.	TAMHSEUCC159	1.90 g	15.16 x 14.26 mm
36.	TAMHSEUCC164	1.49 g	13.14 x 12.80 mm
37.	TAMHSEUCC168	2.13 g	15.19 x 15.04 mm
38.	TAMHSEUCC171	1.22 g	13.05 x 13.02 mm
39.	TAMHSEUCC174	2.05 g	14.56 x 13.90 mm
40.	TAMHSEUCC176	1.82 g	13.40 x 12.32 mm
41.	TAMHSEUCC180	1.83 g	15.15 x 13.90 mm
42.	TAMHSEUCC181	1.65 g	16.92 x 11.57 mm
43.	TAMHSEUCC185	1.44 g	14.61 x 13.07 mm
44.	TAMHSEUCC188	2.02 g	13.55 x 12.56 mm
45.	TAMHSEUCC212	3.63 g	16.35 x 15.24 mm
46.	TAMHSEUCC214	2.72 g	14.62 x 14.15 mm
47.	TAMHSEUCC215	2.35 g	16.25 x 13.88 mm
48.	TAMHSEUCC216	2.58 g	15.19 x 14.07 mm
49.	TAMHSEUCC217	3.59 g	17.45 x 13.77 mm
50.	TAMHSEUCC218	2.69 g	15.35 x 14.90 mm
51.	TAMHSEUCC220	2.64 g	15.11 x 14.80 mm
52.	TAMHSEUCC226	3.19 g	17.88 x 15.26 mm

Type 5: Universal Square/Rectangular with Hollow Cross

Obverse

Indradhvaja on left, Elephant moving left, and Hollow cross on top right.

Reverse

Tree-in-railingat left, *Three arched hill* with crescent on top and *Indradhvaja* in right, and Taurine in between Tree-in-railing and *Three arched hill*.

SI No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC101	1.84 g	13.31 x 12.73 mm (with channel)
2.	TAMHSEUCC177	3.27 g	14.83 x 14.02 mm (with channel)
3.	TAMHSEUCC189	2.42 g	15.21 x 12.86 mm (with channel)
4.	TAMHSEUCC042	1.21 g	12.64 x 11.97 mm
5.	TAMHSEUCC060	1.75 g	16.71 x 13.21 mm
6.	TAMHSEUCC074	1.08 g	10.76 x 10.39 mm
7.	TAMHSEUCC084	1.48 g	14.14 x 13.20 mm
8.	TAMHSEUCC085	2.06 g	13.92 x 13.87 mm
9.	TAMHSEUCC166	1.02 g	12.14 x 12.07 mm
10.	TAMHSEUCC173	2.54 g	14.92 x 13.33 mm
11.	TAMHSEUCC184	2.07 g	14.91 x 13.57 mm
12.	TAMHSEUCC207	1.36 g	13.24 x 12.24 mm
13.	TAMHSEUCC208	3 g	15.36 x 14.36 mm
14.	TAMHSEUCC221	3.01 g	15.78 x 14.78 mm
15.	TAMHSEUCC222	4.01 g	15.65 x 15.26 mm
16.	TAMHSEUCC030	1.70 g	15.81 mm
17.	TAMHSEUCC106	2.54 g	14.29 x 14.06 mm
18.	TAMHSEUCC149	1.67 g	13.20 x 12.47 mm

Type 6: Universal Square/Rectangular with Bull in Place of Elephant

Obverse

Bull moving left, in front of
Indradhvaja (?).

Reverse

Tree-in-railing at right, but other symbols
are unidentified.

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC206	2.15 g	14.76 x 13.59 mm

Type 7: Universal Square/Rectangular Hybrid Type

Obverse

Indradhvaja on left, Elephant
moving left, and Hollow cross on
top right (?).

Reverse

Tree-in-railing at left, *Three arched hill*
with crescent on top at right and Hollow
Cross in right below, and Taurine in
between Tree-in-railing and *Three arched hill*

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC169	0.78 g	13.27 x 10.84 mm (with channel)
2.	TAMHSEUCC104	2.07 g	14.10 x 12.96 mm

Obverse

Elephant moving left, Taurine on
left, Svastika and *Indradhvaja*
below.

Reverse

Tree-in-railing at left, *Three arched hill*
with crescent on top and *Indradhvaja* in
right, and Taurine in between Tree-in-
railing and *Three arched hill*

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC179	3.41 g	17.81 x 13.89 mm

Obverse

Indradhvaja on left, Elephant
moving left, and one *dhvaja* also
on right.

Reverse

Tree-in-railing at right, but other symbols
are unidentified.

Sl No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC210	2.93 g	18.15 x 13.85 mm

Obverse

Indradhvaja on left
Elephant moving left

Reverse

Indradhvaja on left (?)
Elephant moving left

Sl. No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHESUCC035	1.76 g	12.92 x 12.87 mm

Coin And Pottery Fragments

SI No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC109	1.87 g	16.96 x 12.56 mm
2.	TAMHSEUCC122	1.36 g	12.96 x 10.47 mm
3.	TAMHSEUCC175	0.86 g	11.52 x 10.68 mm
4.	TAMHSEUCC127(?)	1.41 g	(?)
5.	TAMHSEUCC128	0.43 g	(?)
6.	TAMHSEUCC129	0.37 g	(?)
7.	TAMHSEUCC227	(?)	(?)
8.	TAMHSEUCC228	(?)	(?)
9.	TAMHSEUCC229	(?)	(?)
10.	TAMHSEUCC230	(?)	(?)
11.	TAMHSEUCC231	(?)	(?)

Unidentified Coins

SI No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC205	1.95 g	16.21 x 13.25 mm (with channel)
2.	TAMHSEUCC031	1.61 g	13.42 x 12.89 mm
3.	TAMHSEUCC034	2.65 g	16.03 x 14.45 mm
4.	TAMHSEUCC039	0.92 g	13.12 x 10.53 mm
5.	TAMHSEUCC051	2.12 g	15.25 x 14.07 mm
6.	TAMHSEUCC053	2.79 g	15.57 x 12.73 mm
7.	TAMHSEUCC057	1.62 g	12.75 x 10.35 mm
8.	TAMHSEUCC059	1.54 g	15.61 x 14.15 mm
9.	TAMHSEUCC065	2.25 g	13.45 x 12.70 mm
10.	TAMHSEUCC066	2.23 g	14.31 x 13.28 mm
11.	TAMHSEUCC073	2.31 g	15.83 x 14.42 mm
12.	TAMHSEUCC076	1.50 g	12.53 x 12.06 mm
13.	TAMHSEUCC082	1.66 g	14.28 x 13.05 mm
14.	TAMHSEUCC091	1.37 g	12.53 x 11.40 mm
15.	TAMHSEUCC099	2.20 g	17.47 x 13.81 mm
16.	TAMHSEUCC100	1.82 g	15.64 x 11.56 mm
17.	TAMHSEUCC105	1.72 g	12.71 x 12.62 mm
18.	TAMHSEUCC112	2.77 g	13.77 x 12.83 mm
19.	TAMHSEUCC114	2.37 g	15.02 x 13.55 mm
20.	TAMHSEUCC119	1.66 g	14.20 x 13.41 mm
21.	TAMHSEUCC123	1.94 g	15.20 x 13.10 mm
22.	TAMHSEUCC126	1.31 g	13.71 x 13.70 mm
23.	TAMHSEUCC165	2.05 g	15.83 x 12.62 mm
24.	TAMHSEUCC178	0.77 g	12.06 x 09.38 mm
25.	TAMHSEUCC187	1.04 g	13.25 x 10.97 mm
26.	TAMHSEUCC204	1.32 g	14.62 x 13.73 mm
27.	TAMHSEUCC028	2.15 g	15.76 mm
28.	TAMHSEUCC029	1.35 g	14.76 mm

Sri Lankan Connection: Oblong Cast Lakṣmī (?) Plaque

Obverse

Lakṣmī (?) is standing with two lotuses
in her two hands.

Reverse

A standard with svastika on the top and a
nandipada on its right.

SI No.	Accession No.	Weight (in g)	Size (in mm)
1.	TAMHSEUCC046	0.66 g	12.17 x 10.06 mm
2.	TAMHSEUCC053	2.79 g	15.57 x 12.73 mm

Plates of Hamilton-Rupnarayan Hoard of Punch-marked and Early Un- inscribed Cast Copper Coins

Plate I

(Silver Punch-marked Coins)



(Copper Punch-marked Coin)

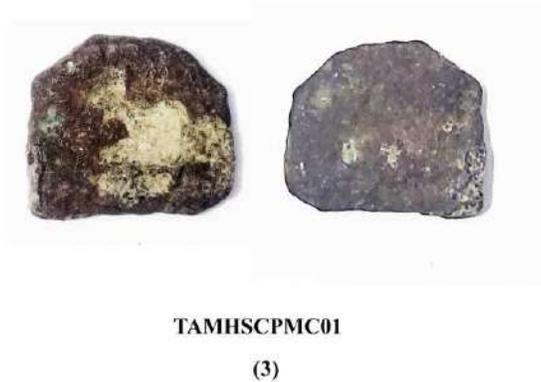


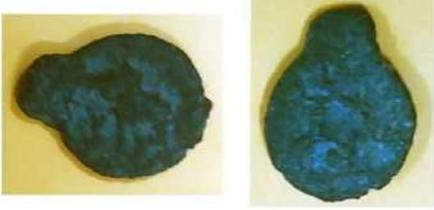
Plate II
Type 1: Universal Round
(with channel)



TAMHSEUCC001
(1)



TAMHSEUCC002
(2)



TAMHSEUCC003
(3)



TAMHSEUCC004
(4)



TAMHSEUCC005
(5)



TAMHSEUCC006
(6)



TAMHSEUCC007
(7)



TAMHSEUCC008
(8)

Plate III



TAMHSEUCC009
(9)



TAMHSEUCC010
(10)



TAMHSEUCC011
(11)



TAMHSEUCC012
(12)



TAMHSEUCC013
(13)



TAMHSEUCC014
(14)



TAMHSEUCC015
(15)



TAMHSEUCC131
(16)



Plate IV



TAMHSEUCC132

(17)



TAMHSEUCC133

(18)



TAMHSEUCC134

(19)



TAMHSEUCC135

(20)



TAMHSEUCC190

(21)



TAMHSEUCC191

(22)



TAMHSEUCC192

(23)



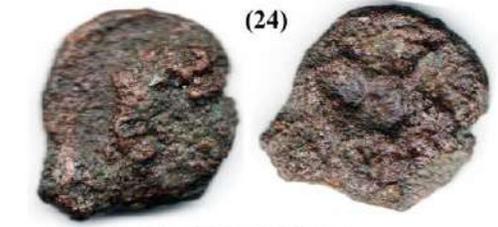
TAMHSEUCC194

(24)



TAMHSEUCC195

(25)



TAMHSEUCC196

(26)

Plate V



TAMHSEUCC197

(27)



TAMHSEUCC198

(28)

(without Channel)



TAMHSEUCC016

(29)



TAMHSEUCC017

(30)



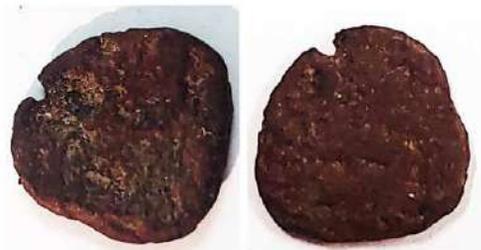
TAMHSEUCC018

(31)



TAMHSEUCC019

(32)



TAMHSEUCC020

(33)



TAMHSEUCC021

(34)

Plate VI



TAMHSEUCC022

(35)



TAMHSEUCC023

(36)



TAMHSEUCC024

(37)



TAMHSEUCC025

(38)



TAMHSEUCC026

(39)



TAMHSEUCC027

(40)



TAMHSEUCC037

(41)



TAMHSEUCC056

(42)



TAMHSEUCC058

(43)

Plate VII



TAMHSEUCC136
(44)



TAMHSEUCC137
(45)



TAMHSEUCC138
(46)



TAMHSEUCC139
(47)



TAMHSEUCC140
(48)



TAMHSEUCC141
(49)



TAMHSEUCC142
(50)



TAMHSEUCC143
(51)



TAMHSEUCC144
(52)



TAMHSEUCC199
(53)

Plate VIII



TAMHSEUCC200

(54)



TAMHSEUCC201

(55)



TAMHSEUCC202

(56)



TAMHSEUCC203

(57)

**Type 2: Universal Round with Elephant Rider
(with Channel)**



TAMHSEUCC130

(1)



TAMHSEUCC193

(2)

Plate IX
Type 3: Universal Square/ Rectangular without ladder
(with Channel)



TAMHSEUCC049

(1)



TAMHSEUCC094

(2)



TAMHSEUCC108

(3)



TAMHSEUCC145

(4)



TAMHSEUCC147

(5)

(without Channel)



TAMHSEUCC032

(6)



TAMHSEUCC033

(7)

Plate X



TAMHSEUCC041

(8)



TAMHSEUCC047

(10)



TAMHSEUCC050

(12)



TAMHSEUCC054

(14)



TAMHSEUCC062

(16)



TAMHSEUCC044

(9)



TAMHSEUCC048

(11)



TAMHSEUCC052

(13)



TAMHSEUCC055

(15)



TAMHSEUCC067

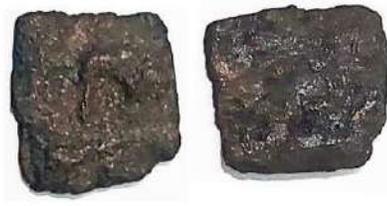
(17)

Plate XI



TAMHSEUCC068

(18)



TAMHSEUCC072

(19)



TAMHSEUCC075

(20)



TAMHSEUCC078

(21)



TAMHSEUCC079

(22)



TAMHSEUCC080

(23)



TAMHSEUCC081

(24)



TAMHSEUCC086

(25)

Plate XII



TAMHSEUCC087

(26)



TAMHSEUCC089

(27)



TAMHSEUCC090

(28)



TAMHSEUCC092

(29)



TAMHSEUCC095

(30)



TAMHSEUCC096

(31)



TAMHSEUCC097

(32)



TAMHSEUCC098

(33)



TAMHSEUCC113

(34)



TAMHSEUCC116

(35)

Plate XIII



TAMHSEUCC117
(36)



TAMHSEUCC121
(37)



TAMHSEUCC120
(38)



TAMHSEUCC146
(39)



TAMHSEUCC148
(40)



TAMHSEUCC154
(41)



TAMHSEUCC156
(42)



TAMHSEUCC158
(43)



TAMHSEUCC160
(44)

Plate XIV



TAMHSEUCC161
(45)



TAMHSEUCC163
(47)



TAMHSEUCC170
(49)



TAMHSEUCC182
(51)



TAMHSEUCC186
(53)



TAMHSEUCC162
(46)



TAMHSEUCC167
(48)



TAMHSEUCC172
(50)



TAMHSEUCC183
(52)



TAMHSEUCC209
(54)

Plate XV



TAMHSEUCC211

(55)



TAMHSEUCC213

(56)



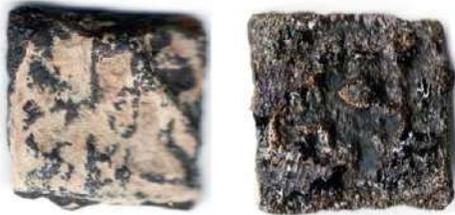
TAMHSEUCC219

(57)



TAMHSEUCC223

(58)



TAMHSEUCC224

(59)



TAMHSEUCC225

(60)

Type 4: Universal square/ rectangular with ladder
(with channel)



TAMHSEUCC077

(1)



TAMHSEUCC151

(2)

**Plate XVI
(without channel)**



TAMHSEUCC036

(3)



TAMHSEUCC038

(4)



TAMHSEUCC040

(5)



TAMHSEUCC043

(6)



TAMHSEUCC045

(7)



TAMHSEUCC061

(8)



TAMHSEUCC063

(9)



TAMHSEUCC064

(10)



TAMHSEUCC069

(11)

Plate XVII



TAMHSEUCC070
(12)



TAMHSEUCC071
(13)



TAMHSEUCC083
(14)



TAMHSEUCC088
(15)



TAMHSEUCC093
(16)



TAMHSEUCC102
(17)



TAMHSEUCC103
(18)

Plate XVIII



TAMHSEUCC107
(19)



TAMHSEUCC110
(20)



TAMHSEUCC111
(21)



TAMHSEUCC115
(22)



TAMHSEUCC118
(23)



TAMHSEUCC124
(24)



TAMHSEUCC125
(25)



TAMHSEUCC150
(26)

Plate XIX



TAMHSEUCC152
(27)



TAMHSEUCC153
(28)



TAMHSEUCC155
(29)



TAMHSEUCC157
(30)



TAMHSEUCC159
(31)



TAMHSEUCC164
(32)



TAMHSEUCC168
(33)



TAMHSEUCC171
(34)



TAMHSEUCC174
(35)



TAMHSEUCC176
(36)

Plate XX



TAMHSEUCC180
(37)



TAMHSEUCC185
(39)



TAMHSEUCC212
(41)



TAMHSEUCC215
(43)



TAMHSEUCC217
(45)



TAMHSEUCC181
(38)



TAMHSEUCC188
(40)



TAMHSEUCC214
(42)



TAMHSEUCC216
(44)



TAMHSEUCC218
(46)

Plate XXI



TAMHSEUCC220
(47)



TAMHSEUCC226
(48)

Type 5: Universal Square/ Rectangular with hollow cross
(with Channel)



TAMHSEUCC101
(1)



TAMHSEUCC177
(2)



TAMHSEUCC189
(3)

(without Channel)



TAMHSEUCC042
(4)



TAMHSEUCC060
(5)

Plate XXII



TAMHSEUCC074

(6)



TAMHSEUCC084

(7)



TAMHSEUCC085

(8)



TAMHSEUCC166

(9)



TAMHSEUCC173

(10)



TAMHSEUCC184

(11)



TAMHSEUCC207

(12)



TAMHSEUCC208

(13)



TAMHSEUCC221

(14)



TAMHSEUCC222

(15)

Plate XXIII



TAMHSEUCC30

(16)

TAMHSEUCC106

(17)



TAMHSEUCC149

(18)

**Type 6: Universal Square/ Rectangular with Bull in place of Elephant
(without channel)**



TAMHSEUCC206

(1)

**Type 7: Universal Square/ Rectangular Hybrid type
(with channel)**



TAMHSEUCC169

(1)

**Plate XXIV
(without channel)**



**TAMHSEUCC104
(2)**



**TAMHSEUCC179
(3)**



**TAMHSEUCC210
(4)**



**TAMHSEUCC035
(5)**

Coin Fragments



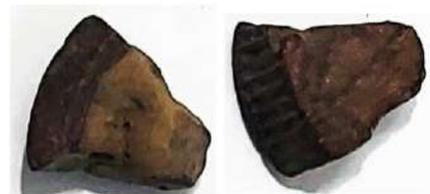
**TAMHSEUCC109
(1)**



**TAMHSEUCC122
(2)**



**TAMHSEUCC175
(3)**



**TAMHSEUCC127
(4)**

Plate XXV



TAMHSEUCC128
(5)



TAMHSEUCC129
(6)



TAMHSEUCC227
(7)



TAMHSEUCC228
(8)



TAMHSEUCC229
(9)



TAMHSEUCC230
(10)



TAMHSEUCC231
(11)

Plate XXVI
Unidentified Coins
(with channel)



TAMHSEUCC205
(1)

(without channel)



TAMHSEUCC031
(2)



TAMHSEUCC034
(3)



TAMHSEUCC039
(4)



TAMHSEUCC051
(5)



TAMHSEUCC057
(6)



TAMHSEUCC059
(7)

Plate XXVII



TAMHSEUCC065
(8)



TAMHSEUCC066
(9)



TAMHSEUCC073
(10)



TAMHSEUCC076
(11)



TAMHSEUCC082
(12)



TAMHSEUCC091
(13)



TAMHSEUCC099
(14)



TAMHSEUCC100
(15)



TAMHSEUCC105
(16)



TAMHSEUCC112
(17)

Plate XXVIII



TAMHSEUCC114
(18)



TAMHSEUCC119
(19)



TAMHSEUCC123
(20)



TAMHSEUCC126
(21)



TAMHSEUCC165
(22)



TAMHSEUCC178
(23)



TAMHSEUCC187
(24)



TAMHSEUCC204
(25)

Plate XXIX



TAMHSEUCC028
(26)



TAMHSEUCC029
(27)

Sri Lankan Oblong Lakṣmī Type Plaque



TAMHSEUCC046
(1)



TAMHSEUCC053
(2)

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The history of Toramana coinage of Kashmir, which can presumably be traced back to the sixth century, is well-known from the account of Kalhana's *Rajatarangini*. According to this narration, 'then he (Shreshthasena) has two sons Hiranya and Toramana, holding the position of sovereign and Yuvaraja, delighted the earth. Suppressing the undue abundance of [coins] struck by ..., Toramana put in circulation coins (dinnarah) struck in his own name. How did this [Toramana dare] to make display as if he were king, disregarding me? Thus thought in anger the king his elder brother, and placed him in prison' (Stein 1899: III, 102–04). Then Stein explained the subject statement in his own words 'Shreshthasena (Pravarasena I) is said to have had two sons, of which the elder, Hiranya succeeded him, while the other, Toramana, acted as Yuvaraja. Toramana presumed to strike coins in his own name, whereupon Hiranya threw him into prison for the remainder of his life' (ibid.). Stein further remarked that this Toramana is known by his large collection of copper coins which are still found in abundance in Kashmir. This was the earliest form of local coinage which was unanimously issued by the subsequent Hindu rulers of Kashmir for hundreds of years (ibid.).

The copper coins struck in the name of Toramana were first brought to light by Alexander Cunningham in his article on the medieval coinage of Kashmir in 1843. Before this, one coin of Toramana was incorporated by James Prinsep in one of his publications but without identification of the legend or attribution to a particular ruler (Thomas 1995, Pl. xxxi, no. 14). After fifty years, Cunningham rearranged the medieval coinage of Kashmir and presented the coins of Toramana in great details. Thereafter, several scholars, following the basic frame of Cunningham, have discussed the coins of Toramana and his successors in their own approaches. The coins of the subject ruler have always attracted the attention of scholars due to the origin of this prototype of Kashmiri coinage, the continuity of the Toramana series, the sovereign status of Toramana, and more importantly his position as a local ruler or king of the Hephthalite dynasty. In this regard, the contributions of many scholars are noteworthy enough to be highlighted herein the context of the scope and problems related to the Toramana series of coinage.

Previous Scholarships and Achievements

In 1843, Alexander Cunningham wrote an article titled 'The Ancient Coinage of Kashmir', in which he illustrated three coins of Toramana (Cunningham 1843, 20, 24, pl. II. nos. 1–3). He suggested that the uniform coin design of the 'standing male figure on the obverse and seated female on the reverse' of Kashmir had been circulated for more than thirteen centuries, i.e. from the beginning of the Christian era to the arrival of the Muslims in the mid-thirteenth century. In further remarks, he argued that the early coins of Toramana pattern were produced in good workmanship which gradually become degenerated over the centuries; it was then difficult to trace the outlines of the figures amongst the confused jumble of dots and strokes issued in the time of Jagadeva (1193-1208 CE) of the Vuppa dynasty (ibid., 5, 20-21).

Besides this, Cunningham widely described the chronological sequence of the dynastic rule of Kashmir from the Kushans (1st century) till the conquest of Mirza Haidar Dughlat (16th century) under the Mughal emperor Humayun. In his list, he identified the earliest Kashmirian dynasty with the Nagas (or Karkotas), ruled by seventeen princes. The author recognized the rule of Hiranya and Toramana contemporary with Vikramaditya (395–430 CE) of Malwa and placed them in the beginning of the fifth century (ibid., 7–10, 18–19).

Cunningham traced the origin of this design to the coins of Vasishka, Vasudeva II (3rd century), and Shaka (4th century) of the Late Kushan kings, as these portrayed a standing figure of king on the obverse and seated female figures on the reverse. The author identified these coins with Kanerki (Kanishka I) of the Indo-Scythians (Kushans), who established his rule in the first century CE, *Vasu-Kula* (146–161 CE) or *Vasu-nauda* (195–208 CE), and *Sita-maka* (Siddha, 99–114 CE) respectively (ibid., pl. I, nos. 1–3) for the reigns of Vasishka, Vasudeva II and Shaka, respectively. For the following series (ibid., pl. II, nos. 1–3), he referred to the historical accounts that in the reign of Hiranya (415–430 CE), Toramana, the Yuvaraja and younger brother of the king, 'having melted down the former (gold) coins called *Balahast* proceeded to strike *Dinars* in his own name'. Upon this, Toramana was thrown into prison where he died a few years later. This was the turning point in the history of Kashmir where a Yuvaraja (i.e. Toramana) minted coins in his own name without the consent of the king and this coinage gained widespread acceptance and reputation. Thereafter, the coin project of Toramana was successfully retained by the subsequent rulers of Kashmir who always issued coins in such uniform design. The rulers of the Naga dynasty imitated the coins of Toramana but never issued them in their own names (ibid., 20–24). The names of individual rulers appeared on coins during the reign of the Utpala dynasty in the mid-ninth century CE (Khan 2024, 2024).

In his following publication, Cunningham (1894) briefly described that Kashmir was a tributary state to the Indo-Greeks, then ruled by the Indo-Scythian (Kushan) rulers and the Little Kushans. In the beginning of the sixth century, Kashmir was occupied by Mihirakula, the powerful ruler of the Hephthalites. Cunningham further added that the 'true history' of Kashmir began from the rule of Toramana and his son Pravarasena (II) who belonged to the royal family of Kashmir. Then, in the beginning of the seventh century, the Kashmir valley was administrated by Durlabha (594–625 CE), the founder ruler of the Nagas (or Karkotaka i.e. Karkota), a native dynasty of Kashmir (Cunningham 1894, 25–27, 37–39).

Cunningham described various silver and copper types of Mihirakula (Hephthalites) and identified them as the earliest coin series of Kashmir. He strongly advocated the idea that the standing king and seated goddess type of this ruler, inscribed with the legend '*Jayatu Mihirakula*', was struck in Kashmir. The next known coin series consisted of the base gold coins of Toramana and his son Pravarasena, and was inscribed with the additional name 'Kidara'. Kidara was considered the local tribe of the Little Kushans. Accordingly, Toramana and successors were the descendants of Kidara (ibid., 27–28, 36).

In this work, Cunningham compiled a comprehensive catalogue of Kashmir coins, beginning with the issues of Toramana followed by the mixed issues of Pravarasena, Narendraditya and Gokarna. The following coin series comprised the uniform design of the Nagas and subsequent dynasties. Thus, Cunningham's list accommodates the coins of seventeen rulers of Kashmir between the reigns of Toramana (6th century) and Jagadeva (12–13th century). On the coins of Toramana and Pravarasena, he identified the reverse figure with the 'earth goddess', who is holding a lotus over her

left shoulder. He argued that this series was the 'real coinage' of Kashmir which began with the reigns of these kings. The author further inferred the origin of the standard type of Kashmir coinage - 'standing king and seated goddess' - from the coinage of the Indo-Scythian Kushan kings and their successors (ibid., 36–37).

After Cunningham, Charles J. Rodgers contributed a parallel type of article on the coins of Hindu rajas of Kashmir. This work included the copper coins of uniform design of Kashmir from the reign of Sankaravarman to Jagadeva but without any specimen of Toramana (Rodgers 1879, 277-80, pls. XI-XII). Later, Rodgers identified the coins of Toramana with different designs inscribed with the Brahmi letter 'To' which stands for the initial of the king's name, Toramana. The coins of these types belonged to the Hephthalite rulers Toramana and Mihirakula whose coins are well known in Punjab (Rodgers 1894, 38–39).

In 1895, Rodgers published a catalogue of coins which included nine copper coins of Toramana. These coins, based on the Hephthalite design, depicted the head of the king on the obverse and a wheel surmounted by a dotted circle on the reverse. Rodgers also described two coins with the head of the king to the right and a bull to left, and called them doubtful coins. In the next type of Toramana, he described thirty-one copper coins portraying the seated figure of the king with a cornucopia (probably a lotus flower with deity) on the obverse and a standing figure on the reverse (Rodgers 1895, 3-4). He remarked that this type seems to be the typical coinage of Kashmir originated by Toramana, mentioned in the *Rajatarangini* (Rodgers 1895, 1–4). He appropriately arranged the uniform coinage of Kashmir after the second type of Toramana portraying the seated figure (goddess) on one side and the standing male figure on the other. He systematically organized these coins with their number, average weight in grains and size ranges in inches.

After these initial works of Cunningham and Rodgers, G.B. Bleazby briefly highlighted the coins of the Hindu rajas of Kashmir housed in the Shri Pratap Singh Museum, Srinagar (Bleazby 1900). Under this classification, the second group (B), known as 'Coins of the Old Hindu Maharajas of Kashmir', comprised the coins of nine rulers. The number and average weight of coins of these rulers are given in chronological order. According to Bleazby's list, Toramana is known by sixty examples of copper (ibid., 20–22).

M. Aurel Stein (1899) identified the coins of Toramana with a person known as the brother and co-regent of King Hiranya of Kashmir. He remarked that the early copper coins issued by Toramana were preserved in Kashmir in great number seven in the nineteenth century. From the historical commentary by Kalhana, Stein observed notable discrepancies in the date of Toramana. He suggested the suitable date to the issuance of these coins in 5th or 6th century CE (Stein 1899, 82-83). Similar differences also persisted in the reign of Pravarasena II, the son of Toramana and immediate successor of Matrigupta. The gold and silver coins of Pravarasena-II, showing close resemblance to the coins of Toramana, are said to have been issued in the sixth century CE. On the other hand, these coins also display a close similarity to those of the Kidara Kushans, the successors of the Kushans who ruled in Gandhara from the fifth century onwards (Stein 1899, 65–66, 82–85). Besides this, Stein narrated three possibilities for the issuance of coins in the name Toramana: (a) son of Shreshthasena and younger brother of Hiranya of Kashmir; (b) father of Mihirakula of the White Huns; and (c) a Hindu-Shahi prince of Gandhara who ruled as late as the tenth century (ibid., III, 102–04, 82–83).

Soon after, Aurel Stein published a significant paper titled 'Notes on the Monetary System of Ancient Kashmir' on the medieval coins of Kashmir (Stein 1900). The author keenly observed

several varieties in the uniform design of copper coins of Toramana, portraying a standing king on the obverse and a seated goddess on the reverse. The obverse of these coins are inscribed with the Brahmi legend *Shri Toramana* and the reverse with the word *Kidara* in perpendicular pattern. The differences can be seen in the form of legend and treatment of the coins being struck for a long time. Besides this, the large quantity of these coins also indicates their vast production and prolonged circulation in the region. Accordingly, the good quality coins are of the original type and were minted at the beginning of the series (during the time of Toramana) while the coins of crude design appeared in the later period. Aurel Stein noted that this degradation progressively appeared in the forms of figures and their dresses as well as other elements which gradually transformed into a different stylized form of design. The available coins of Toramana reasonably justify the statement of Kalhana that certain coins of Kashmir were first minted by Prince Toramana in his own name without the consent of his elder brother, King Hiranya. Aurel Stein also remarked that the Toramana series constituted the earliest distinctive coinage of Kashmiri origin (Stein 1900, 151–54, nos. 13–15).

Like Cunningham, Stein argued that the first independent coins of Kashmir, as described above, were introduced by Toramana in his name and remained in circulation for a long time. It was further confirmed from the statement of Shrivara, reported in his *Chronicle* (III), that when the coins of Toramana were no longer in circulation, Sultan Hassan Shah (1472–84 CE) minted a new lead coin called *Dvidinnari*. The copper coins known by the term *Shritoramanadinaran*, after Toramana, must have been in circulation in the region till the fifteenth century. Similarly, Aurel Stein traced the term '*toramanah*' before *nishkah* and *dinnarah* in the miscellaneous list of words recorded by Lokaprakasha. He argued for the prolonged circulation (i.e. 800 years) of the Toramana series of coins, which were struck not only by King Toramana but also by the subsequent rulers of the Karkota dynasty. He also estimated the exchange rate of Toramana coins, which were struck in heavy weight as compared to the later light-weight coins, i.e. eight Toramanas went against ten Puntshus (Stein 1900, 154–57).

Vincent A. Smith (1906) dated the Toramana series of coins to the sixth century and their continuous circulation until the fifteenth century. He described that the earliest coin belonged to the reign of Toramana and the remaining, showing the name Toramana, were apparently issued by his successors. Smith was not interested in differentiating the original coins of Toramana from the imitation series. Smith generally followed Stein's statement (based on the assumption of Kalhana's *Rajatarangini*) that Toramana 'is identified with the prince so-called, who put in circulation coins struck in his own name during the lifetime of his brother King Hiranya'. He simply stated that Toramana mentioned in the *Chronicle of Kashmir* was identical or not with that Toramana, the king of Hephthalites, the son of Mihirakula, who issued coins in various types and designs. Smith briefly remarked that the coin design of Kashmir was derived from the standard type of the Kushans, having a standing king on the obverse and a seated goddess on the reverse (Smith 1906, 266–07).

Like other scholars, Smith remarked that the historical accounts and attribution of coins to the Hindu rulers of Kashmir from the time of Sankaravarman (883–902 CE) onwards are well defined and found in correct order. Of these, the earliest coins are from the Toramana series where the figures are shown in realistic form. The coins of Toramana were produced in heavy weight i.e. about 100 grains each, and the coins issued after Sankaravarman were in lighter weight. Smith remarked that the later coins of this series were found in very crude style and the figures generally

appeared in grotesque form. This monotonous coinage of the Toramana series was characteristically barbarous and devoid of aesthetic value (ibid., 266-67).

In his catalogue, Smith organized the coins of the Kashmir rulers into four groups: (a) early kings (Toramana and successors); (b) Utpala dynasty; (c) first Lohara dynasty; and (d) second Lohara dynasty. The early kings are represented by one copper coin of Khingila (Khinkhila, Narendraditya) and eleven copper coins of Toramana. Of these, the author illustrated three 'good' examples of Toramana (ibid., 267-73, pl. XXVII, nos. 2-4). Besides the Toramana series, the catalogue incorporated many copper coins of uniform design inscribed with the name of individual rulers of Kashmir known from the reign of Shankaravarman of the Utpala dynasty and onwards (Smith 1906, 270-73, pl. XXVII, nos. 9-17).

In 1922, Charles J. Brown briefly discussed the early coinage of Kashmir in his book *The Coins of India* and traced their origin to the Hephthalite rulers in the sixth century. The earliest coins of Kashmir, depicting a head of a king on the obverse and a vase on the reverse, were assigned to Khingila of the fifth century. The second series, portraying a standing figure on the obverse and a seated deity on the reverse, obviously based on the Kidarite style gold coins, were said to have been issued by the Naga rulers in the eighth century. The author attributed the copper coins of Toramana to the Hephthalite ruler and considered them as a disputed series of Kashmir coinage (Brown 1922, 54-55).

Ram C. Kak (1923) arranged one copper coin of Toramana before the uniform coinage of the Hindu rulers of Kashmir. He described the design of this coin to have a standing figure on the obverse and a seated goddess on the reverse (Kak 1923, no. 16). The author associated the subject of Toramana with the White Huns who invaded and ruled over Northern India about 500 CE. The subsequent issues of the Hindu rulers of Kashmir, showing a seated goddess on the obverse and a standing king on the reverse, are said to have minted after the Toramana coins (ibid., 154-58).

Sunil C. Ray (1952) contributed a significant paper on Toramana coins titled 'The Identity of Toramana of Kashmir Coins' and attempted to resolve various issues related to the coinage of this ruler. The weight pattern of Toramana coins occurred between 100 and 120 grains is similar to those of the Kidara Kushans. He described the coin design as: the standing king with the Brahmi legend *Shri Toramana* on the obverse and a seated goddess with perpendicular legend *Kidara* on the reverse. Ray, following the pattern of Cunningham, remarked that the coins of Kashmir were issued by the local ruler Toramana who was mentioned in the *Rajatarangini*. This Toramanaruled later, after the Huna (Hephthalite) king Mihirakula, who may not be identical with the powerful Huna ruler Toramana, the father of Mihirakula who conquered the Punjab, Sindh and Malwa regions. The author thus denied the attribution of these coins to the Huna Toramana, the father of Mihirakula, as earlier suggested by some scholars (Ray 1952, 152-54).

Besides this, the author noted some basic differences in the coin design after comparing them with those of Mihirakula. The copper coins of Mihirakula, having a standing figure of king on the obverse and a seated goddess with cornucopia over her left shoulder on the reverse (modelled on the pattern of the Kushans) were issued in Kashmir. The coins of Toramana likely exhibit the same devices such as a standing king on the obverse but with the word '*Kidara*' and seated goddess with lotus flower over her left shoulder instead of a cornucopia on the reverse. The word *Kidara* is absent from the coins of Mihirakula. This coin design of Toramana was likewise followed by his son and successor, Pravarasena II, mentioned in the *Rajatarangini*. The word *Kidara* was similarly retained

on the coins of Pravarasena II, who ruled in the last quarter of the sixth century CE, and on the coins of the Karkotaka rulers. On the basis of style, legend, attributes, fabric and execution, Ray assigned these coins to Toramana of Kashmir and not to Toramana, the father of Mihirakula, the great king of the Huna dynasty (ibid.). In view of this comparison, the coins of Mihirakula seem to have been issued earlier than those of the Toramana coins. In reference to the historical accounts, he further justified his views that the circulation of Huna Toramana coins in Kashmir was hardly to be accepted because Kashmir had not been conquered by Toramana but by his son Mihirakula (ibid., 153–54, 156).

Similarly, Ray refused to attribute these coins to a different Toramana whose name is mentioned in the *Rajatarangini*. This Toramana was the ruler of the Shahi dynasty of Ohind and Gandhara who lived in the tenth century CE. In this way, Ray has convincingly assigned the Toramana series of coins to the Kashmiri Toramana, father of Pravarasena II (ibid., 154–55).

In response to this interpretation of the author, Anant S. Altekar, editor of the journal (Journal of the Numismatic Society, XIII/1) suggested that the coins of Toramana were mechanically reproduced for hundreds of years and some were definitely later imitations belonging to different periods as late as the fifteenth century. In this regard, he gave the example of the Toramana coin published by Cunningham, which are in a better style and are earlier in date than the Toramana coins included by Smith in his catalogue. Contrary to Ray, Altekar attributed the early coins to Toramana, the Hunakings who ruled in the sixth century. Altekar also criticised Smith for associating these coins with Toramana, the son of Mihirakula, while ignoring the countermarked coins of Mihirakula which carried the legend 'Tora' of Toramana. Altekar suggested that Mihirakula probably had a son, who he named after his own father, Toramana. This theory was based on some Huna coins of Mihirakula, counterstruck by Toramana, with the head of king on the obverse and a bull on the reverse. Hoernle, who illustrated these coins, created confusion as he interpreted the Huna coins in the context of the *Rajatarangini* (Ray 1952, 155–57; Hoernle 1885, 4–7, Pl. I, figs. 1–5).

Ray disagreed with the above views of Altekar regarding the re-strikes of Mihirakula made by his son Toramana. He argued that the restrikes were usually exercised by a rival king or conqueror and not by one's son or father. He further suggested that such coins might have been counterstruck by another person whose name was Toramana but not this Toramana, father of Pravarasena II. These counter-struck coins of Mihirakula reported from Punjab are definitely of Huna origin. On the other hand, the coins of this Toramana, father of Pravarasena II, are from a well-known series of Kashmir and found in abundance in the territory (Ray 1952, 156–57).

Sunil C. Roy, writing on the medium of exchange in ancient Kashmir, briefly commented on the copper coins of Kashmir originated by Toramana in the sixth century CE (Roy 1956). This type of currency was a distinctive coinage of Kashmir which had been in circulation for many centuries until the time of Muslim rule in the fifteenth century. These coins were known to have been produced in immense quantities by many rulers of Kashmir up to the beginning of the Karkota dynasty in the seventh century. The coins of the Karkota (or Karkotaka) dynasty are in copper and mixed metal like gold, silver and copper. After the decline of the Hephthalites, Kashmir re-established her previous trade links with neighbouring countries such as Tibet, China and some provinces of India, particularly in the early phase of the Karkota dynasty (Roy 1956, 73–74).

Lallanji Gopal briefly highlighted the weight of Toramana coins of Kashmir. The weight of these occurred between 83.8 and 111.5 grains, which was substantially heavier than the subsequent

coins issued by Sankaravarman and his successors. The weight of later series ranged between 71.5 and 97.5 grains (Gopal 1965, 190).

In his following work, Lallanji Gopal added a section called 'Standing king and seated goddess Type' on Kashmir coinage published in the series of Numismatic Notes and Monograph titled 'Early Medieval Coin Types of Northern India' (Gopal 1966, 16-17). He described the coin design of Kashmir, showing standing king with a spear on the obverse and a seated goddess on the reverse, and emphasized that this type had remained unchanged for over 1,200 years, i.e. from Kanishka of the Kushan dynasty down to the period of Muslim rule in 1339 CE. On the coins of Toramana and Pravarasena, the deity on the reverse is replaced with a lotus, similar to what appeared on Gupta coins. In the Utpala dynasty, both arms of the seated goddess were gradually displaced to accommodate the legend in certain area (Gopal 1966, 16–17).

The author discussed in-depth the coinage of Toramana and highlighted its salient features. Like other scholars, Gopal credited Toramana for the introduction of a new model of coinage which was unanimously retained by all the subsequent rulers of Kashmir. The coins inscribed with the legend 'Toramana' are known in abundance; these were not only issued by the king himself but also by his successors for many centuries. On later coins (imitations) of Toramana, the word 'Kidara' disappeared from the reverse. This series of coinage is said to have circulated in Kashmir from the sixth to the fifteenth centuries. Gopal generally repeated the views and interpretations presented by Cunningham, Stein and Smith regarding the Toramana series of coins. He also highlighted the statement of Kalhana, that Toramana and his coinage originated in Kashmir. Accordingly, he attributed these coins to Toramana, the princely brother of Hiranya, the king of Kashmir who was imprisoned by his brother after issuing coins in his own name. Gopal mentioned that the Huna Toramana and Kashmiri Toramana are often considered identical but they were actually two different persons originating from different backgrounds. The Huna Toramana, known from coins and inscriptions, was a great conqueror and father of Mihirakula. The Kashmiri Toramana, identified from coins and historical references, was a brother of Hiranya and father of Pravarasena II who never ascended to the throne and died in captivity (*ibid.*, 18–20).

Unlike Cunningham and Rodgers, Kenneth W. West (1978) signified the obverse design with the standing figure of a king and reverse with a seated goddess, where the first part of the name of the ruler was moved on the reverse side of the coin after Pravarasena. In view of the two variations of the reverse figure, West generally classified the medieval coinage of Kashmir into two broad groups. One variety, in which the reverse deity looks like a dagger, is known for the production of base gold (electrum) coins. Like Cunningham and Gopal, West generally attributed the first variety, i.e. base gold coins, to the rulers (Durlabha through Jayapira) of the Naga dynasty produced before the copper coinage of Toramana. However, he was uncertain about such coins issued before the Varma (Utpala) dynasty (West 1978, 69-71).

On the second variety, the reverse figure is shown seated on a lion's back with knees spread wide known in base metal (copper). The coins of this variety began from the copper series of Pravarasena I and Toramana. Instead of this classification, West placed the above-mentioned base gold and copper coins of Toramana together. He further demarcated that the copper coins of this design were commonly known as 'Toramana due to the legend of Toramana inscribed on them. This style of coinage, with or without his name, continued in circulation until the Muslim conquest of Kashmir. Later, Avantivarman, founder of the Varma (Utpala) dynasty, and his successors displaced

the name of Toramana from this series of coinage and inserted their own names. In this way, the copper coins of Kashmir inscribed with the name of Toramana were minted from the Kushan period to the reign of Avantivarman (ibid.).

Michael Mitchiner (1878) briefly highlighted the Toramana series of copper coins, displaying the standing figure of a king on the obverse and a seated goddess on the reverse. He organised these coins of Kashmir into two varieties. The early coins of good workmanship inscribed with legend '*Sri Toramana*' on one side and '*Jaya*' on the other obviously belonged to Toramana II (540–70 CE), the successor of Mihirakula in Kashmir who fought the Maukharis. But later coins made in crude style, termed as anonymous derivatives of the Toramana coinage, were imitations by the rulers of the Karkota dynasty. These imitations were produced between 570 and 855 CE. (Mitchiner 1978: 495).

In the following work, Michael Mitchiner compiled a long list of Kashmiri rulers whose names and titles were traced on their coins (1979, 36-39). Accordingly, he highlighted these names and titles inscribed on their coins in Sharada characters. This list comprises the names of Hindu rajas of the last five dynasties of Kashmir, ranging from Duptala (Utpala) to Vuppadeva. Mitchiner associated the origin of the uniform coin design of Kashmir with the rule of Toramana II (530–70 CE), grandson of the Hephthalite King Toramana I. These coins of Kashmir represent the standing figure of the king on the obverse and an enthroned goddess on the reverse. Like his previous work, Mitchiner divided this series of coins into two groups, the early coins of good workmanship belonged to Toramana and later coins of crude style to his successors. Like other scholars, he attributed the post-Toramana coinage to the rulers of the Karkota dynasty (c.627–855 CE) who likewise imitated the coins of Toramana without any changes. Then the rulers of the Duptala (Utpala) dynasty also retained the same pattern for their coinage but they dropped the name of Toramana and began to write their own names. Thereafter, the same practice was carried on by the successors (Mitchiner 1979, 36–39).

Y.B. Singh (1982) briefly highlighted the economic condition of medieval Kashmir, where copper currency along with bronze and ivory icons was produced in the eighth century and onwards. Besides this, early Toramana coins of Kashmir were prevailed in circulation at the time. The author further explained the reasons for inferior-quality copper coins being minted in the early medieval period of Kashmir. Due to the decline of trade in the region after the discontinuation of trade links between Central Asia, Tibet, and China, as well as the rise of the Turks in the eighth century, the weak economy of Kashmir noticeably shifted to the stamped money. In such circumstances, the importance of copper coins was greatly recognised. At the same time, the copper series of Toramana was already existed and continually circulated till the fifteenth century (Singh 1982, 180–84).

In 1978, Singh compiled another article on the medieval currency of Kashmir titled '*Perspective on Coins of Early Medieval Kashmir*'. In this work, he emphasised on the need for a numismatic approach to the coins of early medieval of Kashmir which had, in general, been neglected. Singh demonstrated that the early currency of Kashmir was of good quality due to the increasing trade links with Central Asia and neighbouring countries. Then it began to decline after the coinage of Toramana due to the discontinuation of trade with Kashmir's eastern neighbours. After the tenth century, the currency of Kashmir improved for a short period due to its new contacts with Karnataka state when Harsha, the local ruler of Kashmir, copied some fantastic designs of the monarch of this region (Singh 1987, 121–4).

In the light of above-mentioned works of Cunningham, Bela Lahiri (1984) attempted to evaluate the coinage of Kashmir from the early medieval phase in the sixth century down to the late medieval period in the mid-thirteenth century. The author broadly highlighted the coins of the early phases of Kashmir. From these numismatic evidences, he traced the evolution of the later coinage of Kashmir which became uniform in design and then gradually evolved into a crude style of execution. Accordingly, the scholar associated the origin of Kashmiri coinage with the rule of Mihirakula, the Hephthalite king who conquered Kashmir in the first half of the sixth century and retained the coin design of 'standing king' and 'enthroned deity' of the Kushans. This design was then imitated by the successors and thus it went through different stages of evaluation and degradation. Finally, it evolved into the standard 'Kashmir type' during the reign of Shankaravarma, the second ruler of the Utpala dynasty who began to issue the coins in his own name. Thereafter, except for some experiments by Harshadeva, the subsequent rulers of various dynasties consistently retained the subject design till the Muslim conquest of Kashmir in mid-fourteenth century. In view of the prolonged circulation of this monotonous design, Lahiri distinguished three groups of Kashmir coins, namely: (1) Mihirakula and his successors; (2) Toramana, the Kidara chief and his successors; and (3) the Karkotas (Lahiri 1984, 104–05).

Lahiri discussed in-depth the coins of the second group i.e. Toramana, his son Pravarasena II and successors, and recognised the connections of Toramana coins with the Kidarites. Lahiri is of the opinion that this Toramana was a different person from the father of Mihirakula of the Hephthalite dynasty. Accordingly, this Toramana originated a new series of Kashmir coins which appeared later, years after Mihirakula's rule. Like Mihirakula, the coin design of Toramana was also modelled on the pattern of Kushan coinage, portraying a 'standing king' on the obverse and a 'seated goddess' on the reverse. In the process of evolution of this coinage, the cornucopia held by the reverse deity in her left arm was replaced by a lotus with a long stem similar to the case of the reverse figure on the Gupta coins. Hence, the reverse of Toramana coins unanimously display the seated figure with a lotus flower in her left arm over her shoulder. Another change also appeared on these coins where the word *Kidara* arranged perpendicularly in the left field of reverse. Accordingly, Lahiri assigned this group of Toramana coins to the family of Kidara or Little Kushans who ruled after Mihirakula. He conjectured that Kashmir was retaken by the Little Kushans after a brief rule of the Hephthalites under Mihirakula (ibid., 103–05).

Lahiri identified further notable changes in the silver coins of Pravarasena II, the successor of Toramana, where the obverse and reverse devices were reshuffled: henceforth, the seated goddess with the first part of the legend appeared on the obverse and the standing figure with the second part of the legend on the reverse. This was a landmark in the evolution of Kashmir coinage and was unanimously followed by Toramana's successors (ibid., 105).

John Deyell (1990), speaking about on the monetary history of Kashmir, briefly discussed the production and prolonged circulation of the copper coins of Kashmir issued in the name of Toramana. He states that the Toramana type of coins were introduced in the first half of the sixth century. The same type, bearing the name of Toramana, continued to be issued without any change for over 300 years during the Naga (or Karkota) dynasty (520–855 CE). Then, in the mid-ninth century, the uniform design of Toramana design coinage shifted to another format where the name of each individual ruler regularly began to appear on a similar stylized series of coins. Consequently, the Toramana coins were likely continued in circulation till the mid-fifteenth century alongside the

new issues minted by succeeding twenty-nine rulers (Deyell 1990, 61–63, no. 62).

In his recent work 'Treasure, Trade and Tradition: Post Kidarite Coins of Gangetic Plains and Punjab Foothills', Deyell (2017) has focused on the post-Kidarite coins of Kashmir and its surrounding regions. Deyell attributed the post-Kidarite base gold series—bearing the names of Durlabha, Namvi, Pratapa, Vighraha, Vinaya and YaSho - to the rulers of the foothills of Punjab and Gandhara. Earlier, this enigmatic series of coinage was found mixed with the local coinage of Kashmir and erroneously assigned to the rulers of the Naga (625–757 CE) and Karkota dynasties (600–782 CE) of Kashmir. This series of coinage was incorrectly assigned by scholars to fill in the gap found between the issues of Toramana (late fifth or sixth century) and regular copper coins of the Utpala dynasty (ninth century) (Deyell 2017, 20–22, 160). For an alternate solution, like the model of Stein, Deyell argued for the prolonged circulation of Toramana coinage in Kashmir which passed through the process of evolution over 300 years (sixth to ninth centuries) (ibid., 29, 207, Fig. 1.5).

In the arrangement of Kashmir coinage, Deyell is of the opinion that the copper *dinnaras* or *puntshus*, a local term for copper coins of Kashmir, were first minted by Toramana, father of Pravarasena II, the local ruler known from the *Rajatarangini*. Deyell traced the origin of these coins to the late fifth or beginning of the sixth century. This series of coins was obviously initiated by Toramana who inscribed his name on them. These coins were subsequently issued by the successors without any changes and likely retained the name of the progenitor of these coins. Deyell suggested that Toramana developed this coin design from the base gold type of Pravarasena I who ruled before him. This design comprised the theme of Shaivite divinities, with a standing figure of Shiva on the obverse and the seated figure of Bhagavati on the reverse. He illustrated a few coins of the Toramana series and wanted to show their gradual degradation over the course of time. Deyell also emphasised on their extended production and circulation, at least 500 years, as these coins are regularly found in hoards with the contents of later periods (Deyell 2017, Figs. 1.2, 1.5, 16.17, 20.1). In the mid-ninth century, the name of Toramana was replaced, and the name of each individual ruler appeared on the stylized form of the Toramana design. This practice is attested from the names of thirty Hindu rulers who succeeded Toramana till the mid-fourteenth century (Deyell 2017, 160–61, 207–10).

Parmeshwari L. Gupta (1996) briefly commented on the various series of coins related to Kashmir, such as Hephthalite coins, Kidara Kushans (post-Kidarite) debased gold issues, and the well-known copper coins based on the pattern of Toramana coinage. The author highlighted copper coins of the Kidara Kushan type inscribed with the name Toramana, which remained in circulation for a long time. He assigned these coins to Toramana, the Hephthalite king, and not local Toramana of Kashmir, mentioned in the *Rajatarangini*. Similarly, Gupta attributed the post-Kidarite debased gold coins (having a seated goddess on one side and standing king on another) to the Karkota rulers of Kashmir (Gupta 1996).

Iqbal Ahmad (2013) elaborated a part of the Toramana series, having standing king on the obverse and enthroned Ardoxsho on the reverse, in his book on Kashmir coins. He attributed these coins to two rulers of the Hephthalites without any logic and arguments i.e. the early coins of good workmanship were attributed to Toramana and late coins of the same type to Mihirakula, i.e. father and son of the same dynasty (Ahmad 2013, 31–32, pls. xv–xvi).

Joe Cribb (2016) contributed a comprehensive article on the anomalies of debased gold coins of the early medieval period of Kashmir and the origin of Toramana coinage. This paper is based on a hoard of fifty-one base-gold coins which he collected from different sources. The author remarked

that the coin design of base-gold coinage of Kashmir was basically derived from the Kidarites/Kushans which had further been developed under the Guptas (Cribb 2016, 100–01).

Cribb successfully addressed the anomalies that occurred in debased gold coins of the early medieval of Kashmir and its surrounding region, issued between the Kidarite-Kushan coinage and the beginning of Toramana series. The author critically analysed two different series of debased gold coins, which Cunningham had earlier erroneously mixed together, and listed them according to the early medieval rulers of Kashmir. In the first series of coinage, based on the Gupta style of Kushan pattern, Cribb assigned such debased gold coins to the Kashmir rulers Meghama, Pravarasena, Tuyasina and Toramana. In this series, the coins of Meghama and Toramana are a new addition. He listed the coins of these rulers between the early sixth and early seventh centuries instead of the periods earlier suggested by Kalhana - from the second to the fifth centuries (Cribb 2016, 87–102). The hoard comprised four debased gold coins of Toramana which contained a very low content of gold, i.e. less than 6 per cent. The design of these coins was obviously derived from the base-gold coins of his father and predecessor, King Pravarasena I, and hence was not known before this. The name Toramana on these coins is identical with Huna Toramana, father of Mihirakula, but this was a different person who came after Mihirakula. The design of such base-gold coins of Toramana is identical with those of his early copper coins. In response to this work, Kapote scientifically analysed many copper of Toramana but could not trace any gold content in them (Kapote 2019, 825-32).

The gold coins of Toramana were definitely produced earlier than the copper coins, which seemed to be the precursor and prototype for the large production of his copper coins. Cribb also traced the origin of the coin design of Toramana showing standing Shiva with trident on the obverse and Goddess Shri Lakshmi seated on the lion throne on the reverse to the coins of his predecessors, Meghavahana and his father Pravarasena I. Like other scholars, Cribb suggests the minting period of Toramana copper coins, including imitations, to be from the sixth century onwards to the reign of Avantivarman (c.855–83CE), founder king of the Utpala dynasty, in the mid-ninth century (Cribb 2016, 100–04, 110).

In her article on the early coins of Toramana, 'An Investigation of the Early Phase Coin Series of Toramana of Kashmir' (Kapote 2019), Sneha Kapote carried out scientific analysis of a few examples of the Toramana series in order to explore the continuation of base-gold currency in similar coins after the discovery of some base gold coins of Toramana in a gold hoard. The contents of these coins suggest that this type of gold currency was in practice before the copper coinage of Toramana (Cribb 2016). She concludes that the early coins of Toramana with except hoard specimens were uniformly struck in copper, like the remaining copper issues of the late period. Accordingly, the early copper coins of Toramana were definitely issued in the intermediate phase, after a few known examples of his base-gold coins and before the later crude imitations. In view of the characteristic features and treatment of coins, Kapote like Mitchiner, broadly classified the copper coins of Toramana into two groups: the early copper coins and later imitations. She also suggested that the subject coins of Toramana needed to be classified elaborately into subcategories. She further explained that the crude imitations of Toramana have close resemblance with those of the coins of Avantivarman, the founder ruler of the Varma (Utpala) dynasty of Kashmir, although an appropriate link between the Toramana imitations and Avantivarman coins has yet to be established (Kapote 2019).

The previous scholarships, as described above, have obviously been working to resolve the following various issues related to the history and coinage of Toramana, since they were first brought to light in the nineteenth century:

1. Toramana, the owner of the subject coins of Kashmir as mentioned in the *Rajatarangini*, was definitely a local authority who issued coins in his own name without the consent of his elder brother, the ruling monarch Hiranya. Another Toramana, known from inscriptions and a separate series of coins, was a different king who had established his rule in Gandhara, Punjab and northern India in the late fifth and early sixth century CE. This Toramana, the conqueror of northern India and father of Mihirakula, obviously belonged to the Hephthalite dynasty.
2. It is widely accepted that the Toramana series of coins found in abundance were not all issued by himself but also produced by the successors for a long period of time. Accordingly, the subject coins designated with the name Toramana were regularly imitated by the rulers of the Karkota dynasty from the seventh to the mid-ninth century. It was Avantivarman (855–83 CE), founder king of the Utpala dynasty, who discarded the name Toramana and issued the coins in his own name (Khan 2024, 20-24). Despite this modification, the obverse and reverse design of these coins remained unaffected till the end of Hindu rule in Kashmir in the mid-fourteenth century. Thus, the subsequent Hindu rulers of Kashmir, except for a few gold and silver coins of King Harshadeva (1089-1101 CE), followed this pattern of Toramana which lasted till the time of Lakshmandeva and the successors of the Vuppa dynasty of Kashmir.
3. As described above, many scholars generally classified the copper coins of Toramana into two groups: (a) the early coins of good workmanship, and (b) the later coins of crude style. Hence, the first group of coins belonged to the life issues of Toramana and the second group of coins to the successors, the rulers of the Karkota dynasty. Now, the third group of Toramana comprises some base-gold coins, which are similar in design to his first group of copper coins. These coins evolved from the base-gold gold of Pravarasena I, the predecessors of Toramana, and hence they will be placed before the first group of regular copper coins.

Toramana Coins and the Present Scholarship

The above-mentioned division of the copper coins of Toramana is obviously very simple and presents generalized differences between the early and late coins. However, a prominent difference and regular changes can be observed between the two groups of coins when we compare the early coins with the late coins of Toramana. This classification is obviously inappropriate and incomplete due to a huge gap in the number of coins produced in the name of Toramana. In his last publications, Deyell attempted to incorporate more varieties of coins to fill up the gap between the early and late issues of the subject series of Toramana (Deyell 2016, 29, 160, 208–09, Figs. 1.5, 16.17. 20.1). However, this is still lacking various connections and further explanations. It is, therefore, essential to explore linkages amongst the various groups in order to: (a) identify the life issue of Toramana and separate them from his numerous imitations, and (b) understand the various phases of devaluation of the imitations from the beginning till the last issue occurred before the coinage of Avantivarman (855–83 CE).

There is a consensus, as cited above, amongst the scholars that the name of Toramana was first replaced by Avantivarman, founder ruler of the Utpala dynasty, with his own name. Besides this, no serious attempt has been made to discover the connections between the coins of Avantivarman and late imitations of Toramana. In this regard, Deyell's efforts are appreciated, as he placed one variety of Avantivarman coins after Toramana coins. But certain coins do not allow us to make any connections: for instance, the selected coins of Toramana belonged to his normal issues

while the sole example of Avantivarman cited by Deyell is of a different variety, brought out after the early issues, where the left arm of the reverse deity has been removed. This is indeed a great requirement of numismatic scholarship: to detect the close links between the late imitations of Toramana and early coins of Avantivarman.

Coin Design

The coin design of Toramana, as Cribb narrated, after some modifications, was based on the pattern of base-gold coins of Pravarasena I, the local ruler of medieval Kashmir. The obverse represents the standing figure of Shiva like a king, which was likewise appeared on the coins of the Kushans and Kidarites. The figure is standing frontally with head slightly turned to his right, right hand extended over a square altar in the left field and holding a trident in his raised left hand. There is a halo around his head, he wears necklace of pearls as well as a knee-length tight fitting tunic with belt around the waist, dhoti and tight leggings, and his outer legs are fastened with triangular knots. It is inscribed with the Gupta Brahmi legend '*Shri Toramana*' (anti-clockwise, read from outer edge) in perpendicular form in the upper left field and a water pot tied with a ribbon having narrow neck resting on a lotus, surmounted by a *chakra* or conch in the right field. The obverse figure, shown in a much-stylized form, where the scarf wrapped around his arms with floating ends appear like sleeves in broad foliage style and the lower hem of the dress is also in curved flanges.

The reverse of these coins portrays figure of Lakshmi seated frontally on the back of a lion with her head slightly turned to her right. The deity has a halo around her head, and is bedecked with elongated earrings, a necklace and an armband. She is wearing a peaked headdress, a long tunic having frontal ridge ornamented with a vertical lozenge pattern, neckline over breast and flared hem spread over thighs, tight leggings with hemline at ankle and a scarf wrapped around arms with floating ends. The deity holds a lotus flower in her raised right hand and a long-stem lotus in the form of *purnaghata* (vase of plenty) with floral stems over her left shoulder with the left hand resting in her lap. The recumbent lion is placed underneath the deity, facing left with head turned frontally. The right leg of the deity is flexed above the lion's back and left leg bent down before her body; a narrow-necked water pot tied with ribbons is surmounted by a conch and two foliage emerging from it stands in the left field. The Gupta Brahmi legend '*Kidara*' in perpendicular shape is in the outer left field and '*Jaya[ti]*' in the right field. Though this specific design of Kashmir coinage developed from the basic pattern of the Late Kushans and Kidarites, it further evolved stylistically under the Gupta rulers. Hence the subject coins of Toramana have close resemblance with the coins of the Gupta rulers.

Evolution of Toramana Coins

The profile and evolution of the medieval coinage of Kashmir is elaborately discussed and analysed in my forthcoming catalogue of the medieval coinage of Kashmir. The present paper only deals with the coin design of Toramana as described above, and its process of evolution till the beginning of a new pattern of coinage at the time of the Utpala dynasty, i.e. in the mid-ninth century. Thus, it includes all major and minor varieties of the uniform coins - both life issues and imitations - minted in the name of Toramana from the sixth to the ninth century. The coins issued in the name of Toramana are, thus, copious and extensively known in hoard contents, excavations, and museum collections. To understand the production of Toramana series, the present author widely investigated the subject stuff preserved in public museums, private collections, online auction catalogues and

worldwide online database sites. This collection of data obviously took me a long time to elaborate the process of the evolution of Toramana coins. Kapote and other scholars, as described above, always emphasised for the need of a detailed study of the Toramana series of Kashmir coins.

This design, once adopted by Toramana during the sixth century, became a popular type of Kashmiri coinage which was regularly retained by his successors until the beginning of Islamic coinage in the mid-fourteenth century. Over the course of time, the said type passed through various stages of transformation and gradually changed into stereotypes where the body parts, dresses and headdresses of deities, attributes and other features on both sides were shown separately. As a result, the figures and other features were completely departed from their original design. Thus, the subject design eventually lost its original characters where the figures and associated features were merely represented by certain lines and dots or dotted flowers. Similarly, other elements, including the figure of the seated lion and both arms of the reverse deity, were also dropped in the process of devolution. The name Toramana was retained on the coins by his successors, the rulers of the Karkota dynasty, after which the name of the individual ruler regularly appeared on coins from the time of Avantivarman, founder king of the Utpala dynasty, in the mid-ninth century. Thereafter, the name of each individual ruler was partially inscribed on one side and partially on other side of the coin. This practice was continued till the time of Lakshmandeva of the Vuppa dynasty, who inscribed his own name (like his predecessors). After this, the name of individual rulers of the Hindu rajas of Kashmir disappeared from coins. During this period, only Harshadeva interrupted the existing pattern for a short while when he borrowed some foreign designs for his gold and silver coins.

A. Life Issues of Toramana

Stage 1: Seated deity wearing lozenge-patterned tunic

These coins comprise late base-gold and early copper coins, all of which were produced in uniform design. The obverse, as described above, has a standing figure of Shiva with head slightly rotated to his right, right hand extended over the square altar with a dot in the centre, and a short pedestal below in the left field. He is holding a long trident terminated in curved shape in his raised left hand, halo around head, and is wearing a necklace, knee-length tight fitting tunic with belt around the waist, dhoti and tight leggings. The outer calves are clasped with large triangular knots. This side is inscribed with Gupta Brahmi legend '*Shri Toramana*' (anti-clockwise, read from outer edge) in the upper left field, and a narrow-necked water pot tied with a band neck resting on lotus, surmounted by a *chakra* or conch in the right field. The scarf wrapped around his arms with floating ends is shown as part of the sleeves in broad foliage style and lower hem of dress also in curved flanges. On some coins a row of dots is added above the square altar in the left field.

The reverse figure is seated frontally on the lion's back with head slightly curved to her right, halo around head. She is wearing pointed crown, large elongated earrings, necklace with neckline over breast, armband, tunic with frontal band adorned with vertical lozenge-shaped design and flanged hem spread over thighs, tight leggings with hemline at ankle and a scarf wrapped around arms with extended floating ends. The deity holds a lotus flower in her raised right hand and a long stem in the form of *puṇnaghata* (vase of plenty) with three flowers over left shoulder in the left hand resting in her lap. The recumbent lion is facing left with head turned frontally, the right leg of the deity flexed over the lion's shoulder and left leg bent before her body. A narrow-necked water pot tied with ribbons is surmounted by a conch and two foliage emerging from it stands in the left field and word '*Kidara*' in the outer left field and *Jaya*[*ti*] in the right.

A1. Legend: *Kidara/ Jaya[ti]*, lozenge tunic (R); Legend: *Shri Toramana* (O), debased gold

Obv. Shiva standing frontally with head in profile to left, halo around head, wearing peaked headdress, dotted necklace, knee-length tight tunic with scarf around shoulders which is converted into short flared sleeves; the lower hem of tunic also appears in flanged shape; short dhoti and leggings at ankles tied with ribbons in the form of triangle (outer side); right arm extending over altar and raised left holding a trident with curved outer prongs within crescent. A narrow-necked water pot tied with band placed on lotus flower and topped by a conch stands in the right field. Gupta Brahmi legend *Shri Toramana* (anti-clockwise, read from edge) in upper left field.

Rev. Female figure seated frontally with head slightly turned to her right; she wears a short pronged headdress surmounted by an arch-like ornament, short tunic decorated with vertical lozenge-shaped pattern, flared hem with horizontal curves spread over thighs, tight leggings with hemline at ankle, holding a lotus in her raised right hand and left hand resting in her lap with long-stem lotus blossom in the form of *purnaghata* (vase of plenty) with three flowers over left shoulder. The left leg of the deity is flexed frontally and the right leg bent over the lion's shoulder. A narrow-necked water pot tied with band is surmounted by a conch with foliage emerging from it stands in the left field. The Gupta Brahmi legend '*Kidara*' is on the outer left and *Jaya[ti]* on the right.

Reference: Cribb 2016, Figs. 10–11

Nos. & Source: 1*. Akshay Jain, 7.19g [Fig A1.1], 2*. Germany [Fig. A1.2]



Fig. A1.1



Fig. A1.2



A2. Legend: *Kidara/Jaya*, lozenge tunic (R); Legend: *Shri Toramana* (O), copper

Obv. As A1, wearing tight tunic with wide dotted brim, scarf over shoulders shown in foliage pattern, like sleeves on a tunic, belt around waist, dhoti and tight leggings tied with ribbons in the form of chicken hocks. A narrow-necked water pot tied with band resting on lotus, surmounted by a *chakra* or conch is in the right field. Gupta Brahmi legend *Shri Toramana* is in the upper left field.

Rev. As A1, tunic decorated with lozenge-shaped central band, belt tied around waist, Gupta Brahmi legend '*Kidara*' on left and '*Jaya*' on right.

Reference. Cunningham 1894, III.2; Gopal 1966, I.1; West 1978, 70 (var, a–b)

Nos. and Source: 3. BM 1894.0507.920, 6.39g, 4. BM 1894.0507.364, 6.17g

Fig. A2.1. pinterest.com.pin (obv) & V Coin (rev)



Fig. A2.1



**A3. Legend: *Kidara/Jaya*, lozenge tunic, lion's head uncertain (R)
Legend: *Shri Toramana* (O), copper**

Obv. As A2, Gupta Brahmi legend '*Shri Toramana*' in upper left field.

Rev. As A2, but lion's head underneath deity is usually off flan and word '*Kidara*' in the left field often disappeared.

Reference: Cunningham 1894, III.2; Gopal 1966, I.1; West 1978, 70 (var, b)

Nos. & Source: 5. BM 1894.0507.2030, 6.48g, 6. BM 1902.0608, [4]37, 5.41g

Fig. A3.1. Stephen Album



B. Imitation Series of Toramana

As cited above, this series of coins passed through different phases of transformation where the original design of the deities on both sides gradually transformed into outlines of the figures such as head, legs and arms parted away from the central body. Hence, the middle body of the obverse figure appeared in small crossed lines and the middle of the reverse figure composed of merely two short folds in the form of parallel horizontal lines. Similarly, the flanged hem and scarf in the form of sleeves of tunic and dhoti changed into short parallel lines, while the lotus flower surmounted by water flask and then by a conch changed into a simple *kalasha* (vase), both in obverse right and reverse left fields. A leaning lion underneath the reverse figure gradually disappeared from the late issues of Toramana. The reverse legend was confined to the letter '*Ja*' or '*Jaya*' and there are no more remnants of the obverse legend in the final stage of the Toramana series of coins. The following classification of Toramana coins usually reflect the degeneration of designs where the features disappeared forever or were altered from one form into another. Hence, prominent changes are noticeable in the following four varieties whereas further small variation are given in sub-varieties. The coins of this design were likely carried on by Avantivarman of the Dutpala (Utpala) dynasty who retained the same type of Toramana coins and inscribed them with his own name (Khan 2024, 20-24).

Stage 2: Seated deity wearing folded tunic

The obverse and reverse designs are almost identical with those of the normal issues of Toramana, as described above, but a notable difference is observed in the form of dress of the enthroned deity. This seems to be the first deviation from the early design where the enthroned figure wears a similar belted tunic with flared hems but the middle part below the breast appears in parallel horizontal folds. As cited above, on the normal issues of Toramana, this part of the tunic was noticeably made in central lozenge pattern. Similarly, on some coins, the flared skirt at the lower hem of dress of the obverse and reverse sides also appeared in regular dots. A row of dots above the square altar in the left field of obverse is now a regular part of the device. Besides this, other minute differences can be noticed in sub-variety 5.5. On well-preserved examples, these differences are vividly visible but on blurred and worn coins such features are not noticeably detectable.

B1. Legend: *Jaya*, folded tunic, lion's head left (R); Legend: *Shri Toramana* (O), copper

Obv. As A2, wearing pointed cap but lower hem of flared skirt appears in the form of dots, leggings tied with triangular knots. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As A2, but narrow waist with prominent breasts, wears dotted necklace, middle part of long tunic below breast is shown in parallel horizontal folds instead of vertical lozenge band. The left leg of deity is flexed frontally with right leg bent over the lion's shoulder; the pot in the left field is in circular shape. The word *Kidara* in the left field has disappeared.

Reference: Cunningham 1894, III.2; Gopal 1966, I.3; West 1978, 70 (var, b)

Nos. & Source: 7*. BM 1859.0301.101, 6.37g [Fig. B1.1], 8. BM 1859.0507.2029, 7.19g



Fig. B1.1



B2. Legend: *Jaya*, folded tunic, narrow waist, lion's head left (R); Legend: *Shri Toramana* (O)

Obv. As B1, wears pointed cap, flared hem of tunic and skirt appear in the form of dots, leggings tied with triangular knots. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B1, but deity has narrow waist and prominent breasts, tunic below breast shown in the form of horizontal (barred) folds.

Reference: Cunningham 1894, III.2; Stein 1899, X.13; Gopal 1966, I.1; West 1978, 70 (var, b)

Nos. & Source: 9. BM 1890.0604.42, 6.90g, 10. BM 1894.0507.2028, 7.12g

Fig. B2.1. Todywalla.com 0179-0027-01, 6.23g



Fig. B2.1



Stage 3: Seated deity wearing folded tunic and other changes

In the first phase of imitations (stage-2), the major difference was the horizontal folds of the tunic shown below the swinging breast of the enthroned deity. In the following phase (stage-3), the differences become more prominent and now these coins can easily be differentiated from the normal issues of Toramana; hence, anyone can identify them as imitations without a doubt. The natural curves in obverse and reverse figures and realist approach in design gradually diminish. These coins obviously developed from the coins of stage-2 and hence the tunic folds below chest of the reverse deity appear in stylized form with marked distinction and shown in parallel horizontal bars. The swinging breasts of deity have disappeared and the necklace and neckline become an upper segment of the body which is separated from lower body by the aforementioned horizontal bars. The left hand of the reverse deity, without lotus flower stem, appears in triangular form like a dagger. The

tunic length of reverse figure is now shorter and the horizontal curves over thighs disappeared. The legs of the reverse figure are now disproportional and the left one seems taller and is parted away from the body.

The flared hem of the tunics of the obverse and reverse figures are statically shown with prominent dots in rows. The flared sleeves (formerly scarf) of the obverse figures appear in stylized form of three oblique lines with dots below in the shape of bells. The middle body, basically part of the dress, is now shown in cross bands with a dot below and above. The normal form of the hair of the obverse figure has changed into dots enclosed within a halo. Similarly, the dhoti has now changed into parallel vertical lines with dotted ends in bell shape arranged underneath the alignment of parallel flared ends of the tunic. A square altar with a short pedestal in the left field is now filled with four dots, while on earlier coins it had a single dot in the centre. A row of dots above the square altar is likely continued.

**B3. Legend: *Jaya*, folded tunic, narrow waist, lion's head left (R)
Legend: *Shri Toramana* (O), figures in segments**

Obv. As B1, hair appears in dots and wears a pointed cap, dotted necklace, flared skirt with lower hem in the form of prominent dots and decorated with cross bands followed by a dot, short dhoti in the form of vertical lines like flares of tunic, leggings tied with large triangular knots. Right hand sacrificing over a square altar topped by a row of dots and holding a staff surmounted by a crescent filled with a dotted flower. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B2, narrow waist and inconspicuous breasts, wears dotted necklace, tunic below chest shown in the form of segmented bands followed by a flared hem with prominent dots. Horizontal curves over thighs disappear, left hand holding a lotus flower stem before left thigh shown in triangular shape. The word *Kidara* in the left field disappears.

Reference: Cunningham 1894, III.2; Gopal 1966, I.2; West 1978, 71 (var. d)

Nos. & Source: 11*. BM 1894.0704.03, 6.88g [Fig. B3.1], 12. AM [Nick] 2020.07.10, 7.15g

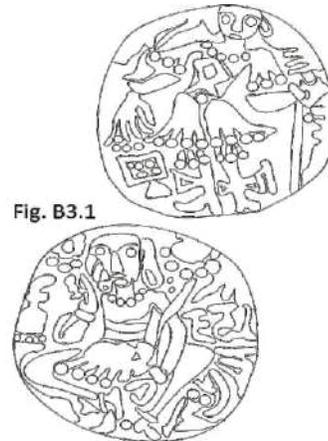


Fig. B3.1

Stage 4: Lion's head disappears and letters *Jaya* are bold and prominent

Further degradation of the obverse and reverse design became dominant in this stage, corresponding to the major changes in the third stage of the Toramana series. The obverse and reverse figures now appear in stereotype and hence many organs, particularly arms and legs, are shown separately. The obverse figure wears a plain peaked headdress while the reverse figure wears dotted headdress. In previous stages, the head of the reverse figure was shown turned to her right but now the head is changed into a frontal position. Similarly, the head of the obverse figure is also changed into frontal position but on some coins it is still slightly curved towards to the right side. The obverse figure is divided in the middle by a large dot in the belly. A square altar filled with dots in the left field of the obverse is no longer clearly visible. The upper part of a trident appears in the form of large crescent filled with dots.

The lotus flower below the water vase in the left field of the reverse is merely shown in dots and, similarly, a lotus flower held by the deity in her raised right hand in the left field is also merged into dotted flower. A lotus flower held by the deity in the left hand above her shoulder is altered to become a dotted flower. The lion's head underneath the reverse deity has now disappeared; however, the hind part with dots is still visible on some coins. The water vase above lotus flower, surmounted by a conch and tangled with ribbons, has changed into a simple *puṛṇaghata* (*kalasha*) placed in the right field of the obverse and left field of the reverse. The right hand of the reverse deity is shown with additional inner and outer parallel vertical lines (folds of sleeves).

Other minor variations and degenerations are further shown in the following sub-varieties.

B4. Legend: *Jaya*, barred tunic, narrow waist, lion head left (R); *Shri Toramana*, dotted ring (O)

Obv. As B3, the figure has long hair over left shoulder in dotted form, tight tunic, upper body decorated with cross bands filled with dots, flared sleeves on arms appear like wings terminated with dots, both arms separated from body, flared hems shown in parallel lines, dhoti, leggings tied with ribbons in triangular form. A water pot in the right field is almost off flan. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B3, hind part of lion is partly seen on the right side, deity wearing earrings, necklace, bracelets, tight tunic with flared hem in parallel lines spread over thighs and frontal portion below chest is shown with horizontal bands. The left leg of deity is flexed and separated from body. The right leg bent over the lion's shoulder, a water pot tied with band and narrow neck surmounted by a conch with emerging foliage in the left field is mostly off flan. Gupta Brahmi legend *Jaya* in the right field.

Reference: Cunningham 1894, III.2; Gopal 1966, I.3; West 1978, 71 (var. d)

Nos. & Source: 13*. BM 1970.0514.98, 6.83g [Fig. B4.1], 14. AM [Nick] 2020.07.10, 6.74g

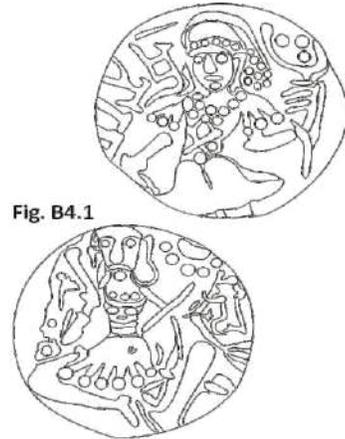


Fig. B4.1

**B5. Legend: *Jaya*, folded tunic, narrow waist, lion's head uncertain ®
Legend: *Shri Toramana* (O)**

Obv. As B4, prominent necklace and a water pot in the right field is not visible. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B4, but lion's head below deity is not visible and waist of deity is separated by two horizontal bands. Gupta Brahmi legend *Jaya* in the right field.

Reference: Cunningham 1894, III.2; Gopal 1966, I.3; West 1978, 71 (var. d)

Nos. & Source: 15. BM 1922.01.16.44, 7.06g, 16. BM 1894.0711.10, 6.71g

Fig. B5.1. bombayauction.com, 132

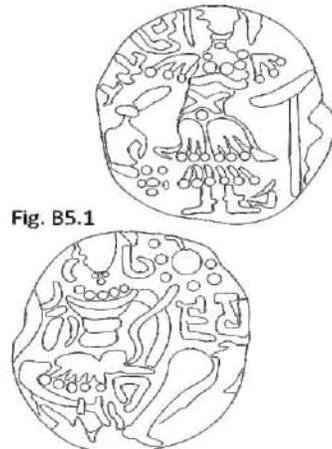


Fig. B5.1

**B6. Legend: *Jaya*, barred (folded) tunic, narrow waist, lion's hind part visible ®
Legend: *Shri Toramana* (O)**

Obv. As B4, wearing tight tunic with flared sleeves (looks like wings) and flared hem in parallel lines and frontal portion with cross-bands followed by a dot, both hands parted away from arms below flared sleeves. Altar in the left field is filled with dots and Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B4, like obverse, the waist is separated by two horizontal bands, left leg is separated from body and left hand in triangular form shown parallel along with left leg. Gupta Brahmi Legend *Jaya* in the right field.

Reference: Cunningham 1894, III.2; Gopal 1966, I.3; West 1978, 71 (var. d)

Nos. & Source: 17. BM 1847.1201.276, 6.45g, 18*. AM [Nick] 2020.07.10, 6.90g [Fig. B6.1]

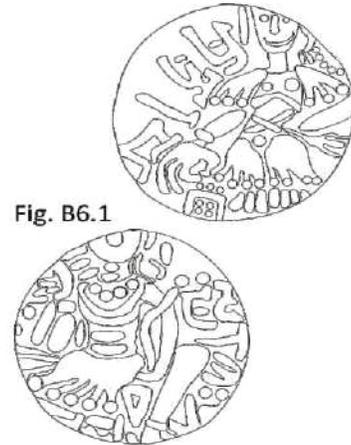


Fig. B6.1

**B7. Legend: *Jaya*, barred tunic (folded), narrow waist, lion's head uncertain ®
Legend: *Shri Toramana* (O), figures' waist in segments**

Obv. As B4, the upper body is divided into portions by a dot in the middle. Gupta Brahmi legend *Shri Toramana* in upper left field.

Rev. As B3, hind part of lion is often seen in the right field, the waist is separated by two horizontal bands (folds), left hand in triangular form shown parallel to left leg is shown in segments. Gupta Brahmi Legend *Jaya* in the right field.

Reference: Cunningham 1894, III.2; Stein 1899, X.14; Gopal 1966, I.2, West 1978, 71 (var. d)

Nos. & Source: 19. FM, 6.30g, 20. AM [Nick] 2020.07.10, 6.90g

Fig. B7.1. ancient-indian-coins, 01052018

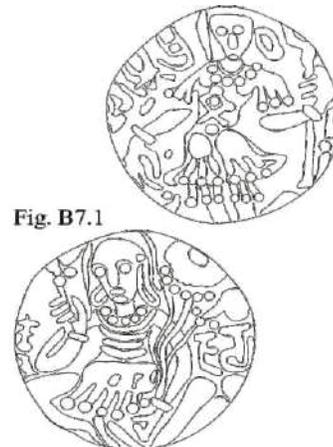


Fig. B7.1

Stage 5: Stereotype with winged arms of obverse figure, late style

This stage is concerned with the final step of the degradation of Toramana imitations. The obverse and reverse designs are both executed in extremely rudimentary and degenerate styles. The figures' heads on both sides are now completely turned to frontal positions. A group of small dots for earrings now regularly appears on either side of the head of the obverse deity. Flared sleeves (developed from scarf) are shorter and spread at the lower ends like bird wings and are detached from the arms above the elbows. In further later coins, the arms are completely isolated from the body of the obverse figure and merely shown through horizontal lines where the right hand, including wrist portion, is also disjointed from each other. The chest portion of the same figure consists of a dotted necklace and a neckline below while the middle body is shown by cross bands with a dot below. The lower hem of

the tunic over thighs is split into two each with three vertical fringes and dhoti divided into six vertical lines with dots below in the same alignments. The triangular knots at the outer legs are enormously bigger in size. Remnants of square altar are still visible on some coins and *apurnaghata* (*kalasha*) is also visible in the right field of some coins. The long stem of the trident in the left hand of the obverse figure is seen, but its upper portion is badly disrupted and often off flan. On some coins, the standing figure is normal and on some they are colossally taller in size.

The seated figure on the reverse is found in a stylized form in this stage of imitation. The headdress is uncertain, and he is wearing large earrings; the chest portion, like the obverse figure, contains a dotted necklace and neckline below; the middle body is shown by a pair of short parallel lines and thigh portion with wide flared hem of a tunic; the right leg is curved frontally and left leg slanting before her; the right hand, shown in segments, is raised frontally and the left holds a lotus stem parallel with the left leg. Lotus, in the form of dotted flowers, are shown parallel with the shoulders in the left and right fields. A *purnaghata* is displayed in the left field and word *Jaya* in the right. The recumbent lion below the reverse deity has now completely disappeared.

The coins of this stage are extremely common and further fall into the following sub-varieties.

**B8. Legend: *Jaya*, barred (folded) tunic, narrow waist, lion's head uncertain (R)
two *kalasha* (O), figures stylized**

Obv. As B7, figure shown in stylized and stereo type, Gupta Brahmi legend *Shri Toramana* (anti-clockwise) in the left field in large letters. The parallel rows of flared hem of tunic and *dhoti* are shown in symmetrical lines terminating with dots. A *purnaghata* (*kalasha*) is sometimes shown in the right field.

Rev. As B7, both legs disjointed, middle body divided by a pair of horizontal bands, *kalasha* with dots below in the left field and legend *Jaya* in the right. A lotus flower held in the left hand over shoulder is also separated and shown like a *kalasha* or dotted flower in upper right field. The figure is completely stereo-typed: chest, lower body, legs shown in segmented limbs. Like obverse, dotted necklace with neckline and dotted row of flared hem of tunic make a parallel design.

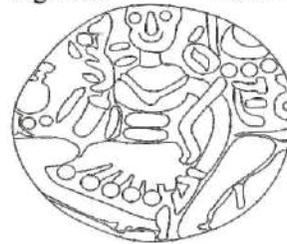
Reference: Cunningham 1894, III.2; Stein 1899, X.15; Gopal 1966, I.3; West 1978, 71 (var. d)

Nos. & Source: 21. BM 1896.1103.2364, 6.94g, 22. BM 1970.0514.96, 6.68g

Fig. B8.1.VCoin, 1454051, 6.84g



Fig. B8.1



B9. Legend: *Jaya*, barred tunic, narrow waist, lion head uncertain (R legend off flan (O), late common design

Obv. As B8, obverse figure is more stylized, broad shoulders with flared sleeves look like bird wings. Flared hem of tunic and flared hem of *dhoti* appear in vertical bell-shaped lines. Gupta Brahmi legend *Shri Toramana* in the left field, often off flan.

Rev. As B8, the figure is in stylized form, head partly off flan and thick letters of Gupta Brahmi legend *Jaya* in the right field; right arm with sleeves are merely shown in parallel vertical lines. One *kalasha* or a dotted flower (lotus flower) each is shown in the left field and one (lotus) in upper right field, respectively.

Reference: Cunningham 1894, III.2; Gopal 1966, I.3; West 1978, 71 (var. d)

Nos. & Source: 23. AM [Stein Collection], 24. AM [Elliot] 1859.895, 6.54g, 25. ARC 3, 5.84g, 26. ARC 13, 5.68g, 27. LMC 35

Fig. B9.1. icollector.com



Fig. B9.1



C. Early Coins of Avantivarman (Links with Late Toramana Coins)

Avantivarman was an energetic king who introduced many reforms during his reigns. Like other socio-cultural and socio-economic reforms, the king also carried out changes in the existing pattern of Toramana coinage which were in practice for over 300 years. The copper coins after Toramana are known to have been followed by Avantivarman, first ruler of the Utpala dynasty, who discarded the name Toramana as well as the word *Jaya*, and inscribed his own name on the coins. Under new arrangements, the title *Shri*, replacing the word *Jaya*, is written in the right field of reverse and the name *Ava*.....[Avantivarman?] with *kalasha* (*puṇaḡhata*) underneath appeared in the right field of obverse. The new pattern of legend introduced by Avantivarman was followed by all his successors. The coins of Avantivarman, although rare, are known in several varieties and they certainly establish their close connection with the imitation series of Toramana (Khan 2024, 20-24). Of these, one variety, having left arm with long stalk of lotus flower over shoulder, is almost identical with the later imitations of Toramana. Other features of Avantivarman coins, including dresses of the figures and their style of execution, also have close resemblance with those of the later imitations of Toramana. These similarities obviously reveal the links of the Avantivarman coins with those of the Toramana imitations (Khan 2024, 22, type-1]. Accordingly, the origin of Avantivarman coinage can likely be traced back to the later issues of the Toramana series.

C1. Legend: *Shri* (R); Legend: *Ava* (O) underneath left arm

Obv. As B1, the figure is slightly bent in the middle, headdress usually off flan, flared sleeves shown like branch of tree detached from arms, wearing earrings, dotted necklace, chest with a horizontal bar followed by cross band and a dot below, lower hem of tunic and trousers in vertical alignments with dots and outer legs tied with triangular knots, right arm with long fingers extended over square fire altar with a row of dots in the left field (often off flan), left hand holding a trident is also off flan. Sharada legend *Ava*... with *kalasha* underneath left arm (right field).

Rev. Enthroned deity facing frontally, wearing large earrings of oval shape parted away from head, dotted necklace, tight tunic with prominent folds like horizontal bar around waist, right thigh covered with flared hem, right leg in curved shape and left slanting frontally, right hand with sleeves disjoints and shown in parallel lines, left hand in triangular form placed before left thigh and holding a lotus flower with long stalk over left shoulder. Sharada legend *Shri* in the right field.

Reference: Khan 2024, nos. 1-4 (type-1)

No. & Source: 28*. AM [Shortt Bequest] 1975, 6.27g [Fig. C1.2]

Fig. C1.1. worthpoint.com/ worthopedia.com/



Fig. C1.1



Fig. C1.2



Abbreviations

AM: Ashmolean Museum (Oxford) ARC: Amanur Rahman Collection (Islamabad)
BM: British Museum (London) FM: Fitzwilliam Museum (Cambridge)
LMC: Lahore Museum Cabinet O & Obv: Obverse; R & Rev: Reverse

Courtesy for images in plates and drawn figures

The British Museum (London); Ashmolean Museum (Oxford);
Amanur Rahman Collection; Cribb 2016; worthpoint.coma;
pinterest.com.pin; VCoin; Stephen Album;
Todywalla.com, bombayauction.com;
ancient-indian-coins; icollector.com

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Monetary history is reflected in the money in circulation during any given period in history. The medieval period in India is no exception. Money that was in circulation in the past is often found accumulated in a coin hoard or a treasure trove, which, in effect, portray a distinct profile of money belonging a particular period that was withdrawn from circulation, either based on a specific plan or intention or because of an accidental loss. A hoard is, by definition, a group of coins or other valuables concealed as a unit. The essential feature of a coin hoard is that the coins comprising it should have been brought together at the time when it was concealed/lost. But at the same time, it may be noted that hoards are not the only form in which coins are lost. They were casually dropped or lost all the time, and since metal is in varying degrees resistant to corrosion, a proportion are eventually found. In the present discourse, the focus is solely on coin hoards, keeping casual finds beyond its purview. Now, one may raise the point: 'what is the size of an ideal hoard?' In fact, there is no minimum or maximum limit for the size of a hoard, but it is difficult to suppose that anyone would deliberately conceal only one or two coins; however, technically speaking even such a small number of coins can be regarded as a hoard. The majority of hoards probably contain between 50 and 100 coins, but a fair number exceed 1,000 and a few are much larger (Grierson 1975, 138). Less than 50 coins accumulated together, lost and buried, may be termed as a minor hoard.

These hoards can also be categorized into different classes and sub-classes depending upon the purpose or situation behind the formation of a particular hoard. Though hoards and accumulations of single finds are, for the most part, less interesting than coins in any collection (coins in collections are chosen precisely for a specific purpose), yet they are the numismatist's most valuable single guide to classification and dating, and are virtually the sole guide to coinage in circulation. Each and every hoard can be expected to supply the numismatist and historian with different kinds of information because the coins in it represent samples of coin population of any particular period in the past. If one carefully looks into the group of coin hoards representing a sole period of history, it sheds interesting light on monetary history as well as the socio-economic scenario of the period represented.

In the present discourse, an endeavour has been made to use a new approach towards an analytical study of the coin hoards (both published and unpublished) belonging to the Bengal Sultanate (1204–1576 CE), in order to restructure the monetary history of the period. Systematic study and critical analysis of the coin hoards belonging to a particular series has always been neglected by the numismatists of India, except for a few works,¹ even though data derived from a group of hoards can provide wealth of authentic information towards the monetary history of any period. In case of the Bengal Sultanate period, lack of contemporary written sources also ignited the necessity to delve into the evidence of coins and inscriptions to reconstruct the socio-economic and socio-political history of the period. As a result, an investigation into information on the published coin hoards (published since the nineteenth century in different journals and periodicals) began, and

as a result forty-five published coin hoards (including twelve minor finds) came to my notice till 2003. In the following years, a good number of coins were also unearthed from various parts of West Bengal and Bangladesh, among which a few have been studied and published by me. I had the opportunity to study five unpublished coin hoards of the period under question, either singly or jointly, unearthed from different districts of North Bengal, like Jalpaiguri, Malda and Dinajpur (Sinha2017). Thus, fifty coin hoards, including twelve minor finds, have been thoroughly analyzed, with several interesting facts emerged from the study. In the following pages, I will try to illustrate through a few paradigms how statistical analysis of these coin hoards can generate data which ultimately allows us to reconstruct the monetary history of any particular period.

The earliest hoard of the Bengal Sultanate period was found in 1841 from the district of Howrah, which was reported by H.T. Prinsep (1841, 168–69) in the *Journal of the Asiatic Society of Bengal*. Edward Thomas's pioneering essay on the early Muslim rulers of Bengal, based on the Cooch Behar trove (Thomas 1867) found in 1863, was supplemented by a discourse on the same subject written on a small find of thirty-seven silver coins from the Fort of Bihar in 1873 (Thomas 1873). The hoard of Cooch Behar, with its unusually large number of 13,500 silver coins, created a sensation as it is the largest hoard ever found from Eastern India. The coins recovered from this hoard immensely helped scholars of the nineteenth century reconstruct the chronology of the period of Bengal governors. The last decade of nineteenth century and the first three decades of the twentieth century witnessed the recovery of a large number of coin hoards of the Bengal sultans found from different parts of then Bengal, Assam and Bihar. As far as the published reports of the coin hoards of the Bengal sultans are concerned, the number decreased considerably from the 1930s, and in next few decades of the twentieth century, the average went down to just one in each decade. From 1980, the scenario changed and coin hoards began to be reported at regular intervals, especially in West Bengal.

Methodology

Given below is a list of the fifty coin hoards, including twelve minor finds (containing less than ten coins), arranged chronologically (according to the year of their discovery), which provides us with an idea about the content of the hoards under study. The number of coins found in each hoard has also been specified:

Sl. No	Name of coin hoards/minor finds	Year of Find	No. of coins	Dynasty/Dynasties represented
1	Howrah	1841	31	Ilyas Shahi and later Ilyas Shahi
2	Cooch Behar	1863	13500	Pre-Ilyas Shahi and Ilyas Shahi
3	Fort of Bihar	1873	37	Pre-Ilyas Shahi
4	Madhubani	1874	36	Ilyas Shahi and later Ilyas Shahi
5	Sundarban	1875	2	Husain Shahi
6	Gauhati	1880	38	Pre-Ilyas Shahi
7	Dewan Sarai	1883	85	Ilyas Shahi and later Ilyas Shahi
8	Sibsagar	1891	44	Delhi Sultan to Cooch King
9	Kamrup	1892	30	Pre-Ilyas Shahi and Ilyas Shahi
10	Gaur	1892	14	Husain Shahi

Sl. No	Name of coin hoards/minor finds	Year of Find	No. of coins	Dynasty/Dynasties represented
11	Kotia	1892	28	Ilyas Shahi and later Ilyas Shahi
12	Jessore	1893	60	Ilyas Shahi and later Ilyas Shahi
13	Barchpura	1893	25	Ilyas Shahi (Balban intrusion)
14	Darbhangra	1896	3	Husain Shahi
15	Chandsar	1897	20	Ilyas Shahi and later Ilyas Shahi
16	Jashodal	1897	317	Ilyas Shahi, later Ilyas Shahi, Husain Shahi and post-Husain Shahi
17	Belbari	1904	110	Suri with three coins of Nusrat Shah
18	Moorshidabad	1907	85	Pre-Ilyas Shahi
19	Enayetpur	1909	6	Pre-Ilyas Shahi
20	Purinda	1910	24	Pre-Ilyas Shahi
21	Rupaibari	1911	5	Pre-Ilyas Shahi
22	Pandua	1911	5	Pre-Ilyas Shahi
23	Basudebpur	1911	2	Later Ilyas Shahi
24	Kastabir Mahalla	1913	97	Pre Ilyas Shahi and Ilyas Shahi
25	Khulna	1915	100	Pre Ilyas Shahi and Ilyas Shahi
26	Kankaribag	1916	31	Later Ilyas Shahi and Husain Shahi
27	Bashail	1917	10	Later Ilyas Shahi
28	Mohispur	1918	6	Later Ilyas Shahi
29	Ketun	1918	346	Pre-Ilyas, Ilyas and later Ilyas Shahi
30	Rautkhai	1919	7	Husain Shahi
31	Sonakhira	1919	3	Later Ilyas Shahi and Husain Shahi
32	Kalighat	1919	6	Later Ilyas Shahi
33	Raipara	1928	182	Husain Shahi and Suri
34	Nawdiha	1933	16	Husain Shahi
35	Santhal Pargana	1934	8	Husain Shahi
36	Bajjnathpur	1935	7	Husain Shahi
37	Kalna I	1937	20	Pre-Ilyas Shahi and Ilyas Shahi
38	Kalna II	1939	72	Pre-Ilyas Shahi and Ilyas Shahi
39	Malhepur	1943	18	Delhi Sultan to Mysore King
40	Malda	1957	69	Husain Shahi
41	Barimo	1958	6	Ilyas Shahi and later Ilyas Shahi
42	Kurseon	1966	15	Ilyas Shahi
43	Islampur	1981	135	Ilyas Shahi and later Ilyas Shahi
44	Chandir Jhar	1987	767	Ilyas, later Ilyas Shahi, Husain Shahi and post-Husain Shahi
45	Biyani Bazar	1988	800	Ilyas Shahi and later Ilyas Shahi
46	Harishinga	1990	40	Cooch coins with three coins of Nusrat Shah
47	Haleswar	1993	168	Ilyas Shahi and later Ilyas Shahi
48	English Bazar	1996	50	Later Ilyas Shahi
49	Chancho	1996	40	Later Ilyas Shahi
50	Bhorel	1997	83	Pre-Ilyas Shahi, Ilyas Shahi, later Ilyas Shahi and Husain Shahi

On the basis of documentation and analysis of the coins present in the above hoards, I have labelled each hoard with the respective dynasties of the Bengal Sultanate period which is/are represented by the coins found within it. For example, if a hoard contains coins of the Ilyas Shahi dynasty exclusively, then it would be termed an Ilyas Shahi hoard, but if more than one house is represented by a single hoard, then the names of the concerned houses would be ascribed to it. The above chart shows that among these fifty coin hoards, four hoards entirely belong to the pre-Ilyas Shahi house, one belongs to the Ilyas Shahi house exclusively while the later Ilyas Shahi and Husain Shahi houses yielded six and eight coin hoards respectively. But if we look at the hoards containing coins of two or three successive houses, the number of hoards increases; for example, hoards containing coins of the Ilyas Shahi and later Ilyas Shahi houses rises up to ten.

After this initial categorization of these hoards, apart from chrono-typological classification, a critical analysis of the hoards has been done to retrieve statistical data. These data have been sieved through several filters (mainly using simple statistical software like MS Excel), which helped immensely in determining different features of the coinage and currency pattern of the period under discussion (Strnad 2001).² One may also use other statistical software (like SPSS) which might produce a similar answer. It should be mentioned here that data derived from the source used for such analysis are always relative and not absolute, because the amount of data one gathers (howsoever sincerely done) always have some limitation and thus cannot represent the actual scenario of the past; yet, they certainly represent the plausible trend of the period.

Trends of Discovery and Minor Finds

To begin with, I tried to understand the trend of discovery of the coin hoards of the Bengal Sultans since 1841, i.e. during the nineteenth and twentieth centuries. The entire 160-year period of finding hoards (from 1841 to 1996) has been divided into nine twenty-years spans. The number of coin hoards found during each of these twenty-years periods have been plotted and a definite pattern has emerged during the last quarter of the nineteenth century, first half of the twentieth century, and also during the post-Independence period.

Following is a chart showing the number of coin-hoards discovered in twenty-year periods from 1840 to 2000, followed by a representative graph:

Year of Find	1840	1860	1880	1900	1920	1940	1960	1980	2000
No of Hoards	0	1	5	9	12	6	3	1	8

In the first twenty-year period (1840–60), only one hoard was reported to be discovered from Bengal and in following twenty-years (1860–80) the number of coin hoards unearthed and reported gradually increased, which might be correlated with the active participation of the scholars and Indologist associated with Asiatic Society of Bengal in the last part of the nineteenth century. In the following twenty years (1880–1900), another nine hoards were discovered; these were unearthed quite

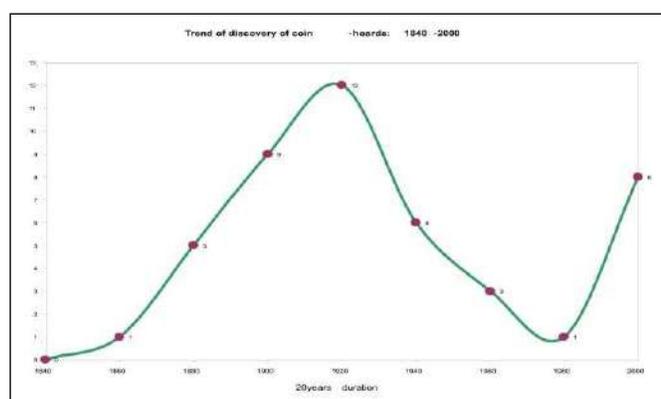


Fig. 1: Trend of discovery of coin hoards, 1841–2000

frequently from different parts of then Bengal, Assam and Bihar. During the pre-independence era, frequency of the discovery of the coin hoards of the Bengal sultans increased sharply, and the reports of those were published in a regular manner. As a matter of fact, in the first forty years of the twentieth century (1900–40), eighteen hoards were reported to be unearthed; it may be noted that a large number of these have been recovered from different parts of present-day Bangladesh. On the contrary, from the 1940s, the number of coin hoards unearthed and reported suddenly goes down to four. Though a few more might have recovered, they remained unreported. However, after 1980, an upward trend of publication of some information regarding the discovery of coin hoards of the period under study was noticed, perhaps due to the comparatively stable political scenario, both in West Bengal and Bangladesh, the major hoard-yielding area under study. Again, since 1998, due to some reasons or other, not a single coin hoard containing the coins of the Bengal sultans has been brought into notice.

The coin hoards and minor finds under discussion have been found mainly from areas which were directly under the control of the sultans of Bengal and their neighbouring states, i.e. undivided Bengal (present-day West Bengal and Bangladesh), Bihar, and Assam (then Kamrupa and Kamta). Thus, we have four geographical divisions from where the coin hoards have been unearthed—West Bengal, Bangladesh, Bihar and Assam. The attached map will show the distribution of find-spots of important coin hoards and minor finds discussed above within the area under study.

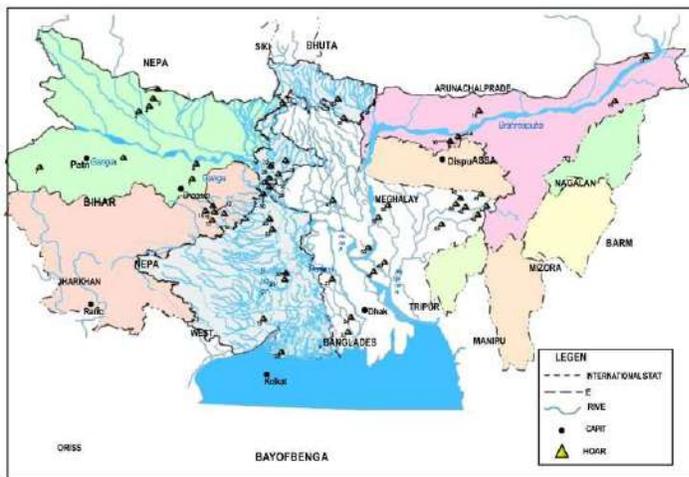


Fig.2: Map of study region showing the find spots of the coin hoards of the Bengal sultans.

Thus, it appears that a majority of the coin hoards of the Bengal sultans were unearthed from West Bengal, Bangladesh and Bihar. Sixteen coin hoards, including two minor finds, have been unearthed and reported so far from present-day West Bengal since 1841, while Bangladesh yielded another sixteen coin hoards, including six minor finds, unearthed from various parts of the country since 1893. Bihar also yielded not less than thirteen coin hoards of the period.

A far as Assam is concerned, information of only five hoards have come to our notice which contain coins of the Bengal sultans in large proportion; we presume that there must have been some other hoards of our interest which were either lying in a corner of a museum or treasuries unnoticed for a long time or escaped the notice of scholars before someone could report their discovery to the proper authorities. Among these five hoards, the earlier three were published in journals while the later two were published as news item in local dailies from where I gathered information for my study. The later group of two hoards obviously yielded very limited data as they were published in a newspaper and, as a result, the scope of information and study is limited.

From Bangladesh, a group of twelve coin hoards of the period under discussion was reported in regular intervals from 1893 to 1928. Notable among them are Kastabir Mahalla, Khulna, Purinda,

Kankaribag and most importantly Ketun in Rupganj Police Station, Dhaka. The group of coins present in the Ketun hoard were in a continuous series which helped numismatists and the historians see the Ketun hoard as authentic evidence in reconstructing the chronology of the early independent sultans of Bengal, i.e. from Ghiyath al-din Bahadur Shah of the fourteenth century to Jalal al-din Muhammad Shah of the fifteenth century. The hoard is numerically strong in the coins of Sikandar Shah, Azam Shah of the Ilyas Shahi dynasty and Jalal al-din Muhammad Shah of the early fifteenth century. After a gap of sixty years, an interesting hoard was partially published in 1988 (Karim 1999, 543–57) containing some 800 coins, of which almost 70 per cent belong to Jalal al-din Muhammad Shah. The coins of this Biyani Bazar hoard are now preserved in a private collection barring a few pieces which are fortunately preserved in the collection of the National Museum of Bangladesh, Dhaka. Had it been published in its entirety, a very interesting study could be done on this as the hoard has yielded a good number of rare coins, which revealed the existence of two usurpers in the fifteenth century who were unknown before the discovery of this hoard. Unfortunately, this hoard could not be preserved and from the few coins reported from the belongings of a few private collectors and dealers in Bangladesh, a holistic reconstruction of the hoard is impossible.

The earliest coin hoard reported from Bangladesh is dated 1893, and is found in Jessore. It contained some sixty coins. Four years later, towards the end of 1897, a large hoard of 317 silver coins was unearthed from Jashodal, a village in district Mymensingh (presently in the Kishoreganj district of Bangladesh). H.E. Stapleton reported this hoard in a systematic way, which provided us with details of almost all coins recovered from the hoard. Given below is a bar graph showing the number of coins found from each of the treasure troves unearthed and reported from Bangladesh:

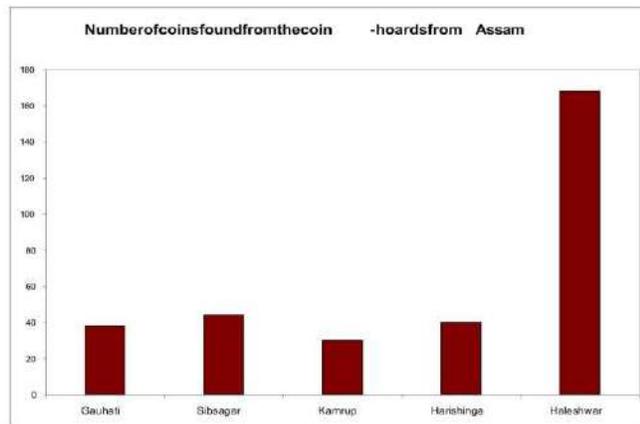


Fig.3: Number of coins found in the coin hoards of Assam

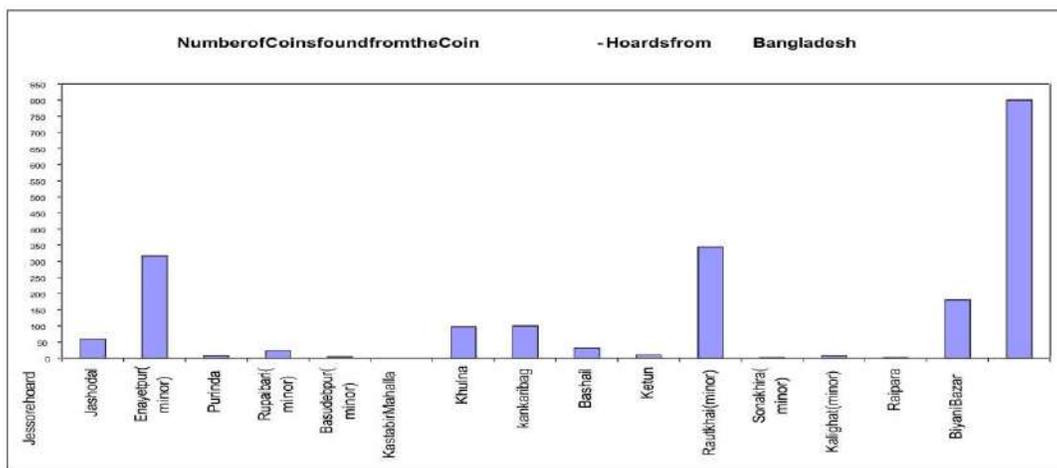


Fig.4: Number of coins found from the coin hoards in Bangladesh

As far as West Bengal is concerned, the earliest hoard of thirty-one silver coins was discovered from Howrah and was reported in the *Proceedings of the Asiatic Society of Bengal*. In contrast, after a gap of twenty-two years, i.e. in 1863, the largest-ever hoard of the Bengal sultans was discovered from the district of Cooch Behar in North Bengal. Given below is a graph showing the number of coins contained in each hoard found from West Bengal.

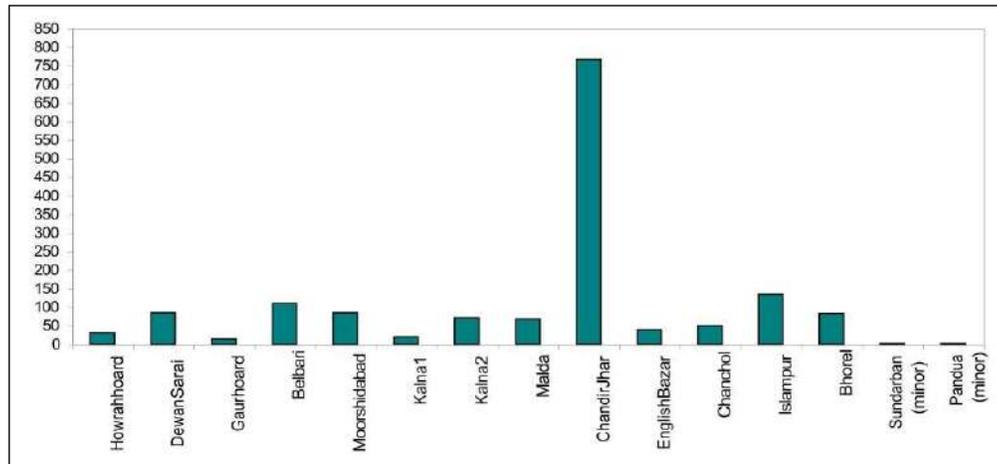


Fig.5: Number of coins found in the coin hoards of West Bengal

The above graph shows that apart from the Chandir Jhar hoard, other hoards found from this region have yielded more or less the same number of coins, i.e. ranging from 31 coins to 135 coins. Only the Chandir Jhar hoard is said to have yielded 767 silver coins, but it may be noted here that number of coins found in the Cooch Behar hoard in 1863 was unusually higher than any of these coin hoards unearthed from different parts of West Bengal. Here is a linear graph to show the comparison between the number of coins in the Cooch Behar hoard with the other hoards unearthed between 1841 and 1997 (Sinha 2001):

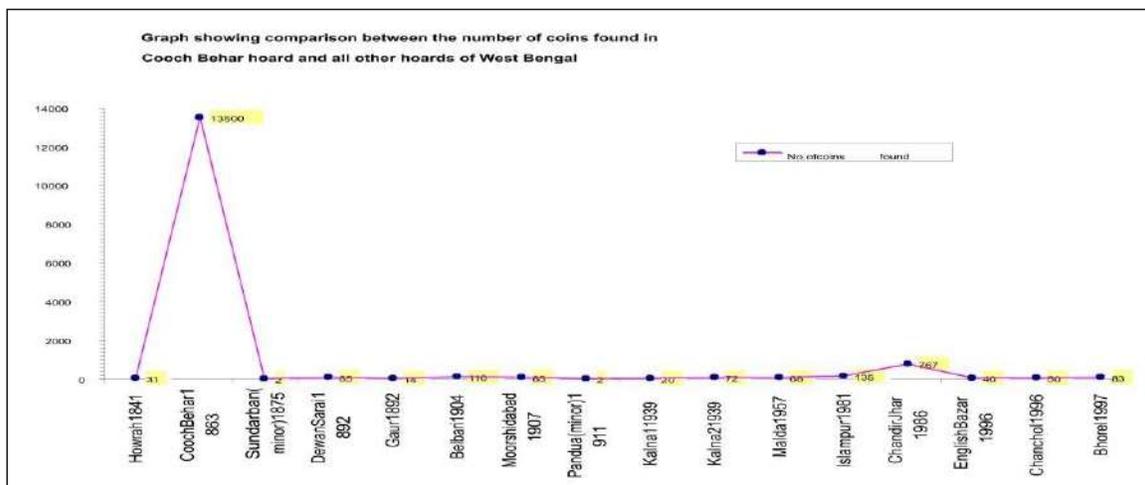


Fig.6: Comparison between the number of hoards found in Cooch Behar and all other hoards of West Bengal

I published the last five coin hoards in the list found from different districts of North Bengal from 1981 to 1997; the largest among them is the Chandir Jhar hoard of silver coins, found at a place called Chandir Jhar in Jalpaiguri district in 1987, though it came to the possession of State Archaeological

Museum, West Bengal in 1992. This hoard was published in a catalogue form in 1995 (Mitra and Sinha 1995), where I was the second author and every possible detail of the hoard has been provided for further study except die-analysis. We may discuss here other four hoards very briefly before going on to discuss the situation in Bihar.

The earliest among these five hoards was unearthed in 1981 from Islampur in Uttar Dinajpur district (Coin Hoard 222–27) (erstwhile West Dinajpur) and lay unnoticed till it was documented and partially acquired by the State Archaeological Museum, West Bengal in 1996.³ It contains some 135 silver coins of the Bengal sultans belonging to the Ilyas Shahi and later Ilyas Shahi houses. The hoard is numerically strong in coins of Jalal al-din Muhammad Shah - represented by sixty-six coins. The other coins of the hoard are of the sultans of Ilyas Shah, Sikandar Shah, Azam Shah, Hamzah Shah and Bayazid Shah - all five rulers of the Ilyas Shahi house. King Danujamarddana Deva is represented by only two coins, which are quite rare. Several interesting coins of Muhammad Shah are also present in the hoard.

Among three other coin hoards, two were found in 1996 from the district of Malda, and one was found in 1997 from the district of Dakshin Dinajpur. The two hoards found from Malda, namely English Bazar (Sinha 1999a, 211–13; Sinha 1999b) and Chanchol (Sinha 1999a, 214–15; Sinha 1999b), were found at the same time in January 1996 and, curiously enough, the pattern of content of these two hoards are identical - both have coins of the later Ilyas Shahi sultans. Both these hoards are preserved at the Malda Museum, Malda. All these hoards have been published in detail and every coin has been analysed.

The coin hoard found from the village of Bhorel (Sinha 2000) in Dakshin Dinajpur district in 1997 was seized by the local police and subsequently preserved in the district treasury of Balurghat. Eighty-three coins were recovered from the hoard, of which seventy coins are of Sultan Husain Shah. It is presumed from the verbal discussion with eyewitnesses (the villagers who were involved in finding and unearthing the pot) that the actual number of coins contained in the hoard was at least five times the coins recovered. The earliest coin found in this hoard is of Ghiyath al-din Bahadur Shah and, thus, it covers a period of nearly 200 years, i.e. from 1320–28 to 1516. Apart from Bahadur Shah, coins of Ilyas Shah, Sikandar Shah, Muhammad Shah, Yusuf Shah, Fath Shah and Firuz Shah are also present in this hoard though in very small numbers. But none of the coins in this hoard carry any significant data with regard to numismatic history; on the contrary, the nature of the hoard and its inhumation process are more interesting to note.

Altogether thirteen coin hoards have been reported so far from Bihar containing coins of the period in question, none of them have over forty coins. Among them, three are minor in category. In 1873, the earliest hoard from Bihar was reported from the fort area in the then Bihar Sharif region of Nalanda district. The most recent coin hoard of the Bengal sultans was reported in 1966 from Kurseon, district Darbhanga (presently in Madhubani district). The only hoard containing gold coins of the Bengal sultans was recovered from Malhepur of district Sahabad in 1943. Eighteen gold coins were found by a poor old woman in the foothills near Shergarh fort; this includes coins of Muhammad bin Tughlaq and two other Delhi sultans, coins of Nasir al-din Mahmud Shah and three

rulers of Husayn Shahi house, a coin of the Bahamani sultan Humayun Shah, two coins of the Jaunpur sultans and a single specimen of the King of Mysore, Krishna Raja Wodeyar, who reigned in the early nineteenth century. As it is a hoard of heterogeneous specimens covering a period of 536 years, we thus intend to label it a collector's treasure. The remaining coin hoards do not deserve any special mention and a bar diagram will provide us an idea of their size.

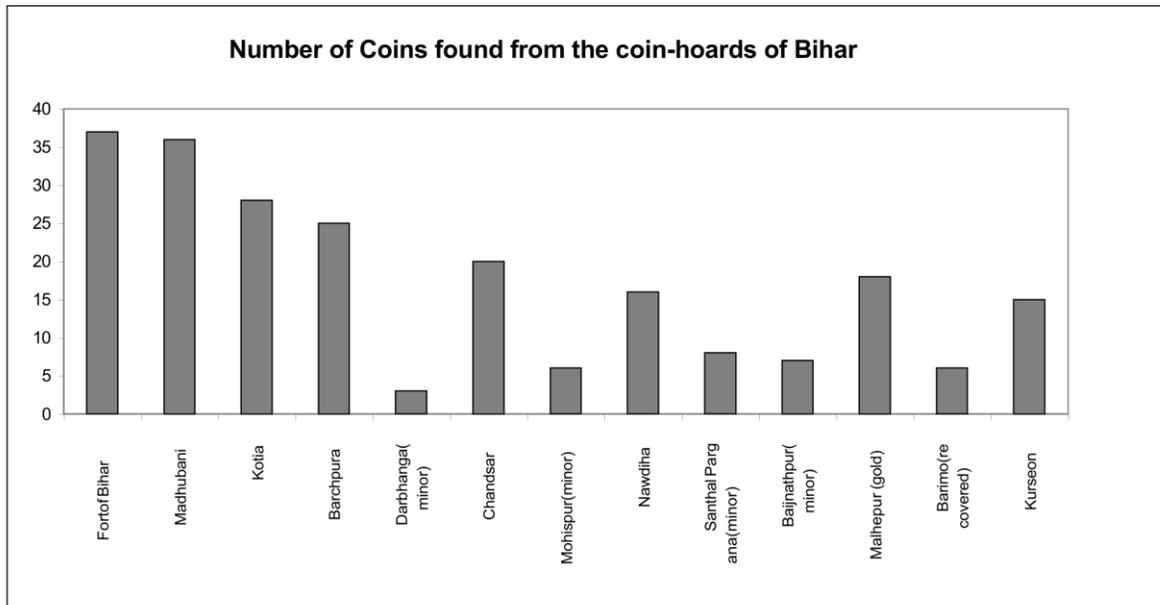


Fig.7: Number of coins found from the coin hoards of Bihar

Analysis of the Coin Hoard Classification and Their Reflection on Monetary History

An intensive study on the structure of all these coin hoards and minor finds, found from the regions mentioned above and their composition, their period of accumulation and some other features have also been carried out (Jensen et al. 1992, 113–15, 119–27, 128–34; Macdonald 1903, 282–300), which allows us to draw some hypotheses about the monetary history of the past. The period of accumulation of a hoard can be calculated by counting the difference between the earliest dated coin and latest dated coin present in a hoard (Strnad 2001, 31–36). As a result, we have found that these fifty hoards and finds can be grouped under seven different categories of hoards. Given below is a chart showing the period of accumulation of each hoard (the time span that has been taken by each hoard to be accumulated before it was buried, intentionally or accidentally by its last owner with an intention to retrieve it in future in the first case), the number of coins recovered from each hoard and the nature of the hoard (determined by the relation between number of coins and their period of accumulation) under study. A chart has been prepared from earliest discovered hoard to the latest discovered one.

Sl. No	Name of the coin-hoards	Period of accumulation	No. of coins present	Nature of Hoard
1	Howrah	121	31	Long term saving
2	Cooch Behar	168	13500	Royal treasure
3	Fort Bihar	13	37	Short term saving
4	Madhubani	12	36	Short term saving
5	Gauhati	40	38	Short term saving
6	Dewan Sarai	114	85	Long term saving
7	Sibsagar	419	44	Collector's hoard
8	Kamrup	91	30	Common hoard
9	Gaur	45	14	Common hoard
10	Kotia	60	28	Common hoard
11	Jessore	70	60	Common hoard
12	Barchpura	4	25	Emergency saving
13	Chandsar	38	20	Short term saving
14	Jashodal	196	317	Long term saving
15	Belbari	36	110	Short term saving
16	Moorshidabad	130	85	Long term saving
17	Purinda	22	24	Short term saving
18	Kastabir Mahalla	74	97	Common hoard
19	Khulna	122	100	Long term saving
20	Kankaribag	47	31	Common hoard
21	Bashail	19	10	Short term saving
22	Ketun	125	346	Long term saving
23	Raipara	54	182	Common hoard
24	Nawdiha	30	16	Short term saving
25	Kalna I	47	20	Common hoard
26	Kalna II	60	72	Common hoard
27	Malhepur	536	18	Collector's hoard
28	Malda	45	69	Common hoard
29	Barimo	113	6	Long term saving
30	Kurseon	35	15	Short term saving
31	Chandir Jhar	239	767	Composite hoard
32	Biyani Bazar	120	800	Long term saving
33	Harishinga	62	40	Common hoard
34	Haleswar	178	168	Long term saving
35	English Bazar	23	50	Short term saving
36	Chanchol	31	40	Short term saving
37	Islampur	81	135	Common hoard
38	Bhorel	200	83	Composite hoard
39	Sundarban	1	2	Emergency saving
40	Darbhangha	6	3	Emergency saving
41	Enayetpur	12	6	Short term saving
42	Rupaibari	16	5	Short term saving
43	Pandua	2	2	Emergency saving
44	Basudebpur	1	1	Emergency saving
45	Mohispur	8	6	Emergency saving
46	Santhalpargana I	1	8	Emergency saving
47	Bajjnathpur	30	7	Short term saving
48	Rautkhai	6	3	Emergency saving
49	Sonakhira	24	6	Short term saving
50	Kalighat	8	2	Emergency saving

As a result, we have found seven different categories of hoards, which can be categorized as Long-term, Short-term, Common and Composite, and may also be broadly grouped under a single class - Savings Hoard, where coins have been withdrawn from circulation for the purpose of savings, either by one person or across generations within a particular family. Even the condition of the coins deposited in a hoard may indicate the income group of the owner/owners of a single hoard. In contradistinction to these hoards, Emergency Hoards are reflection of sudden outbreak of a war or an epidemic or any such exigencies which resulted in a hasty concealment of available coins which were withdrawn from circulation. This type of hoard implies a dramatic circumstance of hoard formation which results in small number of coins accumulated in a very short period of time (mostly one to three years) and issued from a single mint or two.

The bar graph below shows the ratio of different categories of coin hoards of the Bengal Sultanate period, prepared on the basis of the data provided in the above chart.

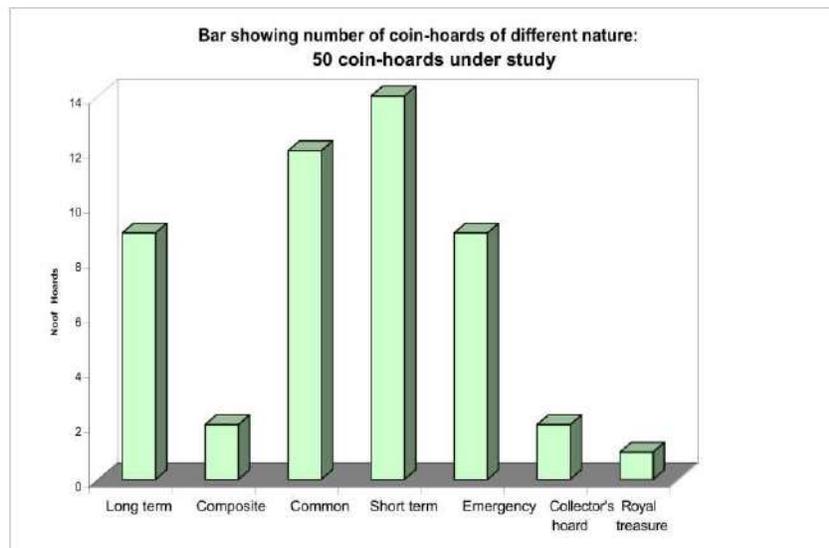


Fig.8: Fifty coin hoards of different natures

Nevertheless, on the basis of the structure of the hoards, it may be stated that during the Bengal Sultanate period, Savings Hoards outnumbered Emergency Hoards, which again lead us to a controversy prevalent among economic historians and numismatist: did turmoil or difficult socio-political situations lead to saving as well as hoarding tendencies among the common people or were undisturbed political situations or period of relative peace responsible for the above activity? The question that has been raised still needs further study and is not within the purview of the present discourse.

From the above chart it is also quite clear that except for emergency savings, the number of coins present in a hoard is not always directly proportional with the period of accumulation. For example, the largest hoard of the series, i.e. the Cooch Behar hoard that contained 13,500 coins, covers 168 years as the period of accumulation while a small hoard of eighteen gold coins (the Malhepur hoard) or forty-four silver coins (Sibsagar hoard) covers a period of 536 and 419, years respectively (see above chart). This is not a usual case and we have explained such depositions as accumulations of a contemporary collector who collected selected specimens of coins of different rulers from various periods. In such a case the coins found in a hoard do not reflect the pattern of

currency in circulation in a given period of time as they were acquired as items of curio. Here we will try to explain this feature of the hoards under study through a graph where period of accumulation has been put in the Y axis in relation to number of hoards in the X axis. An equal gap of twenty years has been kept between 0 to 540 years (span of time between the earliest dated coin and the latest dated coin) in order to place all fifty coin hoards.

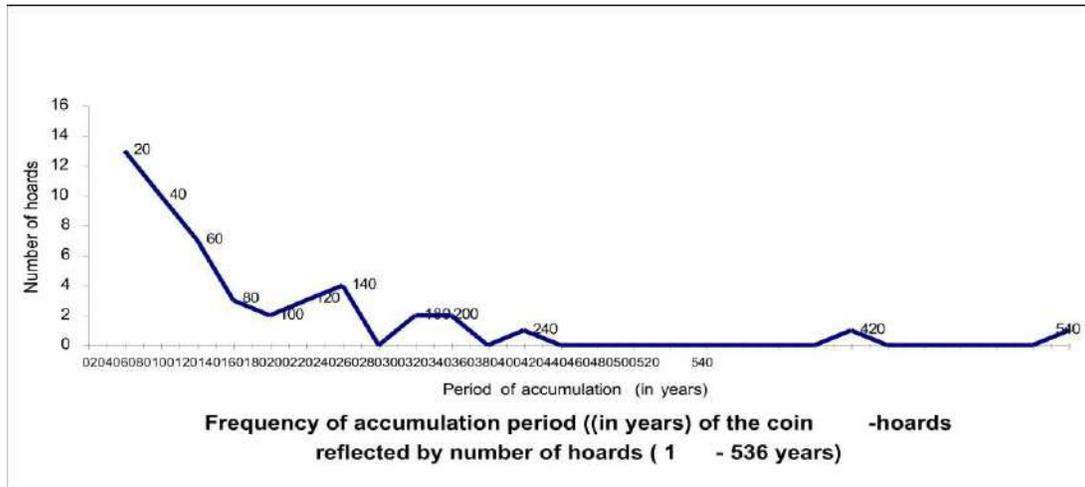


Fig.9: Frequency of accumulation periods (in years) of coin hoards, reflected by the number of hoards (1-536 years)

One may easily observe from the above illustration that the lesser the accumulation period, the higher the number of hoards. Thirteen coin hoards fall within the category of a twenty-year accumulation period, and the number of coin hoards decreased gradually as the accumulation period grew. Ten coin hoards fall into a forty-year accumulation period while in a sixty-year span, the number decreases to seven. The number sharply comes down to three and two for eighty-year and hundred-year accumulation period, respectively, though it goes up to four between a 120-year and 140-year accumulation period. Only two hoards cover a period ranging between 160 to 180 years. Two other hoards fall within the accumulation period of 180 to 200 years. One hoard each falls within the period of 220–40 years, 400–20 years and 520–40 years, respectively. Thus, it can be said that the number of coin hoards of the Bengal Sultans is inversely proportional to the period of their accumulation.

However, there are several other sets of data derived from these hoards and subsequently used in analysis of different issues of the economic scenarios of the Bengal Sultanate period - estimation of coin production from different mints and the relation between the mints and types of coins issued by each ruler of the different dynasties, percentual share of the coins in a group of hoards and their significance or impact on the respective coinage etc. This certainly adds some more authentic information to our existing knowledge about the coinage and currency system of the period concerned.

Notes

1 Important analytical and statistical works have been done by John S. Deyell, Shireen Moosvi, J.F. Richards, Aziza Hasan and Jaroslav Strnad while broad overviews have been given by P.L. Gupta, B.C. Jain, H.K. Prasad and A.K. Srivastava in their respective works.

2 Strnad has applied several statistical methods to the data collected from the Mughal coin hoards

found from Uttar Pradesh and deposited in the Lucknow Museum.

3 The entire hoard was initially documented by Pratip Kumar Mitra, the then Keeper of the State Archaeological Museum, West Bengal along with the present author and the coins were photographed by Shiharan Nandy, the Photographer of the Museum.

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The *Majalis-I Jahangiri* is a record of conversations and debates that took place in Jahangir's court from November 1608 to November 1611.¹ It was compiled by Abdus Sattar bin Qasim Lahori, an accomplished polyglot of Iranian origin in Jahangir's court. Discovered in a private collection of Khalilur Rahman Daudi in 2005, the text includes discussions on a wide range of subjects from literature to politics and religion to art. Because the work shows an intellectual worldview of the Mughal court in the early 17th century, which makes it markedly different from the Indo-Persian chronicles concerned largely with political and administrative matters, scholars of premodern South Asia have been greatly attracted to it ever since it came to be published in 2006 in Persian.

The *Majalis* contains the record of 122 assemblies (sessions) arranged in chronological order, but having no continuity between them; each *majlis* (session) constitutes an independent unit (Jamal 2021, 116)². Moved by the urge to record 'high words of his *pir* [Jahangir] who is highly busy in state affairs and does not have leisure to compile his own set of counsels', Abdus Sattar Lahori proposed to compile the nocturnal sessions of Jahangir, 'as Hasan Sijzi has compiled the conversations of his *pir*' (Lahori 2006, 1–2). Jahangir was equally interested in getting his conversations recorded, though he was simultaneously writing his memoirs. On an occasion, the emperor reminded Abdus Sattar that "it is upon you to get acquainted with the events that happen in the *majlis*, and you get benefited by the rare and high words that you have a desire to note down." Thinking of the significant nature of this enterprise, Jahangir appointed Khan-I Azam Mirza Aziz Koka and I'timaduddaula (Mirza Ghiyath Beg), two learned nobles of his court, to scrutinize the materials recorded and help the compiler in his endeavour (ibid., 43, 110).

Further, Jahangir's nocturnal session was a site devoid of strict courtly norms and where informal conversations reigned (Jamal 2021, 119–20).³ It is this unique setting, though under close watch of the Mughal emperor, that encouraged nobles and intellectuals to participate in free and open conversation. As a result, the text retains its dialogic format and presents an interesting milieu of the Mughal court.

As usually happens with the discovery of any new source or document, some scholars have highlighted the new sets of information that could be drawn from it, such as Jahangir's attitude towards religion, his understanding of Persian poetry and aesthetics, and his rationalist bent of mind (Moosvi 2007, 326–31; Khan 2011, 302–7; Khan 2010–11, 236–42; Khan 2014). Contrary to the positivist approach to source-mining, there are few others who have read the text as exemplifying the cosmopolitan culture that the Mughal state promoted. The work, in their view, is part of Jahangir's larger attempt to create his image as a saint-king, much like his father Akbar who had also projected himself as a saint-messiah-king (Alam and Subrahmanyam 2009, 467–511; Lefevre 2012, 255–86; Lefevre 2017, 317–38). This paper is a modest attempt to bring out the information related to Jahangir's coinage that has been recorded in the *Majalis*, and to examine in what ways the text throws fresh light on our understanding of Jahangir's coins.

Jahangir's Heavy Coins

Immediately after ascending to the Mughal throne in 1605, Jahangir introduced some interesting changes to the Mughal coinage, which he has recorded in his memoir, *Jahangirnama*. In the first year of his reign, Jahangir rechristened the names of existing silver, gold, and copper coins by giving each metallic currency and their fractions a separate name - different from that of Akbar's period. Among all the changes he made, the most prominent was the introduction of what is called the 'heavy coins'. The emperor issued an order of striking a gold muhr (*Nur Jahani*) and a silver rupee (*Sikka-I Jahangiri*), both of which were 20 per cent heavier than ordinary gold and silver coins of Akbar's time (Jahangir 1980, 7–8). He also mentions the couplet composed by Sharif Khan, *Amir al-umara*,⁴ which was to be inscribed on these new heavy coins, with dates and mint names (Hodivala 1976, 135).⁵

We have fairly detailed and consistent evidence of this increase in the contemporary Persian sources, including the *Ma'asir-iJahangiri* (Husaini 1978, 64–65). In his memoirs, Jahangir writes:

At a propitious hour [first regnal year], I ordered that they should coins gold and silver of different weights. To each coin, I gave a separate name. On the Nur-Jahani, which is in place of the ordinary gold Muhr and exceeds it in weight by 20 percent is impressed this couplet on the Amir al-umara:

'Shah Nur al-Din Jahangir ibn Akbar Padshah

Made gold's face bright with the sheen of Sun and Moon' (Jahangir 1980, 7).

The numismatic data also attests to this change. Jahangir's coins, preserved in various museums as well as private collections, provide several specimens of his coins which are greater in weight by 20 per cent than those of Akbar, and which can be dated to the first six years of his reign. Unfortunately, the reason for this significant increase is not found in any of the contemporary Persian sources. The scholars and numismatists of Mughal India are of the opinion that this move was part of Jahangir's attempt to carve out his own space as a legitimate Mughal emperor (Balabanlilar 2020, 43–44). Undoubtedly, this measure seems to have been emanated from the desire of a newly enthroned monarch to make a statement.

The Mughal Coin Catalogues also show a second variety of Jahangir's 'heavy coins', which are 25 percent heavier than those of Akbar, and 5 per cent heavier than those of his own issued in the first year of his reign. This means that Jahangir increased the weight standard of his coins twice: first by 20 per cent in the first regnal year, and second by 25 per cent *sometime before the sixth regnal year*. The 'second variety' of Jahangir's heavy coins was called *siwai* (one-fourth, that is 25 per cent heavier as compared to Akbar's coins), and also finds mention in the *Jahangirnama*. In the accounts of his sixth regnal year (1020 AH), Jahangir is recorded to have issued an order to discontinue the *siwai* variety of heavy coins and revert back to the original weight standard of Akbar's period (Hodivala 1976, 137).⁶

S.H. Hodivala, one of the finest scholars of medieval Indian numismatics, convincingly argued, drawing information from a variety of contemporary European accounts, that Jahangir did indeed increase the weight of his coins, the second time by 25 per cent. However, he, like many other numismatists, could not really tell with absolute precision as to when the second hike was introduced. All Hodivala could do was to arrive at an approximate date, because 'the words used by Jahangir himself in this connection are vague ... and the European evidence also throws no light on the matter' (ibid., 143). In his view, it could be placed somewhere either in the latter part of the third

or the beginning of the fourth year of his reign (ibid., 143–44). The *Majalis-I Jahangiri* provides unambiguous answers to some of these questions which have not been addressed with certainty.

Of all the recorded assemblies, *Majlis* no. 86 is wholly devoted to a discussion on coins. Held in the sixth year of Jahangir's reign on 28 April 1611, the *Majlis* begins with a discussion on the weight of Jahangir's coin, and closes with the emperor withdrawing his heavy coins on some reasonable grounds, which will be discussed later in this article. The author of the text, Abdus Sattar Lahori, writes:

Sa'id Gilani, the official in-charge of measures [of coins], presented to Jahangir some gold and silver coins of 11 and 12 *masha*. This led to a discussion regarding the weight of coins of this auspicious period (Jahangir's reign) and that of Akbar. On this occasion, Jahangir uttered words of wisdom and gave valuable advices. Amongst all, he said that our 'heavy coins' (*sikka-isiwai-i ma*), which exceed the weight of Akbar's coin, should stop (to be minted).

In order to put the things in context, Abdus Sattar takes the reader back in time, and narrates what had transpired over the course of six years of Jahangir's reign with respect to coinage. He continues:

In the first regnal year, Jahangir had issued an order that the coins made of gold, silver and copper—which were to be struck in his name—would be 20 percent (*dehdwazdeh*) heavier than the weight of Akbar's coins, and will now be known by such names (Lahori 2006, 211–12)⁷.... The coins continued to be minted in this fashion up to 5 Ardibihisht, third regnal year. Afterwards, during the same month, Jahangir ordered to issue coins in his name with a further increase of weight vis-a-vis Akbar's coinage, *which was meant to be an increase of 25 percent (dehdwazdehwanim)* (emphasis added). This continued till 10 Ardibihisht, sixth regnal year, and the officials of the mints in the whole of empire followed this order (ibid., 212).

In this passage, Abdus Sattar has described the changes that Jahangir introduced to his coinage over six years with utmost clarity and exactitude. With the help of the above passage, three successive stages of Jahangir's experiments with his coinage can be established with unmistakable accuracy:

1. In the first regnal year, Jahangir increased the weight by 20 percent, which continued for about three years until 25 April 1608 (*panjumardibihishtsan seh*).
2. During April–May 1608, he further enhanced the weight by increasing it another 5 per cent, making it 25 percent in total. This lasted for three years until 30 April 1611 (*dahumardibihishtsan sash*). In the passage cited above, it is categorically explicated that the *siwai* coins were 25 percent heavier, leaving no room for ambiguity whatsoever.
3. Jahangir, eventually, withdrew his 'heavy coins' in his sixth regnal year on 1 May 1611 (*yazdahumardibihishtsan sash*) and reverted to the original weight standard of Akbar's coins.

Another question that demands careful attention is: why did Jahangir stop the further issue of heavy coins in the sixth regnal year? There is one common reason given in both the sources, the *Jahangirnama* and *Majalis*, i.e. the difficulty in commercial transactions. Jahangir in his memoirs writes that 'it was represented to me that in mercantile transactions, it would be for the convenience of the people that the muhrs and rupees should be of the same weight as previously' (Hodivala 1976, 135–36). Jahangir's statement is brief and vague so far as the hardships people might have

encountered are concerned. The *Majalis*, however, not only elaborates upon the kind of economic and commercial challenges that the heavy coins caused, but also offers one more reason, which might have persuaded the emperor to reconsider his decision. First, Jahangir concurs that since people, both elites and commoners, are familiar with Akbar's coins, they undertake transactions in this currency with ease. This is why, he thought, 'it is not worth introducing changes to Akbar's coinage' (Lahore 2006, 211). Further, the *Majalis* informs us that Jahangir was particularly perturbed by the mischievous tricks of money changers (*dughliy-isarraḥ*) who would have taken the advantage of 'new coins' and harassed people, especially those living in the periphery (*sahranashinan*). Abdus Sattar has the emperor saying in the *Majalis*:

And how can I, who is always asking God to extend all kinds of comfort and tranquility to people, see my people struggling with transactions in perplexity, and suffering losses due to mischievous tricks of money changers. In particular, the people living in periphery would have been in trouble (ibid.).

Jahangir rolling back his heavy coins in view of the challenges they might have posed to the people emanated from his allegiance to the Perso-Islamic ideal of justice, which constituted the very essence of Mughal kingship. It also aligned with his political philosophy, which 'made the direct link between the benevolence and concern of a Just King with the happiness and prosperity of his people' (Balabanlilar 2020, 50). The idea of justice is often found in Jahangir's memoirs as well as in the *Majalis* as a running trope to legitimise his authority. On occasions, Jahangir made public and performative efforts to demonstrate his adherence to the model of the Just King. This is best exemplified in his installation of the golden 'chain of justice'. In the first weeks of his reign, following the celebrated Sassanian king Anushirvan, who was regarded as the perfect model of royal justice, Jahangir ordered a golden 'chain of justice' (*zanjir-iadl*) to allow petitioners to gain direct access to the ruler and bypass those who were indifferent in offering justice (ibid.). It is, therefore, not out of place to assume that his concern for people perhaps led him to withdraw his heavy coins.

The second reason that Jahangir offers in the *Majalis* as a justification for the withdrawal of his heavy coins is even more illuminating. He invokes his reverence for his father as reasonable grounds for his change of mind. Jahangir declares that:

It is a violation of justice and fairness on my part to have increased the weight of my coins, since my territorial domain is still the same, and no addition [through conquest] has been made to it. *The day my territory would exceed the dominion of my father by 25 percent, if God wills so, I will also increase the weight of my coins by 25 percent* (emphasis is mine) (Lahori 2006, 211).

Jahangir withdrawing his 25 per cent heavier coins because he could not win enough territory for the Mughal Empire, and his resolve to reintroduce the heavy coins if only he could successfully add 25 per cent more territory to what he had inherited from his father at the time of his accession is an interesting piece of information available only in the *Majalis*. Jahangir's statement is a clear indication of the extreme reverence that he had for Akbar, who is well credited to have established a large empire with a strong administrative structure and inclusive socio-religious policies.

To begin with, looking at the complex and competitive relationship between Akbar and Jahangir, the latter's pretext seems ironical. As a prince, he rebelled against his father, held his court

at Allahabad, and even issued coins in his name. Yet, upon Akbar's death, Jahangir expressed unequivocal pride in his father's personal and political legacy. It is true that Jahangir's demonstration of public affection towards his father was part of a political strategy of 'filial piety'. But it is also true that his admiration went beyond mere rhetoric, and carried a distinct tone of sincere appreciation. He openly emulated Akbar and publicly supported his tolerant religious policies, which is evident from his glowing description of Akbar in the *Jahangirnama* (Jahangir 1980, 19–22). Following his father, he also projected himself as a just and benevolent king. In fact, he put to use the extraordinary image-making machinery at his court, like his father earlier, to claim power, both political and sacred, and elevated himself to be perhaps the most aesthetically perfected and rational monarch. The *Majalis-I Jahangiri* and *Jahangirnama* are full of such narratives that reinforce this impression about Jahangir. In such circumstances, it would be a mistake to dismiss his explanation for withdrawal of heavy coins owing to reverence for his father's political legacy as merely a symbolic gesture. Indeed, it is fair to argue that the statement in the *Majalis* affirming the father-son affectionate royal bond was reasonable ground for Jahangir to reverse his decision.

Roman Silver Coin

The *Majalis* provides interesting information about a Roman silver coin found in Agra during Jahangir's reign. Despite all the information at our disposal, there are hardly any details about Roman coins in the Indo-Persian literature, though they existed in India in good number. The discussion in the *Majalis* on the Roman coin not only sheds some light on the coin type, but also reveals to us the meaning that the coinage represents.

It is a well-known fact that India experienced an unprecedented expansion in long-distance trade with the Roman Empire, both by overland and maritime routes, during the first three centuries CE, which can be verified by a range of Indian and foreign accounts (Chakravarti 2016, 216–22). But the most crucial testimony to India's trade with the Mediterranean world comes from numismatic evidence. Roman coins, primarily brought to India by way of trade, have been found in the form of hoards, of which large number comes from the western part of Tamil Nadu. Ranging from the time of Augustus (34 BCE–14 CE) to that of Caracalla (213 CE), we see a continuous flow of Roman gold and silver coins for at least two and a half centuries (Radhakrishnan 1999, 1–4).

According to historians and numismatists, Roman coins were essentially exported to India as bullion to finance trade, and were accepted as an article of commerce according to their intrinsic value (Mukherjee 1995, 3). In general, these coins would have been melted down to issue new coins of the current regime, or hoarded by people. A few of them would have been accepted as payment in accordance with their intrinsic worth (ibid., 3–4; Mitchiner 1995, 21–22).

In *Majlis* no. 98, held on 28 May 1611, the author records that a Roman silver coin was brought to Jahangir's court. The emperor called in the Jesuits to examine the coin and its legend, and determine its antiquity. The Jesuits, upon examination, confirmed that the coin belonged to a Roman emperor (*Qaisar*). It would not be out of place to quote the whole incident in full English translation:

In that very night, he [Jahangir] called for Jesuit priests (*padriyan-ifarang*). The reason was that from a village in the vicinity of Agra, an old coin (*sikka-iqadim*) was found, which was different from the currency prevalent in that region. And people of the region were not familiar with the legend and images stamped on the coin. Khwaja Jahan Bakhshi who was the commander of territories around the

capital city of Agra, brought that coin and presented it before the emperor. Since the coin looked similar to European/foreign coin (*sikka-i-farang*), European intellectuals [Jesuits] who were associated with the court, were summoned. The Jesuits informed that 'this coin belongs to a certain Roman emperor (*Qaisar*) and this image is of his'. When asked about his reign, the Jesuits replied that this Roman emperor had lived a thousand and a few hundred years before. Strangely enough, the silver content of the coin had not deteriorated at all. This attracted Jahangir's attention. What was the reason, [the emperor inquired], that the silver of the coin remains as it is till date? And what is to be done to ensure that the coins struck in my name may also survive long enough similar to this [Roman] coin, because it will bear testimony to the sustained longevity of my name (Lahori 2006, 242).

It is by no means strange for Roman silver coins, also called *denarii*, to be found in and around the capital city of Agra during Jahangir's reign. Roman coin hoards have been found in the north, though in less quantity, which might have been brought to the region primarily through an overland route, especially the Silk Road, when the region was integrated into the wider network of the Mediterranean world after the Kushanas established political control over Afghanistan and North India (Mukherjee 1995, 2–3).⁸ It is also possible that the silver coins brought by Roman merchants trading with southern states via the western coast of Indian Ocean would have travelled up north and been hoarded. It is very likely that the Roman *denarius* under review was buried as a hoard, and was later recovered at the time of digging. The Persian expression '*bar amdeh*' (brought out) also supports this inference.

The Jesuits, present in Jahangir's court, were well-versed in Latin, and they would have encountered no difficulty in deciphering the legend and identifying the portrait of the Roman emperor with the aid of inscription. The Jesuits, summoned by Jahangir, had come to Mughal India as part of the third Jesuit mission during Akbar's reign in 1595, and stayed there for two decades until 1615. They participated in the nocturnal sessions (*Majalis*) in Jahangir's court, and debated with Muslim scholars and theologians a variety of issues pertaining to Christianity and Islam (Alam and Subrahmanyam 2009, 457–511). The third mission, made up of three Jesuits, was headed by Jerome Xavier who, over the course of his stay in the court, had learnt Persian and translated, jointly with Abdus Sattar, a number of works into Persian. In the light of the testimony of the Jesuits, it is fair to argue that the coin belonged to the Roman imperial period, chiefly to either Augustus or Tiberius, for reasons we shall see below.

First, the Jesuits identified the ruler as *Qaisar*, which is a Persian equivalent of Caesar, the regnal title of the Roman emperors. Second, they placed the reign of the emperor to be a thousand and a few hundred years ago. If the expression 'a thousand and a few hundred years before' is roughly accounted for a range between 1300 to 1500 years, it would correspond to the period no earlier than the first century of the Common Era. Even with this calculation, the identity of the emperor cannot be established with certainty. However, there is another clue in the narrative that helps us to further narrow down the range. Since the recorded episode in the *Majalis* firmly establishes the high quality of the coin in terms of its silver purity, which was in fact one of the reasons for Jahangir's astonishment, it would be reasonable to suggest that the coin was issued either by Augustus or Tiberius. There is no doubt that Roman imperial pieces of gold and silver were of a very high quality in the early phase of the empire. It was the first Roman emperor Augustus (31 BCE–14 CE) who, after

some experimentations, established the purity of the silver *denarii* containing approximately 98 per cent silver, which continued up to the reign of Nero (54–86 CE). In the first year of his reign (54 CE), Nero reduced the silver purity and weight of *denarii*, which was further debased after he introduced major currency reforms ten years later in 64 CE (MacDowall 1995, 10). It is instructive to note in this context, as MacDowall argues, that no Roman hoards found in India 'contain any... silver *denarii* struck after AD 54/55', meaning only the *denarii* with high quality of silver were chosen to be exported to India, whereas the debased Roman *denarii* issued by and after Nero were ignored (ibid.).⁹ In the circumstances, it is, therefore, possible to place the Roman silver coin found in Agra in a period no later than the initial years of Nero. As Augustus and Tiberius were the two Roman emperors whose silver coins have been found in the largest quantity in India, it may be surmised that the coin belonged to either of the two.

It is worth noticing that the *Majalis* does not report any 'cuts' or 'slash marks' on the silver *denarii*. The slash marks or cuts are commonly found on a large number of Roman gold coins (*aureus*), whereas very few silver coins are met with cuts. These slash marks are invariably on the obverse of these coins, defacing the bust of emperors. There is a difference of opinion among scholars as to who incised these cuts, and for what purpose. Some believe it may have been intended to test the purity of the coin (Mukherjee 1995, 3), while a large number of scholars are of the view that these cuts were meant to cancel the authority of the original issuer, in this case Roman emperors; few others treat it as a measure to demonetise coins in some way (Radhakrishnan 1999, 10).

Jahangir's interest in the Roman *denarii* was surely triggered by its purity that did not deteriorate with time. The observation of his courtier Dayanat Khan, that the *denarii* were mixed with copper, should not be misconstrued as statement of reality; the noble was only doing his bit to make up for Jahangir's bewilderment. Interestingly, the episode throws some light on Jahangir's perception of the relationship between coinage and kingship. In his view, coins continue to carry the glory of the emperors long after they are gone. As a Mughal emperor, Jahangir wanted to be remembered by posterity; his attempt at recording the events of his life in his autobiography is a testament to this longstanding desire (Balabanlilar 2020, 5–10). For, it is not strange to see why he reached out to his couriers for advice to make his coins as pure, firm and everlasting pieces that could survive ages. This, in a sense, signifies his notion of kingship, which was to be constantly expressed and sustained through exercise of power, both coercive and symbolic.

Although Jahangir harked back more to the ideals of justice and benevolence to legitimize his kingship, the evidence of which is abundant in the *Majalis* and *Jahangirnama*, he also understood the significance of coins as markers of sovereignty. The relationship between coinage and sovereignty as constituting each other is all the more visible from a discussion that took place in *Majlis* no. 96, held on 21 June 1611. During the debate concerning 'unjust behaviour', Jahangir brought up the issue of Akbar's attack on the ruler of Khandesh. He quoted Mirza Aziz Koka, saying that Akbar's attack was unjustified because, 'as per the *sharia* norms, attack on Muslims and intrusion into their territory is not legitimate'. Murtaza Khan, the court jurist, responded by saying that 'they were rebels'; hence, the Mughal aggression was justified. As Mirza Aziz Koka was not present in the court to participate in this conversation, Jahangir took it upon himself to respond. The emperor retorted 'where was the question of rebellion, if they read your [Mughals] name in *khutba* (Friday sermon) and issued coins in your [Mughals] name? *What else do you expect from submission; Should they turn their houses upside down?*' (emphasis added) In the end, however,

Jahangir indirectly justified Akbar's attack by saying that 'kings have always been indulging in particular excesses (*zara-i-khas*) in the interest of the larger good for people' (*nafa-iaam*) (Lahori 2006, 236–37).

Nevertheless, what this conversation highlights is how strictly Jahangir valued coins as a marker of sovereignty. His response to the jurist was an unequivocal indication of the Mughal political culture in which subordinate kingdoms were expected to recite the name of the reigning Mughal emperor in Friday *khutba*, and to issue coins in his name. The Mughal overlords would continue to treat their subordinates as loyal, as long as they did not defy these two important markers of sovereignty, along with payment of tributes. This episode, together with the sentiments expressed in the context of the Roman *denarii*, foregrounds the meaning that coinage represented, and helps us make sense of why Jahangir took particular interest in memorializing his rule in the longevity of his coins.

Notes

¹The original text did not have a title. The title '*Majalis-i-Jahangiri*', was chosen by its editors, Arif Naushahi and Moin Nizami, which is widely accepted now.

²There are very few *Majalis*, which are interconnected, and where the discussion continues from one *majlis* to the next.

³It is to be borne in mind that even though Jahangir's nocturnal sessions were informal in their settings, they were still royal spaces. The presence of the Mughal emperor in the assemblies, however enjoyable they might have been, warranted a certain courtly behavior. The text presents numerous examples wherein Jahangir reprimanded participant to 'behave properly and maintain the courtly decorum'.

⁴Muhammad Sharif Khan was Jahangir's childhood friend and long-time supporter who had chosen to remain with Jahangir in Allahabad when the latter had rebelled against Akbar. Upon becoming the king, Jahangir appointed him Vizier and rewarded him with a mansab of 5,000 and the highest title of *Amir al-umara*.

⁵The couplet is found on some of the heavy Muhrs and Rupees in the public and private collections.

⁶It is to be borne in mind that the copy of the *Jahangirnama* edited by Sir Syed Ahmad Khan, and which is widely available in printed form, carries a scribal error. It mentions that the weight of gold and silver coins was increased by three *ratis*. The excellent manuscript copy of the *Jahangirnama* housed in the British Museum (earlier India Office), and discovered by Mr. H. Beveridge, however, rectifies this error as it clearly says that 'I [Jahangir] added one-fourth (*siwai*) to the weight of the *muh*r and rupee'. Hodivala, on the basis of this information argues that this was the second increase, which was even 5 percent higher than the previous one.

⁷The author then provides a list of new names, which is almost identical with the list in the *Jahangirnama*.

⁸B.N. Mukherjee suggests that the discovery of 'the small number of Roman coin finds in the north-west, with which the Roman Empire had brisk trade at least in the 1st century CE' would have been because people either melted them down or hoarded. This is also supported, Mukherjee goes on, by 'the insignificant number of Roman coins unearthed in excavations, compared with the large number of coins recovered from various hoards'.

⁹MacDowall writes, 'In the following year of Nero's debasement of the silver denarius, the change in the Roman monetary system eventually drove denarii of good quality of silver and higher weight out of circulation—some to be hoarded, other to be melted down and others to be exported. The choice of coins exported to India was the direct result of the debasement of Nero and Vespasian, and the administrative action of Trajan'.

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The history of the Calcutta Mint is not just about coin production; it also reflects the early power struggle in India and the evolution of the colonial authority. The English East India Company (EIC) came to India as traders but slowly transformed into a dominant political force. By 1690, when the EIC had firmly established its foothold in Bengal, they realized that control over currency was important for consolidating power and enabling smooth trade (Garg: 1990:383).

Depending on mints in Madras, Surat, or even distant Mughal mints led to delays and risks, and the Company recognized that setting up a mint in Calcutta was not just a convenience but a necessity. In 1698, the EIC sent Mr. Stanley to the Darbar of Prince Azim-us-Shan, grandson of Aurangzeb and the Governor of Bengal, to seek permission to establish a mint at Hugly. However, the mission did not yield any result. In 1708, Thomas Pitt wrote a letter to the Mughal Governor, Ziauddin, seeking permission, but this attempt also proved unsuccessful (Garg: 1990:383-384).

In 1714, the Company sent John Surman to Emperor Farrukhsiyar's court and secured permission to mint coins at Murshidabad Mint three days a week. Opposition from Murshid Quli Khan delayed the plan for twenty-five years. However, the EIC made multiple attempts to establish a mint, facing numerous challenges along the way. After persistent efforts, they finally succeeded in setting up a mint in Calcutta in 1757, with a treaty signed between the EIC and Nawab Siraj-ud-Daula on 7th or 9th February 1757 (H. Stagg: 1933:15, Garg: 1990:385-386). A few months earlier, in 1756, the Nawab of Bengal attacked and captured Calcutta, giving the city the epithet 'Alinagar' (Stevens 2012:1). During his brief rule he issued silver coins following the pattern of Mughal coinage, bearing legends in Persian and the regnal year of Emperor Alamgir II (1754-59) with the mint name - Alinagar.

The Persian inscriptions on these coins were as follows:

Fig.1

Obverse: *Sikka Mubarak Badshah Ghazi Alamgir*

(The auspicious coin of the victorious Emperor Alamgir)

Reverse: *Zarb Alinagar Sanah Julus Maimanat Manus*

(struck at Alinagar in the regnal year three of tranquil prosperity)

In response, the British sent an army and fleet to reclaim the city in January 1757. After regaining control, the British secured *parwana* (permission/ license) from the Nawab to establish a mint and began striking coins under the name Alinagar Kalkata, Fig.2, as the town was then called by the Nawab (Stevens 2012:1).



Fig.1 : Nawabs of Bengal, Rupee in the name of Alamgir II 'Alinagar, AH1169/Ry.3. Courtesy: www.zeno.ru : #275987



Fig.2 : Rupee in the name of Alamgir II, Mint Alinagar Kalkata
 Courtesy: www.zeno.ru : #140882: E.I.C., Bengal Presidency., Rupee, Kalkata, AH - /Ry.4

However, following the Battle of Plassey in 1757, the new Nawab allowed the EIC to mint coins under the name Kalkata, Fig.3. Coins issued with the mint name Calcutta were also minted with the name Alamgir II. Coins bearing the Kalkata mint name were struck during the fourth, fifth, and sixth regnal years of Emperor Alamgir II. However, these coins faced

resistance in the local markets, as the shroffs (money changers) imposed a heavy *batta* (discount), making it difficult to bring them into regular circulation. By the end of 1760, the EIC sought and received permission from the Nawab to issue coins bearing the mint name Murshidabad, Fig.4, though they were minted in the Calcutta Mint. These newly authorized coins were issued in the name of Emperor Alamgir II, dated 1174 Hijri and regnal year 6 (Stevens 2012:1). Subsequently, gold and silver coins were minted in the name of Shah Alam.

Historical records, however, differ on the exact timeline. Edgar Thurston, in his 1893 research 'Note on the History of the East India Company Coinage from 1753-1835' mentioned that the establishment of a mint at Calcutta finally took place in 1759 or 1760 when a *parwana* was obtained (Thurston 1893:54) after the treaty of 1757 with Siraj-ud-Daulah.



Fig.3 : The Coins of the Bengal Presidency, Baldwins. Courtesy: Stevens, Paul. 2012

It is believed that the first mint in Calcutta was located near the site of the Black Hole Tragedy, where the General Post Office stands today. However, in September 1757, Mr. Frankland and Mr. Boddam were appointed Joint Mint Masters, and the mint had swung into full operation (Stevens 2012:7).



Fig.4 : The Coins of the Bengal Presidency, Baldwins. Courtesy: Stevens, Paul. 2012.

The second Calcutta Mint, Figs.5&6, was established in 1790, with machinery brought from England to strike modern coins with milled edges. It was installed at the site of Gillett's Shipbuilding Establishment. In 1833, this site was taken over by the Stamp and Stationary Committee, and later on it was occupied by the Stationary Office



Fig.5 : Silver Old Mint, Strand Road, Kolkata

between Strand Road and Church Lane (Stagg 1933:15).

By 1818, it had become evident that the existing Calcutta Mint was unable to meet the increasing demand placed upon it. In response, the Mint Master Robert Saunders and the Assay Master Horace Hayman Wilson, were tasked with preparing a report recommending improvements. In 1819, they proposed that a steam-powered mint be procured from England.

Lieutenant Forbes was selected to travel to England and collaborate with the suppliers. He arrived there in 1820. The steam machinery comprised five steam engines, viz. two of 40 horsepower each, and three were of 24, 20 and 14 horsepower, respectively. The circular cutting presses, the milling and the coining apparatus supplied by the renowned firm Boulton & Watt, the rolling mills and fine rollers, the lathe-lap and clam for turning the rollers, and the triturating mills were by John Rennie; while the pouring machinery and furnaces of the gold, silver and copper melting rooms were constructed by Maudslay (JAS 1834:38). The machinery sent from England arrived at Calcutta in October 1823. A team of experienced workmen accompanied the machinery to Calcutta and played a vital role in its reconstruction. The new mint was completed by 1829–30 and production commenced in 1830, beginning with copper pice. The mint also produced silver rupees and gold muhars of the 19-sun sicca style, as well as Farukhabad rupees and Arkatrupees, intended for use in Madras. In 1831, a new design of copper annas and pice was minted.

However, by that time discussion around uniform coinage for the entire Indian subcontinent had gained significant momentum. As a result, no further changes were made to the Bengal coinage. In 1835, the new established Calcutta Mint played a leading role in launching this unified coinage system for India.

The construction of the third Calcutta Mint - known as the Silver Mint - at Strand Road was planned in 1819. Its foundation stone was laid in 31 March 1824, it was opened on 1 August 1829, and it began production of copper pice in 1830. The architect of the third mint was Major General William Nairn Forbes. He was also the architect of St. Paul's Cathedral, and served as the Mint Master from 5 January 1836 to 23 January 1855. Before him, Robert Saunders served as Mint Master of the Calcutta Mint from 1815 to 1820 and from 1826 to 1836 (Stevens & Weir 2012:16). The mint building has massive foundations and goes down 26 feet below ground level, so that there is more brick work below the ground than above it. The cost of the third Calcutta Mint up to 30 April 1833, was 24 lakhs rupees, of which 11 lakhs were for the machinery and 13 lakhs for the buildings. The monthly expenditure, when work was in full swing, was stated to be around 18,000 rupees.

A marble bust in memory of Major General Forbes was prepared and transported from London to Calcutta in 1858. Presently, Forbes' bust is displayed in the Mint Museum, India Govt. Mint, Kolkata. The bust bears the following inscriptions:

The Honorable the Court of Directors of the East India Company have placed this bust in the new Mint of Calcutta (at Strand Road) to mark their sense of the eminent services of Major General William Nairn Forbes Bengal Engineers Master of that Mint who designed and constructed the noble building erected all the complicated machinery and directed the operations of the institution for upwards of Twenty Years with signal capacity and success. General Forbes commenced the construction of the New Mint on the 31st March 1824 and completed the Building on the 1st August 1829. As Architect, Superintendent of machinery and Mint Master he was connected with the institution from 1824 to 1855 or for 31 years. He was born on the third of April 1796 and died on the first of May 1855.

During the planning phase for the establishment of the Silver Mint, James Prinsep was appointed Assistant Assay Master of the Calcutta Mint in 1819 under H.H. Wilson, who was then Assay Master. James quickly proved to be a fast learner. Within a couple of months, Wilson was appointed as the Assay Master of the Banaras Mint. When the operations at the Banaras Mint were properly established, Wilson was called back to Calcutta, and his young assistant was chosen to succeed him as the Assay Master of the Banaras Mint. At the end of 1829, the Banaras Mint was abolished. When it was finally shut in January 1830, Prinsep returned to Calcutta Mint as Deputy Assay Master of the newly constructed mint at Strand Road. Two years later, in 1832, when Wilson was appointed the first Boden Professor of Sanskrit at Oxford University, Prinsep succeeded him as Assay Master and as Secretary to the Calcutta Mint Committee.

It is important to highlight Prinsep's remarkable contributions to the mint as well as his pioneering work in the field of numismatics. His most significant achievement was in the area of currency reforms, where he played a central role in introducing a uniform coinage system across a large part of India in 1835. In 1833, he submitted a comprehensive proposal to the government for the reform of weights and measures. Prinsep was dedicated to his work as an Assay Master. He personally made a very precise balance with his own hands for the purpose of the assay, which could measure up to the 3000th part of a grain (Basu Majumdar: 2024:137). When he left for England in 1838, the government bought this balance for use in the Calcutta Mint.

Thought the third mint of Calcutta was known as the Silver Mint, gold coins were also struck there. In 1860, an annexe known as the 'Copper Mint', intended exclusively for copper coinage, was built to the north of the Silver Mint. Both mints were self-contained units, each comprising Departments of Melting, Cutting, Annealing, Stamping and Packing. The Bullion and General Offices, as well as workshops, stores, and other support facilities, were shared between the two mints. Prior to the Copper Mint, large quantities of copper coins were imported from England.

The architecture of the Silver Mint is Graeco-Doric with the façade built based on the dimension of the Temple of Minerva at Athens. The Graeco-Doric style is one of the three classical orders of ancient Greek architecture, known for its sturdy, fluted columns with simple capitals and no base, alongside the Ionic and Corinthian styles. This mint played an important role in India's coinage system by minting gold, silver, nickel, copper, cupro-nickel, nickel-brass and bronze coins. It produced coins for Australia, Great Britain, Egypt, Portuguese India, Saudi Arabia, Bhutan, Ceylon and Pakistan as well as the Straits Government or Straits Settlements (in 1826 the British settlements in Malaya were unified under a single Governor as the Straits Settlements) and the Imperial British East Africa Company, Mombasa (Rukhsana: 1992:369, IGMK Souvenir: 1977).

Under certain conditions, gold, silver and copper coins were minted for the native states under the Native States Coinage Act No. IX of 1876, the metal being supplied by the state itself. Coins for Alwar, Dhar and Dewas states were produced at the Calcutta Mint. During the reign of King Edward VII, the Calcutta Mint struck some quantity of quarter-anna coins in bronze for the native state of Sailana.

The Calcutta Mint was not only confined to producing coins. An important duty was the manufacture of medals and decorations. The earliest medal produced by the Calcutta Mint was the Ceylon Medal 1795-96, while other early medals included Seringapatam 1799; Egypt 1801; Rodrigues, Bourbon and Isle of France 1809-10; Java 1811; Nepal 1814-16; Coorg 1837; and a series of Afghanistan medals (including Ghuznee 1839, Jellalabad 1842, Candahar 1842, Ghuznee Cabul 1842, Gandahar Ghuznee Cabul 1842, and Cabul 1842), Gwalior Campaign 1843 (Mayo: 1897:121-268). The medal of the Simla Fine Arts Society 1928, bearing the figure of a bull, was copied from a seal found at Mohanjodaro (Puddester: 2002:318). Apart from the medals, the mint also produced decorations, commemorative pieces, delicate works for government departments, educational institutions, and noble families, and so on. The thrones used by the king and queen at the Delhi Darbar (1911) were cast in silver at the Calcutta Mint by melting 96,000 old silver rupees. Plaques for the Durbar monument at Delhi and several other memorials were also struck by the mint. Famous among these, and possibly the largest of this nature up to the year 1923-24, was the tablet cast in the memory of the Late Bishop Thoburn for the Thoburn Methodist Episcopal Church, Calcutta. The tablet measured 36" x 24" and was designed by Mr. Holt, artist-cum-engraver and manufacturer, in three sections.

Shift to Alipore

Meanwhile, the need was felt by the Government of India as early as 1940 for the establishment of a new high-capacity mint in Alipore. Construction work for this began in 1941. By early 1942 the

foundation work had been completed and the erection of the super-structure of the factory was proceeding. In March 1942, Calcutta faced an increasing threat of Japanese invasion. Due to this fear, in 1943 it was decided that the new mint should be shifted to Lahore.

It was originally decided that after cessation of hostilities in World War II, and as soon as normal conditions returned, the mint at Lahore would be shifted back to its original site at Alipore. However, after the end of the war, the political scenario changed and it was confirmed that the Lahore Mint would have to remain in Pakistan. The Alipore Mint project was thus revived in 1948, and construction work was completed in 1951.

For the Alipore Mint, 26 acres of land had been taken over by the government from the Port Commissioner of Calcutta in 1941. The Alipore Mint building was designed by Shri H.A.N. Medd, Senior Architect to the Government of India, and was constructed under Major J.H. Partridge, a Royal Engineer who then served as first Mint Master. The Alipore Mint was opened by Finance Minister Chintaman Dwarkanath Deshmukh on 19 March 1952 after which all operations for coinage began in full swing with a coinage capacity of 12 lakh pieces per eight-hour shift. Deshmukh was an Indian Civil Servant, the first Indian to be appointed the Governor of the Reserve Bank of India.

A.A.J. Gomez was the first Indian to be appointed Master of the Mint.

It should be noted at the time of Independence on 15 August 1947, there was no immediate change in the coinage of India. The nickel rupee, half rupee, quarter rupee, cupro nickel, two anna, one anna, half anna, and the bronze single pice bearing King George VI's effigy, which were in circulation prior to Independence, continued to be struck at the mints even in the years following 1947.

On 15 August 1950, a new series of coins was issued in the following denominations: one rupee, half rupee, quarter rupee, two annas, one anna, half anna and single pice. They all had the 'lion capital' of Ashoka on the obverse. On the reverse, the rupee, half rupee and quarter rupee coins had two ears of corn; the two anna, one anna and half-anna coins had the figure of a bull; and the single pice had the figure of the horse. The Indian Coinage Act of 1906 was amended in September 1955, empowering the government to adopt a metric or decimal system in coinage. The Act came into force with effect from 1 April 1957. This was a landmark in the history of the country's coinage. According to the decimal system, the value of rupee divided into 100 paise and the smallest unit of one rupee became one paisa.

Apart from the circulative coins, the Alipore Mint currently also produces commemorative coins which are issued to celebrate special occasions/events or as a mark of respect towards distinguished individuals or monuments. In 1985, the mint for the first time issued commemorative coin sets of Rs. 100, Rs. 10 and Re. 1 on the occasion of International Youth Year. The mint manufactures medals for the Bharat Ratna, Padma Vibhushan, Padma Bhushan, Padma Shri, International Film Festival of India, National Film Award, World Philatelic Exhibition, Param Veer Chakra, Chakra awards, as well as medals for various academic and social institutions. It also provides medals for national and international sports events.

The India Government Mint, Alipore, Kolkata follows international quality standards, and has built credibility and trust for decades in the minting world.

**MINT MASTER OF CALCUTTA MINT FROM 1757 TO 1952
(WORKED AS HEAD OF THE ORGANIZATION)**

Sr. No.	Name of Mint Master	Starting Date
1	Mr. Frankland and Mr. Boddam	Sept. 1757
2	Mr. Frankland	Oct. 1757
3	Mr. Beaumont	Mar. 1761
4	Mr. Middleton	Early 1764
5	Mr. Marriot (never took up the position)	Oct. 1764
6	Mr. Leicester	Nov. 1764
7	Mr. Campbell	Nov. 1764
8	Mr. Alexander	Dec. 1767
9	Mr. Floyer	Before May 1769
10	Mr. Herbert Harris	Feb. 1771
11	Mr. Lloyd	Before Sep. 1773
12	Mr. Paxton	Before Jul. 1778
13	Mr. Herbert Harris	Feb. 1785
14	Mr. James Miller	Aug. 1792
15	Mr. Frank Mure	July 1799
16	Mr. Plowden	Jul. 1802
17	Mr. Forster	Aug. 1802
18	Dr. Davidson	1810
19	Mr. H. Wilson (acting)	1813
20	Mr. Malcom McLeod	1814
21	Mr. Robert Saunders	1815
22	Mr. J.M. McNabb (acting)	1820
23	Mr. Robert Saunders	7 April 1826–4 January 1836
24	Major General William Nair Forbes (Bengal Engineer)	5 January 1836–23 January 1855
25	Lt. Col. J.T. Smith	1855–56
26	Major J.H. Bell	1856–58
27	Col. R. Baird Smith, CB	1858–61
28	Col. H. Hyde	1861–76
29	Col. J.F. Tennant	1876–84
30	Col. R. V. Riddell	1884–89
31	Col. A.W. Baird	1889–97
32	Col. B. Scott, CIE	1897–1904
33	Col. G. M. Portar	1904–11
34	Lt. Col. W.G.R. Cordue, RE	1911–15
35	Lt. Col. A.L.C. McComick, CIE, RE	1915–26
36	Col. M. Stagg, OBE	1926–38
37	Major D.V. Deane, CIE, OBE, RE	1938–47
38	Major E.A. Wimberley, OBE, RE	1947–48
39	Major J.H. Patridge, RE (Retd) in Old and Alipore Mint	1948–52

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The reciprocal relationship of trade, exchange, and cultural interaction between the ancient Graeco-Romans and Indians is an important part of Indian maritime history. On the eastern seaboard, Odisha has a plethora of evidence of Indian commercial (both direct and indirect) contact with the Western world, China, and South-East Asia. Besides other artefacts, numismatic evidence and bullae play an extremely important role in understanding the nature of trade and exchange.

Explorations and excavations in Odisha have brought to light numerous archaeological findings from ports, exchanges, and trade centres, Fig.1. Sila Tripathi and Rudraprasad Behrain their research have pointed out evidences of such cultural interactions. This evidence include terracotta Roman bullae with Roman portraits, lamps, amphorae shreds, and rouletted ware unearthed from excavated sites like Sisupalgarh, Manikpatna, Palur, Radhanagarand Talapada on the eastern coast (Tripathi 2015).



Fig.1: Map of ancient ports with Roman artefacts, Odisha



Fig.2: Gold hybrid pendant, Sisupalgarh. Courtesy: Lal

Sisupalgarh (20°13'30 north, and 85°51'30 east), is one of the most prominent early historic urban centres, and is located about 1.5 miles to the south-east of the temple city and the capital of Odisha, Bhubaneswar. One gold coin with pendant hole and suspension loop is quite significant and attracts our attention among thirty-one coins from the site, Fig.2.

Obverse: King standing to left with peaked helmet and suit of male, making an offering with the right hand over altar; long spear in the left hand.

Legend: [Ma] [hara] ja- ra [ja] dhasa Dhamadamadhara [sa]

Reverse: Head of Augustus

Legend: HAIEAI. ZNAI

Size: 82''

Weight: 5.20 gm

The condition of the coin pendant is fairly good. What is interesting is that on one side the imitation coin has a Kushana device and on the other, it has a Roman prototype bearing the head of a male

resembling the portrait of Augustus. It was used as a pendant as it has two holes. It was carefully minted to keep the alignment of both the obverse and the reverse in a 12 o'clock position. Hence, the Kushana prototype of the king conducting a sacrifice at an altar is also properly aligned to have the standing king in the correct position when worn as a pendant. What is intriguing is the addition of the suspension loop which is not a common feature in the Indian subcontinent; rather, South-East Asian pendants commonly depict such suspension loops. Thus, this oblong coil of gold wire for suspension may be considered a typical South-East Asian feature.

This coin-pendant was first reported in the Sisupalgarh excavation report by B.B. Lal who correctly identified it as a hybrid coin with Kushana and Roman devices on either side. However, he considers the Kushana side as the obverse and the Roman side as the reverse, but we are not sure about it. Lal also mentions 'the weight of the gold coin' is 5.20 gm (Lal 1949, 64- 66). But we should remember that this weight also includes the tubular loop attached to the pendant.

The main reason for mentioning this coin pendant as Roman-inspired is its hybridity. One side of it imitates a Roman bust which can be identified as inspired by Augustus's coinage but the legend here is gibberish. The other side of the coin is a prototype of a Kushana device with a Brahmi legend. The attempt to read the Brahmi legend on the Kushana-inspired side is futile as it is a meaningless copy of the original legend. A.S. Altekar mentions that the combination of the Kushana motif and Roman bust is unique. In this case, we have to remember that Kujala Kadphises issued coins imitating Roman bust inspired Augustus' bust on the obverse and a deity on the reverse (Khan and Ullah 2023, 164). We should also consider a very famous hybrid Roman / Kushan pendant from Pakistan, displayed in the gallery of the British Museum, as an example of a Romano-Kushan hybrid, Fig.3. The obverse features the



Fig.3: Constantine I: Ardochsho hybrid coin pendant from British Museum gallery. Courtesy: British Museum: Photo clicked by author

portrait head coin designs of Constantine the Great, whereas the reverse interestingly depicts the figure of the Goddess Ardochsho, holding a Cornucopia (British Museum, OR.5200). Though not all scholars agree that the pendant is a Kushano-Roman hybrid. According to Emilia Smagur and Joe Cribb, the Sisupalgarh pendant is a hybrid of Roman on one side and representation of Mars on the other side (Smagur 2022, 171-172).

Although the pendant from Sisupalgarh was mentioned by B. B. Lal and Altekar as a coin, its function was not that of an official medium of exchange. First, it was a pendant and second, it was a strange hybrid creation. Brigitte Borell discusses such hybrid pendants from South-East Asia. One of the pendants from southern India, Fig.4, has a similar pendant hole and a suspension loop, however, the pendant holes have been purposefully closed.

This issue has been discussed by Susmita Basu Majumdar in a recent article (Basu Majumdar 2023, 207-16). She recently argued that the functions of pendant holes and tubular loops were different, as were their implications. Both Borell (2014, 7-33) and Basu Majumdar are of the opinion that the use of such suspension loops was specific to South-East Asian pendants. Taking a cue from Borell and Basu Majumdar, we would like to indicate that the suspension loop in our pendant indicates Sisupalgarh's linkage with South-East Asia, especially in those areas where such pendants have been reported.

Besides these coins, a few clay bullae have also been unearthed from the site of Sisupalgarh.

Here, we will discuss the clay bullae which bear human portraits (head/bust) on them.

The first clay bulla shows the bust of a person with very prominent indigenous features; the headgear is also very distinct, Fig.5. The second bulla also shows the portrait of a person, and 'ta ra' in Brahmi script, in the upper-right corner above the head, but the features of the head seem different than the first one, Fig.6. The third bulla with a human bust from the site of Sisupalgarh is unique. The facial features here are completely different from the previous iterations. The headgear and the ornaments are also very distinct, Fig.7. Interestingly, all the bullae from Sisupalgarh are cast from single moulds and have a flat back, occasionally with finger impressions.



Fig.4: Roman-inspired pendant from Sisupalgarh
Courtesy: Ashutosh Museum, Kolkata

The excavators of Sisupalgarh, consider the bullae with portraits to be “Clay imitations of Roman coins” (Lal 1949, 101). But if we observe the facial features carefully, these are typically indigenous and not inspired by Roman busts. Monica L. Smith also agrees that the influence of the facial features of the bullae can be traced in the bullae and coins with busts by various contemporary indigenous rulers (Smith 2015, 35-36). In addition, Emilia Smagur opined that the amalgamation of indigenous elements into the iconography of the Roman coin imitations, copies and bullae can also be observed (Smagur 2022, 231-240). Recently, Basu Majumdar detailed a coin from Khlong Thom, Thailand, which portrays the combination of a Satavahana-inspired bust on one side and a Roman-inspired bust on the other. Thus, it is a double obverse coin which is unique, though its function was not that of a coin as Basu Majumdar argues (Basu Majumdar 2023, 209). Other bullae with human portraits with localized features, have also been unearthed from different archaeological sites in the subcontinent (Smagur 2018, 4) (Suresh, S. 2004, 14-150).

Another important site, Kankia (Lat. 20°41' Long. 86°11'), locally known as Radhanagar, is about 90 km to the north of Bhubaneswar, Odisha (Patnaik 2014, 88-97). According to Sunil Kumar Patnaik, this settlement thrived between *c.* fourth-third century BCE to *c.* fourth-fifth century CE, and again, was sporadically revived from the early medieval period, i.e. from seventh-eighth to the



Fig.5: Sisupalgarh Bulla 1
Courtesy: Lal



Fig.6: Sisupalgarh Bulla 2
Courtesy: Lal



Fig.7: Sisupalgarh Bulla 3
Courtesy: Lal

thirteenth-fourteenth century CE. Numerous artefacts including approximately fifty coins and many terracotta bullae, figurines, ornaments, and tablets have been excavated from the site of Radhanagar. Three bullae from the Kankia excavation are significant for the present context as they bear portraits on them.

The first bulla, Fig.8, from the OIMSEAS Collection of Kankia (Radhanagar) artefacts, is mentioned as a Roman clay bulla by the excavators¹. Though it is inspired by Roman coinage, the facial features of the portrait; especially the eye, has a distinct indigenous form. In the absence of headgear, a legend, or other specific features of a Roman bust, it would not be prudent to identify it as a Roman bulla. The present author would like to identify it as a Roman-inspired local bulla.



Fig. 8: Radhanagar Bulla 1
Courtesy: <http://nmma.nic.in/nmma/antiqDetail.do?refId=1243422&state=OR>

We shall now discuss the other two bullae with portraits on them, also unearthed from the site of Radhanagar. One of them has a clear depiction of a human portrait on it. This bulla can also be identified, based on features as a Roman-inspired local bulla. The third bulla also has a portrait on it but is quite corroded.

Odisha probably did not engage in direct maritime contact with the Roman world, but numerous artefacts unearthed from excavations and explorations here indicate indirect Roman contact. This might be due to the participation of local traders in the so-called Indo-Roman trade (Behra 1998, 954-955). The pendants as well as the imitation coins turned into pendants are unique and need a fresh assessment and appraisal. Basu Majumdar has pointed towards these being used as trade tokens by merchants. If so, then this is direct evidence of the involvement of the merchants from Odisha in the Indo-Roman trade network. One must remember that Odisha was famous for its elephants, and hence this region would have provided ivory to the Roman traders which was in huge demand in the Western world. This is a preliminary work to bring together the portrait-type coins and clay bullae under one umbrella to indicate a common, if not similar functionality of both; however further work in this area is still needed.

Endnote

¹ The excavation was started in January 2011 and continued up to June 2013. Prof. S. Pradhan, Prof. K.K. Basa, Prof. R.N. Singh, Dr. S. Acharya, Sri A.K. Patel & Dr. J.K. Patnaik along with Research scholars of Banaras Hindu University and Utkal University extended their helping hand during the excavation.

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While coinage has long been recognized as the predominant medium of exchange, historical evidence reveals the widespread use of alternative instruments such as *hundi* (bills of exchange), *adeshas* (orders of payment), and various other mechanisms that facilitated trade and credit, particularly in contexts where physical currency was either impractical or unavailable. Additionally, commodities like spices, cowries, livestock, and metal ingots often functioned as media of exchange, reflecting the region's complex and adaptive economic practices. These alternative forms of money not only underpinned commercial transactions across vast distances but also played a critical role in administrative and governmental finance.

A key component of the alternative monetary system in South Asia was the *hundi*, a form of bill of exchange that played a crucial role in both trade and governance, particularly by facilitating long-distance transactions in the absence of physical currency. A *hundi* functioned as a financial order issued by one individual, instructing the payment of a specified sum to another at a predetermined future date. The Reserve Bank of India defines *hundi* as an unconditional order in writing made by a person directing another to pay a certain sum of money to a person named in the order. In lexicons the word has both masculine and feminine implications: while the masculine form of the word denotes *pinditodanah*, i.e. a heap or lump of rice, in the feminine perspective the very word *hundika* (feminine) means/signifies an assignment, order, bond, or bill of exchange (Monier-Williams 1960, 1301). Kshemendra in his *Lokaprakasha* (eleventh century), Kalhana in his *Rajatarangini* (twelfth century), and Muhammad Da'ud Shadiyabadi in his Persian lexicon *Miftahul-Fuzala* (1469 CE) not only acknowledge but also attest to *hundis* and/or *hundikas* facilitating trade and financial transactions. Though the use of *hundi* or *hundika* as a bill of exchange serving as a crucial financial instrument is explicit from the eleventh-twelfth century onwards, the process of evolution of such payments in credit or such transfer and exchanges were already prevalent in the earlier times. Hence it is important to consider some of the earlier forms which led to the emergence of a more structured and official system of *hundika* which formalised it as an instrument of financial or monetary transactions.

Historical sources indicate that, mechanisms of financial exchange involving orders and assignments were in use during the Early Historic (c.600 BCE–300 CE) and Threshold periods (c. 300–600 CE), Fig.1. Kautiliya in his *Arthashastra* uses the term *adesha* with the financial implication that it functioned as an instrument for facilitating monetary transaction through written instructions or order. One looks at the usage of the term *adesha* in the *Arthashastra* in similar context with other words of similar implications like *upanidhi* (deposits), *adhi* (pledges), *anvadhī* (commission/assignments), *nikshepa* (consignments), etc., which beyond any doubt reflects its use in the early historic times as a highly influential instrument of transaction (Kautilya's *Arthashastra* 3.12; Kangle 1972, 230–5; Olivelle 2013, 205–7). Here, in this context it is imperative to bring in Ranabir Chakrabarti's opinion of *adesha* as a form of alternative money (Chakrabarti 2019, 221–38) which might be reconsidered in the light of Kautilya's *Arthashastra*. *Adesha* as an instrument helped or facilitated smooth transactions,

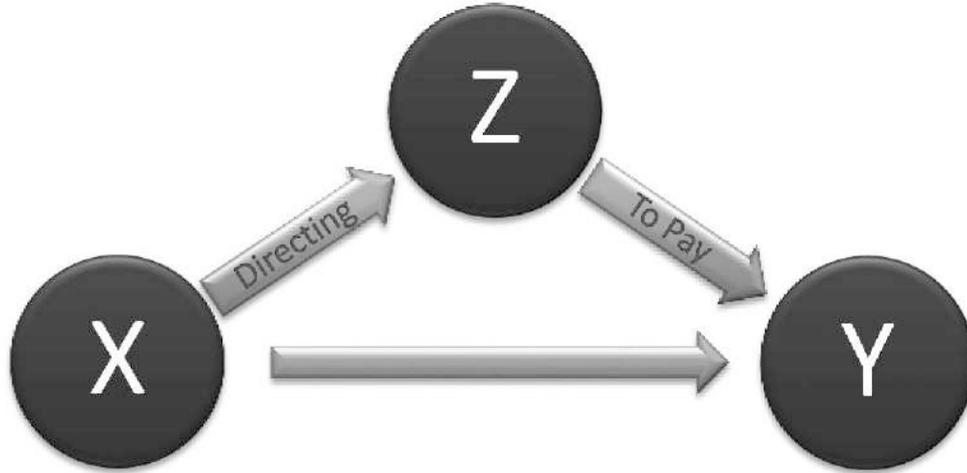


Fig.1: Transfer of money from one account to another account by order/assignment

especially in case of long-distance transactions involving money but not direct financial exchanges. Hence, it allowed for a more complex transaction wherein the money involved was not physical but through an order; in other words, the transfer took place as money of count rather than physical money. In this context, Patrick Olivelle's interpretation of *adesha* as a directive instructing someone to perform a task at a distant location can provide a different perspective to the scenario and helping distinguishing it from *anvadhī*, which involves the physical transfer of an item to another person for delivery (Olivelle, 2013, 611). *Anvadhī*, on one hand, has the implication of a courier whereas *adesha* has the implication of monetary transactions in a cashless form. Following Kangle's interpretation, Olivelle further emphasizes *adesha* as an order given to an individual to execute a function remotely (Kangle 1972, 231–2; Olivelle 2013, 585); the mechanism suggests a structured approach to financial transactions, where monetary obligations could be fulfilled without direct physical exchange. Additionally, the *Arthashastra* highlights practices such as sales and purchases through agents (Kautilya's *Arthashastra* 3.12.25–31; Kangle 1972, 233; Olivelle 2013, 206 and, 4.2.23; Kangle 1972, 261; Olivelle 2013, 228) and the use of storehouses in distant markets for safeguarding merchandise under official supervision (Kautilya's *Arthashastra* 2.16; Kangle 1972, 127–9; Olivelle 2013, 139–40 and 4.2.1; Kangle 1972, 259; Olivelle 2013, 226). These references indicate a well-organised system of trade and commerce, wherein *adesha* functioned as an essential instrument for facilitating economic activities across different locations.

Further insights into early economic transactions can be gleaned from the *Jatakas*, which reveals an early form of transaction based on trust and symbolic instruments of exchange. One notable instance in the *Jataka* narratives involves a *nagara-shresthin* (urban merchant-leader cum-banker) issuing an *anguriya* (ring or token) along with a distinctive mark to one of his subordinates, instructing him to deliver it to a *janapada-shresthin* (rural merchant leader-cum-banker) who was a trusted associate. Upon presenting the *anguriya*, Fig.2, the subordinate received money from the *janapada-shresthin*, thereby completing the transaction (Cowell 1995, 275–77). This suggests that the *anguriya* functioned as an acknowledgment or promissory note for the *janapada-shresthin*, ensuring a secure exchange between merchants. Such a mechanism reflects an early trust-based financial network, similar to the later systems of bills of exchange, which facilitated trade and monetary transactions between merchants across urban and rural areas. This practice underscores the sophistication of early financial instruments that enabled commerce beyond direct cash

transactions, laying the foundation for structured credit systems in ancient economic frameworks.

The role of guilds in managing financial transactions, endowments and loans is also notable

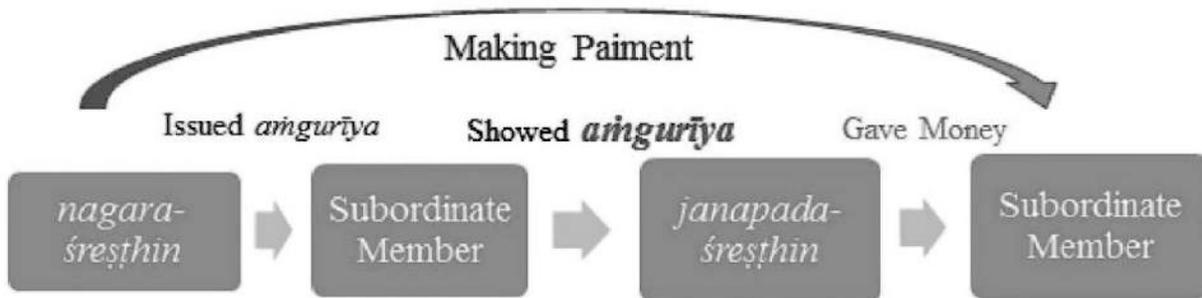


Fig.2: The process of payment, as illustrated in one of the Jataka narratives

in the post-Mauryan period. Inscriptions from Mathura and Nasik reveal that guilds were entrusted with managing large sums of money and allocating interest for specific purposes, such as religious endowments or the provision of goods to Brahmanas and monks. These records not only reflect the growing importance of guilds as financial intermediaries but also suggest a shift toward more organized forms of credit and investment, which were essential for sustaining economic and religious institutions. A Mathura inscription from the second century CE mentions two permanent endowments of 550 silver coins each, entrusted to two guilds for feeding Brahmanas and the poor using the interest generated from the funds (Lüders' List, no. 1180). Similarly, a Nasik inscription from the same period records an endowment of 2,000 *karshapanas* at an interest rate of 1 per cent per month, allocated to a weavers' guild for supplying cloth to *bhikshus* (monks). The same inscription from Nasik details an additional endowment of 1,000 *karshapanas* at a monthly interest rate of 0.75 per cent, provided to another weavers' guild for serving light meals to *bhikshus* (EI VIII, 82). These inscriptions highlight the institutional role of guilds in managing financial resources and facilitating economic transactions for social and religious purposes, reflecting an organised system of credit and investment in the period.

The transaction of money in ancient India, Fig.3, showcases a structured financial system where guilds and banks acted as intermediaries between donors and religious institutions. The process begins with a depositor or donor transferring money to a guild or bank, either as a deposit or with specific instructions for its use. Instead of directly donating the principal amount, the guild invests the money in various economic activities to generate profit and interest. Over time, the accumulated interest is transferred to the designated monastery, ensuring a continuous flow of financial support without depleting the initial deposit. This model reflects an early form of banking and endowment financing, allowing religious institutions to sustain them through recurring income. Additionally, to ensure transparency and accountability, a copy of the financial order was shared with the monastery and sometimes engraved on rock inscriptions, making it a public record. This system not only facilitated wealth circulation but also reinforced the role of guilds in economic and religious patronage in ancient India.

The mercantile community in early India exhibited remarkable fluidity and vibrancy, as evidenced in the records of the Threshold (c. fourth–sixth centuries CE) and Early Medieval period (c. Seventh–thirteenth centuries CE). Seals and sealings from Basarh near Vaishali, Bihar highlight the existence of corporate organizations that brought together various professional groups, including *shresthis* (prominent merchants and bankers), *sarthavahas* (caravan leaders), *kulikas*

Transaction of Money

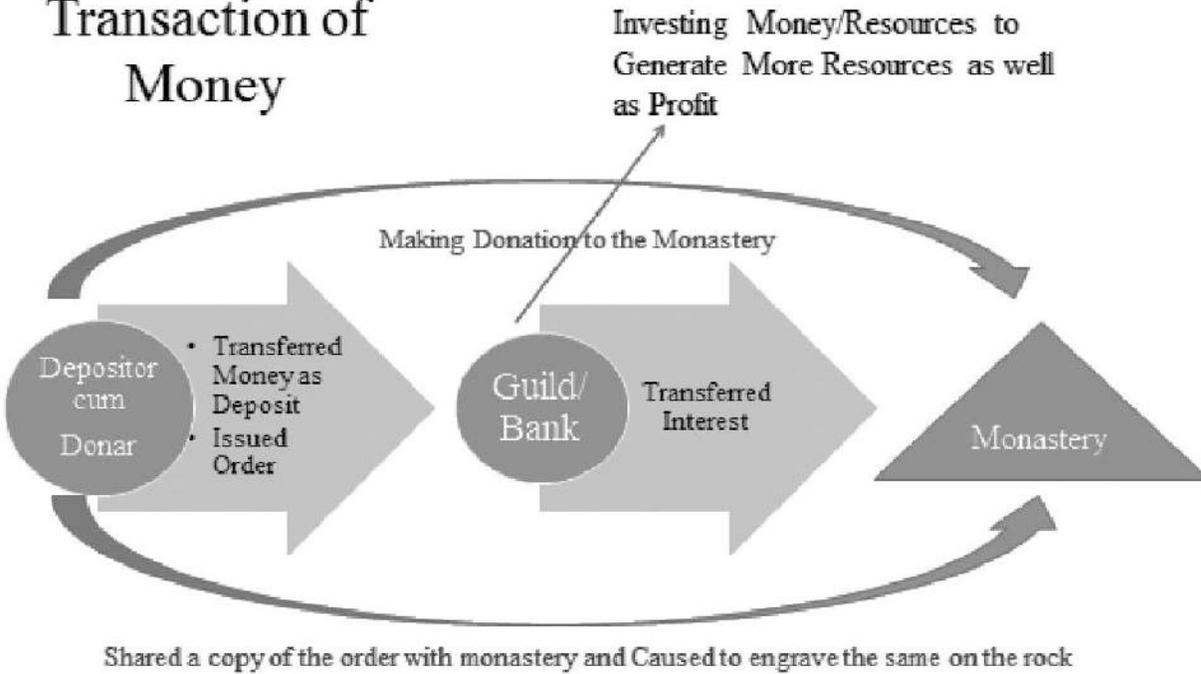


Fig.3: Transaction of money in Ancient India

(artisans), and *prathama-kulikas* (master craftsmen or heads of artisan groups) (Thaplyal 1972, 226–27). The Basarh seals indicate the formation of guild-like structures based on shared professional interests, such as the *shresthi-nigama* and *sarthavaha-nigama*, which were exclusive to merchants and caravan leaders. However, the economic landscape also necessitated collaboration between different professional groups, leading to the establishment of multi-professional corporate bodies. Inscriptions reveal integrated organisations such as the *shresthi-sarthavaha-nigama* (merchants and caravan leaders), *shresthi-sarthavaha-kulika-nigama* (merchants, caravan leaders, and artisans), and *shresthi-sarthavaha-prathama-kulika-nigama* (Archeological Survey of India 1903–4, Nos. 19, 23, 29, 32, pl. XLII, Nos. 39, 40 and 46); (merchants, caravan leaders, and master craftsmen). The formation of such guilds reflects the deep interdependence of various economic actors and their collaborative role in trade, credit transactions, and production.

The heterogeneous nature of the mercantile community is further attested by epigraphic sources, including inscriptions from Anavada, Peheva (*EI* I, 186ff.), and the Vaillabhattasvamin Temple at Gwalior (*ibid*, 160), which document the co-existence and cooperation of diverse professional groups. These inscriptions suggest that economic integration was not only a commercial necessity but also influenced social structures, fostering alliances among different economic classes. The records emphasize cooperative activities, illustrating the active role of merchants, artisans, and traders in shaping financial and commercial networks.

Additionally, inscriptions from Damodarpur (*EI* XV, 128, 130, 131, 133, 142), Siyadoni (*EI*, I, 173ff.), and Anavada highlight the close association of professional groups with ruling and administrative bodies in urban centres (Majumdar 1922, 69). This suggests that economic organizations were not merely autonomous corporate entities but were also deeply embedded in governance and local administration. The interconnected nature of trade, banking, and administration underscores the importance of these professional guilds in sustaining urban economies and facilitating structured financial transactions in early India.

In this context, the case of the merchant Kubera in the literary text *Moharajaparajaya* is particularly significant. The narrative describes how Kubera, a merchant from Anahilavada, deposited his wealth with prominent *naigamas* (merchant associations) before embarking on a trading expedition (Jain 2001, 366). After Kubera's presumed death, four influential merchants - likely representing the *naigamas* - approached the king, requesting the appointment of an official to take stock of his unclaimed property. This incident underscores the role of *naigamas* as financial custodians, ensuring the security of deposits and facilitating economic stability. Commentators on legal texts describe *naigamas* as associations of caravan merchants (*sarthavahadi-samuha*), engaged in long-distance trade using bullock carts. V.K. Jain interprets *naigamas* as corporate entities formed by town merchants involved in international commerce (Jain 2001, 366). The existence of such corporate groups is further reflected in legal digests and commentaries, which mention various terms such as *shreni*, *puga*, *vrata*, *naigama*, and *sangha*, all referring to different types of merchant and artisan guilds. Hemchandra, an eleventh-century scholar, recorded as many as thirty-five terms denoting corporate entities, including *samuha*, *sanghata*, *samudaya*, *mandala*, and *gana* (ibid., 364). While their precise structure and functions may have varied across regions and periods, these organisations played a crucial role in regulating trade, managing financial transactions, and upholding professional interests. There is no doubt that during the early historic and early medieval period, there existed a large number of guilds of both traders and artisans who were united in the interest of their common profession. The persistence of guilds from the early historic to the early medieval period also highlights their significance in facilitating economic exchanges and ensuring financial security through institutional credit and deposit systems.

Building upon the complex networks of guilds and professional corporate groups engaged in monetary transactions, credit operations, financing, and banking, the emergence of *hundi* (or *hundika*) represents a significant development in the institutionalization of financial instruments in early medieval India. These corporate bodies - such as the *shrenis*, *naigamas*, and other merchant associations - had already established mechanisms for regulating trade, securing deposits, and facilitating credit exchanges from the early historic through the early medieval periods. Within this economic framework, the *hundi* evolved by the eleventh-twelfth centuries CE as a more formalized and structured financial instrument, functioning as a bill of exchange that enabled the transfer of funds across regions without the movement of physical currency. However, the precise process through which the *hundi* evolved remains unclear, as direct references to its origin and early development are limited in the available literary and epigraphic sources. Despite this gap, it is noteworthy that earlier periods exhibit the use of financial instruments and practices whose functions were comparable to those of the *hundi*. For example, the concept of *adesha*, referenced in texts such as the *Arthashastra* and the *Lekhapaddhati*, or the concept of *Anguriya* or a token as reflected in the *Jataka* narrative, appear to have facilitated monetary transactions through written orders or verbal instructions rather than physical currency exchange. Such practices suggest a continuity and gradual refinement of financial mechanisms over time, culminating in the more formalized and widely institutionalized use of *hundis* in the medieval period. The *hundi*, therefore, signifies a critical advancement in the history of banking and credit instruments in early India, bridging the institutional practices of professional corporate groups with the formal mechanisms of medieval finance.

The significance of *hundika* merits attention in this context, as this also represents a bill of exchange and thereby forming a crucial financial instrument, that was likely in use from the

eleventh-twelfth century onward. As described in *Lokaprakasha*, there were two major types of *hundis/hundikas* (Shastri 1947, 13). The first type, *raja-hundi/hundika*, was an order or bill issued by the king, facilitating the transfer or debit of money directly from the state treasury (*rajakosha*). The second type was issued by private individuals or corporate entities, where funds were debited from their personal or organisational accounts. This classification indicates the dual role of *hundika* in both governmental and private financial transactions, demonstrating its importance as a medium of credit and exchange in early medieval and medieval India.

As far as *raja-hundi/hundikais* concerned, as it is mentioned earlier, this was a crucial financial instrument in the administration of state finances, facilitating the transfer of public funds (*kosha*) through royal authorization. Unlike private wealth, the resources within the *kosha* were not freely accessible, as they were controlled solely by the sovereign. This exclusivity of access added layers of complexity to state financial management. One significant function of the *raja-hundika* was salary disbursement, where the king disbursed payments to his subordinates either through direct monetary transfers or by issuing bills of exchange, thereby limiting their direct interference in land-related matters.

Historical evidence from Kalhana's *Rajatarangini* underscores the role of *hundika* in statecraft and economic transactions, Fig.4. The text illustrates how Kashmiri kings relied on *hundikas* to maintain their rule, often granting these financial instruments to the Tantrins - a powerful military class - in exchange for their loyalty (*Rajatarangini* V.265–275, 302; Stein 1900, 221–24). Here, the process of economic transactions began with the king, who issued a directive - referred to as a *hundika*- to the treasurer, authorising the release of funds from the royal treasury. The treasurer, acting as the financial custodian, then facilitated the transfer of money to the Tantrin, who was likely a military officer or an official responsible for executing royal commands. This system ensured proper salary disbursement and financial accountability, demonstrating an organised method of state expenditure. The use of the *hundika* as an official financial instrument indicates the presence of advanced economic administration and record-keeping practices, reinforcing the role of the monarchy in maintaining economic stability and rewarding state officials. The system, however, led to economic exploitation, as ministers and military officials amassed wealth by manipulating grain prices during periods of famine. The reliance on *hundika* became so pronounced that kings

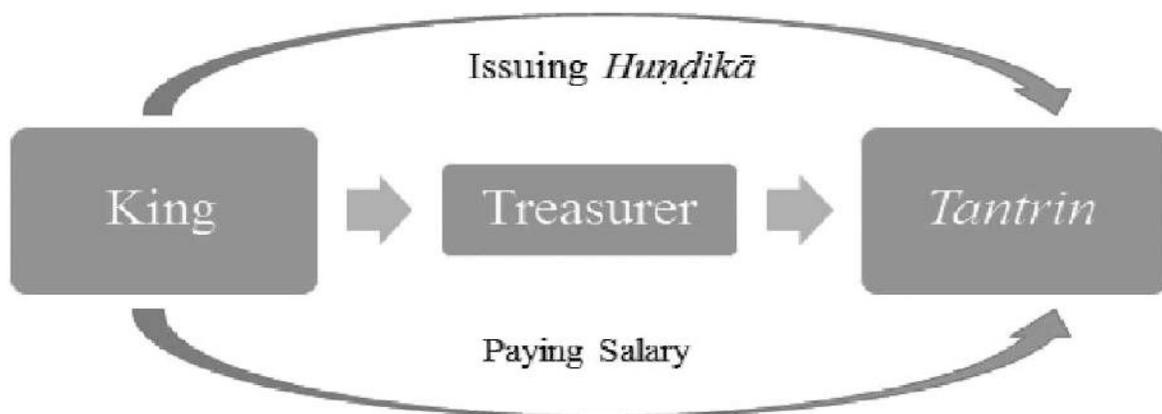


Diagram showing the Transfer of Money from Kośa by Royal Order

Fig.4: Transfer of money from *kosha* by royal order

appointed ministers based on their ability to raise funds through these financial instruments, even at the cost of exploiting the populace. The text further recounts how financial mismanagement and an inability to regulate *hundika* obligations eventually led to the downfall of rulers, compelling them to flee in fear. This evidence also highlights how *raja-hundikas* functioned not only as a fiscal tool but also as a means of political negotiation and control. While it facilitated governance, its misuse contributed to economic instability, demonstrating the intricate link between financial instruments and political authority in early medieval India.

The transfer of money from and to the *kosha* (the royal treasury) by royal order was a structured process, Fig.5, which also involved land transactions. As documented in early medieval Bengal's land transaction records, the king, as the supreme authority, played a pivotal role in initiating these transactions. However, the actual execution was mediated by the officials of *vishaya* (a territorial division), who acted as intermediaries between the state and its citizens. When a citizen purchased land, they paid the required amount in *dianaras* (a form of currency). Along with the proprietorship of the land, the right to collect revenue from it was also transferred to the purchaser (Mukherjee and Maity 1967, 46). The officials of *vishaya* played a crucial role in ensuring the proper transfer of ownership while also overseeing the transition of revenue collection rights. They facilitated the entire process, ensuring that the payment was made correctly and that the revenue rights were lawfully assigned to the new owner. Once the transaction was completed, the money collected from the sale was directed to the *kosha*, thereby strengthening the royal treasury.

Notably, *raja-hundika* or *hundika* is absent in this entire process. Instead, the royal charter served as the authoritative record of the king's orders regarding land sales and transactions, while local officials played a crucial role in executing these directives. The lands ordered for sale were state-owned properties, essentially constituting an extended part of the royal *kosha* in another form. Thus, selling land for money represented a conversion of landed assets into liquid capital. There are ample historical references to such land transactions through royal charters in the early medieval period, which included both land sales and land donations along with the transfer of the king's share of revenue. These transactions primarily involved the redistribution of royal possessions by the king's decree, either to specific groups or individuals.

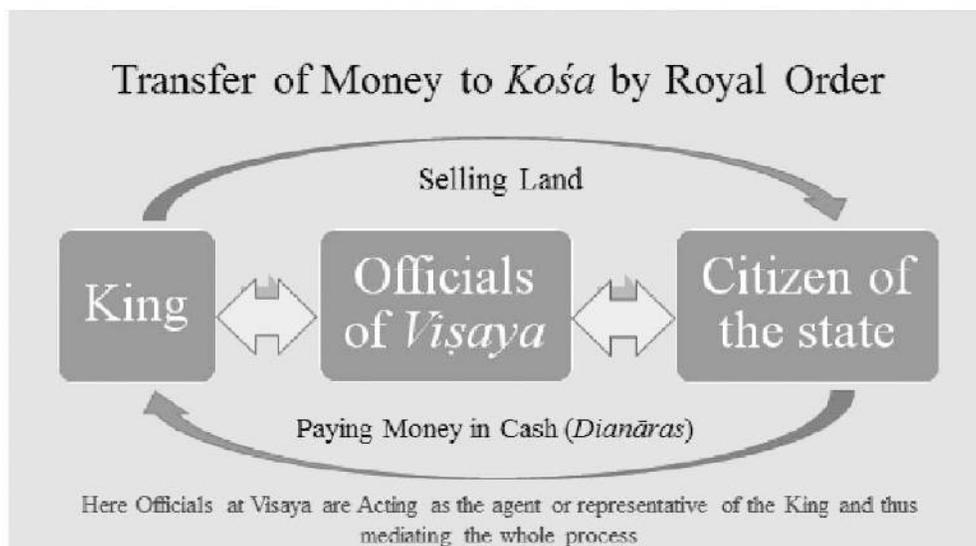


Fig.5: Process of money transfer with the *vishaya* as mediator/agent

The *Lekhapaddhati*, a thirteenth-century text that provides model documents for various legal and financial dealings such as mortgages, loans, and sale deeds, attests to the regular use of the bill of exchange (*hundika*). A specimen document from the *Lekhapaddhati*, dated to 1231 CE, explicitly refers to *raja-hundika*, or royal bills of exchange (Prasad 2001). In this document, a local administrator instructs his subordinates to facilitate the transfer of 3,000 *drammas* via *hundika* in favour of a Paramara ruler. While the historicity of the Paramara ruler and the specific transaction remains secondary, the key point is the recognition of a written financial document as a valid means of monetary transfer. This establishes *hundika* as an alternative mode of monetary transactions, functioning alongside minted coins. The system of *hundika* not only provided an alternative instrument to actual minted metallic pieces, but also it was accepted as a legal tender in the prevalent practices of credit without which commercial transactions would have been impossible to operate.

V.K. Jain argues that the prevalence of *hundika* in Gujarat facilitated extensive commercial exchanges without the need for handling substantial amounts of currency (Jain 1990, 200-201). This financial instrument provided merchants with a secure alternative to carrying coins made of precious metals or bullion. The continuity of banking and economic exchanges through institutional credit and deposit systems from the early medieval period is well-documented in literary and epigraphic records. As we extend our analysis to the medieval period, further evidence suggests that these financial mechanisms persisted. Notably, new financial instruments emerge in historical accounts, such as the *qabz* mentioned by Ziauddin Barani (fourteenth century) and the *itlaq* recorded by Shams Siraj 'Afif. Barani describes how Multanis and Sahus, the prominent bankers of Delhi, accumulated wealth by advancing loans to nobles, who repaid their debts with interest through drafts (*qabz*) drawn on the revenues from their assigned localities (Habib 2016, 78–79; Afif 1888–91, 296–97). During Firoz Shah's reign, financial investors profited by purchasing treasury-pay drafts (*itlaq*) at heavy discounts, as noted by Afif. Historian Irfan Habib observes that these drafts functioned much like bills of exchange (Habib 2016, 54), comparable to the *hundi* system. This evidence highlights the sophisticated financial practices of medieval India, demonstrating a well-established credit and exchange network. However, in the given historical context, *qabz* and *itlaq* were both financial instruments used in medieval India (especially in the fourteenth century), but they had distinct functions. *Qabz*, as described by Barani, were issued by nobles who had taken loans from bankers such as the Multanis and Sahus. These drafts acted as a repayment mechanism, allowing the bankers to recover their loans, with interest, from the revenue collected in the assigned localities of the nobles. Essentially, a *qabz* was a promissory note backed by future revenue collection, ensuring that the creditors (bankers) received their due payments. *Itlaq*, as reflected in the account of 'Afif, functioned differently during the reign of Firoz Shah. These were treasury-pay drafts that could be purchased at heavy discounts. Investors bought them at a lower price and redeemed them later for their full value from the treasury, making a profit in the process. Unlike *qabz*, which was tied to specific revenue collections, *itlaq* was more like a discounted government bond or treasury order, serving as a financial instrument for speculative investment. Thus, *qabz* was a draft issued by nobles to bankers, backed by localized revenue collections, primarily used for debt repayment whereas *itlaq* was a discounted treasury-pay draft used as a means of financial investment and profit-making. Both instruments reflect the advanced financial mechanisms of medieval India, resembling modern promissory notes and bills of exchange.

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Salt is an article or commodity which is essential for both humans and animals in their day-to-day lives. Since the earliest times, humans have been conscious of the necessity of salt in their daily lives. Wild animals instinctively search for salt pools or rock salt, i.e. 'saltlicks', often travelling great distances. Man, too, has gone great distances and undergone much hardship to secure a bountiful supply of salt. Thus, demand and supply of salt played and continues to play a vital role in any community, culture and civilization. Salt also acquired the status of money, like other commodity moneys, viz., spices, cowrie shells and so on. The present article focuses on the monetary value of salt and attempts to look at the demand and supply chain of salt in the Indian subcontinent.

In the Indian subcontinent, evidence of salt production can be traced back to the Harappan civilization (Sindhu-Saraswati). Salt would have played, if not a major role, at least a substantial role in the rise and growth of the oldest civilization in India. The Khewra and Khohat mines in the salt range are some of the largest mines located in this region. One is not sure if the salt mines of the Salt Range were being worked during this period or if the Harappans were dependent mostly on the supply of salt from the Gujarat coast. But Harappans were definitely not dependent on long-distance supplies of any basic raw material. Furthermore, the riverine network of this civilization was presumably the lifeline of the trade which took care of the movement of goods like grains, timber, textiles, salt, etc. Excavations at sites such as Lothal also reveal the presence of salt pans and tools used for salt extraction, indicating the significance of salt even in those times. Padri was another important salt production centre of this period.

According to the *Periplus of the Erythraean Sea*, the Rann of Kutch (Gulf of Eirinon) of the Gujarat coast, now a salt marsh, was a broad open arm of the sea, with the eastern branch of the Indus emptying into it (Schoff 1912, 166, 173–74). Silt brought down by the river and formed into great bars washed southward by the violent tides, has now closed the mouth of the Rann almost entirely. Reclus (*Asia III*, 142–45) says that the Rann was probably an open sea until about the fourth century, when a series of violent earthquakes elevated this whole region considerably. He reported ruins at Nagar Patkar, at the north-east corner, indicating a large sea-port trade where old harbor works are observed. The name Eirinon, Rinn or Rann, in fact, is from the Sanskrit *aranya* or *irina*, meaning a waste or swamp (Schoff 1912, 174). The conversion of a navigable bay into a salt desert, and the diversion of the rivers that water edit, must have spelled ruin and starvation to multitudes of its agricultural and seafaring inhabitants, who would have been forced to migrate on a scale in the later centuries.¹ The *Periplus* also mentions the *Malvan/Aurannoboas* (16° 3' N., 73° 28'E) which according to McCrindle is a contraction of *Maha-lavana*, meaning 'saltmarsh', the Greek *Aurannoboas* is perhaps intended for the Sanskrit *Aranya-vaha*, would have a similar meaning (Schoff 1912, 202). It is also a place of considerable importance as good iron ore was found in the neighbourhood. However, salt being a perishable item made it difficult to cite evidences in favour of this so-called salt trade.

Later, one notices that the Phoenician² traders from the Mediterranean established a regular commerce in salt. Salt from the great mines of India apparently was carried to the Mediterranean markets by camel caravans more than 2,000 years ago (Rose 1952, 315). Some of the caravan routes of today presumably can be traced to this so-called trade route. It cannot, however, be said whether the route followed was overland or by sea. Indian commodities were in high demand by all the commercial communities of these regions, especially among the Jews. In the thirty-seventh chapter of Genesis, there is a reference to an Ishmaelite³ from Gilead conducting a caravan of camels loaded with spices, balm and myrrh, which they were going to carry down to Egypt (Genesis 37:25). A passage in the Old Testament bears reference to the involvement of the Arabs merchants dealing in spices procured from India. Further, in 1 Kings chapter, the navy of Hiram⁴ brought gold from 'Ophir' along with plenty of almug trees and precious stones to the *darbar* of King Solomon (1 King 10:11). The almug trees was highly celebrated and appreciated by the king. The precious stones of King Hiram's cargo still lie in the hills to the west of Ajmer, rich in garnets, amethysts, chrysolites, and metals, as well as also in the hills of Gujarat, where agates, mocha stones and carnelians are found below the surface of the soil (Samaddar 1911, 904). The place referred to as Ophir must have been on the Malabar Coast, from where precious stones were periodically sent to King Solomon; in all probability, Indian navigators shipped the goods from the Indus to some part to the south of Bombay, whence they were fetched by the Arabs or Phoenicians (ibid). Even though there is no exact reference to salt trading in the Bible, one may infer from the above scenarios that the Arabs and Phoenicians were one of the earliest commercial agents between India and the Mediterranean, inspiring the two geographical regions to open up more and direct channels for their transport in the following centuries.

During the early historical period, Kautilya mentioned in the *Arthashastra* the superintendent of ocean mines, the *khanyadhyakshah*, should attend to the collection of conch-shells, diamonds, precious stones, pearls, corals, and salt (*kshara*), and also regulate commerce in the above commodities. Manufacture, supply and distribution of salt were undertaken by the central agencies while law and crime management departments would control the private production of salt (Basu Majumdar 2023, 66). It is mentioned in the *Arthashastra* that after the manufacturing process of salt, the superintendent of salt would, in time, collect both the money-rent (*prakraya*) and the quantity of the shares of salt due to the government; and by the sale of salt (thus collected as shares) he would release not only its value (*mulyam*) but also the premium of 5 percent (*vyajim*), both in cash (*rupa*). Taxes were imposed on both imported and domestically produced salt. Of imported salt, termed *agantulavanam*, one-sixth portion (*shadbhaga*) would be paid to the king. The sale of this portion (*bhaga-vibhaga*) would fetch the premia of 5 percent (*vyaji*), or 8 percent (*rupika*) in cash (*rupa*). The purchasers not only had to pay the toll (*shulka*) but also the compensation (*vaidharana*) equivalent to the loss entailed on the king's commerce. Of cloths (*vastra*), quadrupeds, bipeds, threads, cotton, scents, medicines, wood, bamboo, fibres (*valkala*), skins, claypots, grains, oils, sugar (*kshara*), liquor (*madya*) cooked rice, salt, and the like, the superintendent would receive 1/20th or 1/25th as toll. When minerals and other commodities were purchased from mines, a fine of 600 panas was also imposed. Adulteration of grains, oils, alkalis, scents, medicinal articles, and salts, with similar articles of no quality was punished with a fine of 12 *panas*. Men learned in the Vedas, persons engaged in penance, as well as labourers could take with them salt for food; salt and alkalis for purposes other than this were subject to tolls. Salt was also one of the valuable commodities stored (in the fort) in such quantities as could be enjoyed for years and in times of emergency.

Apart from this, salt was also used in the manufacturing process of gold and silver jewellery and ornaments, as mentioned in the *Arthashastra*. Pure and glittering gold, called *tapaniya*, combined with an equal quantity of lead, was heated with rock-salt (*saindhavika*) to melting point under dry cow-dung to form the basis of gold alloys of blue, red, white, yellow (*harita*), parrot and pigeon colours. Pure or impure silver (*tara*), after being heated several times with rock-salt was made to alloy with *suvarna*.

As far as forgery and forgers are concerned, Kautilya also makes an oblique reference to salt. In a passage in the *Arthashastra* where the act of false balances for cheating with weights are concerned (*tulavishama*), we get reference to terms like removal (*apasarana*), dropping (*visravana*), folding (*petaka*), and confounding (*pinka*) of gold mentioned, the use of salt for such activities or mal practice is attested. The goldsmiths adhered to such mal practices to deceive the masses. The texts further mentions that in an ornament or a coin (*sapari-bhandevarupe*), salt was mixed with hard sand (*katusarkara*) and heated on a flame to make it firmly adhere to the ornament or coin. The author mentions that this salt and sand could however be gotten rid of by boiling (*kvathana*).

According to *Arthashastra* salt was a monopoly of the state, but epigraphic evidences to non-digging for salt (*alonakhatakam*, i.e. *alavanakhadakam*) is profound in Satavahana records. This is a reference to exemption from digging the land by the state for manufacture of salt. Thus, this probably is a reference to salt raking in the coastal areas of the Satavahana territory from which the donor was given an exemption (Basu Majumdar 2023: 67). In the subsequent period or dynasties, salt continued to remain under State monopoly, and the government regulated its production and trade. This control allowed empires to generate revenue and maintain stability in the market.

In the later times one may also find evidence of Tibetan salt acquiring the status of money. Before delving into the issue of salt as money it is imperative to discuss briefly the availability and the types of salt in the Indian subcontinent. Basu Majumdar has discussed the manufacturing techniques and economic perspective of salt in early India. There were five techniques prevalent at the time, viz. rock salt from the Indus, salt from Sambhar Lake in Rajasthan, coastal salt, plant salt and black salt (Basu Majumdar 2023, 64–65). In the *Arthashastra* there is mention of the following types of *lavana* or salt, viz. *saindhava*, which is the product of Sindhu; *samudra*, produced from sea water; *bida*; *yavakshara*, *nitre*, and *sauvarchala*, which are the products of the country of Suvarchala; and *udbhedaja*, which is extracted from saline soil. The oldest Chinese treatise on pharmacology and pharmacognosy, *Peng Tzao-Kan-Mu* dates back possibly to around 2700 BCE describe twenty kinds of salt and twenty-seven additional kinds (Bass-Becking 1931, 435).

In China, salt has been listed as one of seven indispensable necessities of everyday human life other than fuel, rice, oil, sauce, vinegar, and tea. The salt monopoly in China was argued to have originated even before the establishment of the first imperial dynasty in 221 BCE (i.e. the Qin dynasty). The exact origin of the salt monopoly in ancient China is not entirely clear and the issue is still a matter of debate among contemporary researchers. It is believed that Emperor Yu of the Hsia dynasty, which flourished during 2200 BCE, levied the first salt tax in the province of Tsing Tau. While some argue that the monopoly can be traced back to as early as the Western Zhou period that flourished during the eighth-eleventh centuries BCE (Xu 2017, 518), others believe that the monopoly originated from the Spring and Autumn and the Warring States periods which flourished during the eighth-fifth centuries BCE and fifth–third centuries BCE, respectively (ibid.) Moreover, a majority of researchers opines that the monopoly was formally introduced and implemented in the

Western Han⁵ period (206 BCE - 9 CE). However, it is clear from the above that Chinese imperials are one of the earliest dynasties to impose the salt tax in ancient time. Ever since then, salt has been considered a vital necessity for survival and thus highly valuable for trade and taxation, providing the central authority, the provinces, the military feudal lords, the in-charge of trade and exchange routes, and the local political unit with a steady source of revenue.

Not only was salt was state monopoly and acted as the major source of revenue for imperials in ancient China, it was a vital component in the complex process of state formation during the first millennium BCE and also played an important role in the unification of China by the Qin dynasty in 221 BCE. For example, in Zhongba⁶ the specialized production of surplus of salt (and possibly salted products), and the trade of these commodities to other regions stimulated contacts between the upper and middle reaches of the Yangzi River (Flad et al. 2005,126–31). The so-called Three Gorges⁷ region remained a relatively peripheral area during the time, but the establishment of trade networks, based in large part on the exchange of surplus salt, brought some elite practices into the region and stimulated the emergence of social differentiation in the area. The elites in nearby polities, such as the Chus, engaged in gift-giving and related practices in attempts to create ever-larger networks of political influence. At the same time, salt from the Three Gorges facilitated the development of more complex economic systems in these same nearby polities by providing a resource that was unavailable elsewhere in the middle reaches of the Yangzi River drainage. Eventually, salt became crucial to the provisioning of armies by expansive states such as Qin and Chu, and the existing networks of salt exchange became catalysts to the incorporation of this area into a unified Chinese empire. Marco Polo also later observed the highly organized salt trade of China. He recorded that the major item of trade on the Yangzi River was salt, shipped upstream from the coast, especially from the city of Hangzhou to the interior cities.

Among the Romans, the salt trade was under State control from the earliest times. In the seventh century BCE, the Romans built a small and shallow pond across the river in Ostia that would hold sea water from the Tyrrhenian Sea. Pliny the Elder (the first century CE writer), mentioned that King Ancus Marcius gave a largess to the people of 6,000 bushels of salt and was the first to construct salt pools (Jones 1963, 433). The sea water was evaporated by the sun, leaving behind salt crystals. The *Via Salaria*, an ancient Roman road that connected Rome to the Adriatic Sea, was also built to transport salt to Rome and to the inside of the peninsula (Moore 1935, 351–52; Jones 1963, 433). The road was named after the Latin word for 'salt' since it was the route by which the Sabines, living nearer the Tyrrhenian Sea, came to fetch salt from the marshes at the mouth of the river Tiber. Livy reports that the Roman censors imposed a new tax in 204 BCE on the annual salt production (*salariaannona*). The price of salt was *sextans*,⁸ that is, one-sixth of a copper *as*, or one-sixtieth of a silver *denarius*. This price was the same throughout Italy but more in town squares and market places, and at other rates in other places. It was widely believed that just one of the two censors devised this tax (Moore 1935, 351–52).

In the later periods salt acquired a very important role among Romans: soldier's wages were paid in salt. In fact, the word 'salary' originates from special salt rations paid to early Roman soldiers, known as '*salarium argentums*' (Lewis and Short 1879, 1618; *Totius Latinitatis Lexicon* 1771, 15; *Encyclopedia Britannica* 1977, 193; Staff 1982). According to the Pliny, salt is also related to magistracies and duty abroad, and that is where we get the word "salaries" (Jones 1963, 433). In one biblical story, mentioned in the Old Testament (Genesis 19:1–29), salt symbolized a lack of fidelity.

The tale of Lot goes like this: when the two angels of the Lord command Lot, his wife and two daughters to flee the sinful city of Sodom without ever looking back, Lot's wife cast a fleeting glance backward (her faith was uncertain) and she was immediately transformed into a pillar of salt. Even though there are many instances that suggest a relation between the salary and salt allowance, no ancient source except Pliny has ever actually uses *salarium* to mean "salt allowance". However, without a doubt, salt must have been a vital part of the day-to-day life of Romans and was a significant strategic resource traded and exchanged widely across the globe.

Furthermore, in ancient Greece, salt was so valuable that the slave trade often involved the exchange of salt for a slave thus giving rise to the expression "not worth his salt" (Staff 1982; first attested in the 1830s).⁹ The nobles, the rulers, and the government needed salt to be available for their army and livestock, not simply to consume but also as a way of paying soldiers for their service, and it is said that a soldier's salary was cut if he was "not worth his salt". In the later period in the Mediterranean, Genoa and Venice were the two powers that not only traded in salt, but fought for supremacy over the trade across the thirteenth to sixteenth centuries (Warren 2015, 6–8). Genoa was positioned in the western Mediterranean and Venice at the head of the Adriatic. Each used its political and military strength to consolidate its local salt trade, and to encroach as far as possible on that of its rival. According to the historian S.A. Adshead, "for the Venetians, salt was not just a commodity, its monopoly is the true foundation of their state".

The Venetians had different methods for maintaining their trading monopoly and as late as 1590 the Venetian were imposing an 81 per cent mark-up on salt sold inland. A special State body called the *Collegio del Sal* was set up to supervise all the activities involving salt production and distribution. On the island of Pag, they would buy up all the salt that was not needed locally. It would then be shipped to Venice, warehoused and sold (at very high prices) to customers. At Muggia and Capodistria, the Venetians were given a fraction (about 10 per cent) of the salt produced (presumably as protection money), but the locals were allowed to sell the other 90 per cent only as long as it was carried overland, effectively limiting its value and the sales area. Typically, Venetian merchants bought salt for 1 ducat a ton, and it cost them about 3 ducats a ton to ship it to Venice. There they received a State subsidy of 8 ducats a ton. The State collected a tax as the salt left Venice, and after shipping to the customer the selling price was roughly 33 ducats a ton (Warren 2015).

Near the end of the 13th century, a tax on salt, called *gabelle*, was implemented. The tax was at its peak during the French Revolution. An obligation known as *sel de devoir*, translated to 'salt of duty', forced citizens above the age of 8 to buy an additional 7 kg of salt per year. By the time Louis XIV ruled the country, it was estimated that this particular tax produced the largest source of revenue for the State. Different regions of France were taxed at different rates, and some were not taxed at all.

Coming to the African continent, the discovery of the salt mines of Taudenni in the twelfth century, 500 miles north of Timbuktu,¹⁰ gave rise to a robust commodity trade that quickly paved a trail connecting Timbuktu with Europe, southern Africa, and Persia (Boissoneault 2015). Merchants in Timbuktu valued salt as highly as books and gold. Since its discovery in the sand dunes of the desert it was in high demand in West Africa. The salt slabs acquired from the mine Taudenni were loaded onto camel caravans headed south towards Timbuktu, travelling nearly two weeks. The salt was then passed to local merchants and distributed down river along the Niger to the river town of Mopti, which was the largest salt market in West Africa. The salt was cut into slabs of 110 cm x 45 cm x 5 cm that weighed 30 kg. Two of the high-quality layers were of sufficient thickness to be split in half, so that 5 slabs could be produced from the three layers. With the trade of Taudenni's prized salt

came the ability to move people, information, and ideas across the Sahara Desert. Subsequently, Timbuktu became a centre of great wealth and Islamic study.

In Ethiopia's Danakil Plains, the salt extracted from the salt flats was historically used as a form of currency, often referred to as 'white gold'. People would trade large blocks of salt mined by hand or transport it by camel caravans or mule, making it a valuable commodity in the region (Pankhurst 1962, 213–48). Salt being used in trade was probably first referred to by the Egyptian monk Cosmas Indicopleustes, who learnt of its use as early as 525 CE. Alvarez, a thousand years later in 1520, says that the mineral was used as money throughout the kingdom and under the dominions of the emperor. The Jesuit traveller Almeida, in the seventeenth century, reported that on the Dankali side of the borders of Tigre and Angot, salt blocks were cut into smaller bars of axe. Alvarez describes the pieces thus produced as a span and a half in length, four fingers in width and three in thickness. However, the bars of salt varied considerably in value from locality to locality in direct proportion to the distance from the mines. According to Alvarez, a dram of gold would buy 120 or 130 pieces where they were collected, 5 to 6 less at Corcoro market in Angot, and even less from market to market till, on reaching the court on the borders of Shoa, a mere 6 or 7 pieces could be brought for a dram and only 5 in the rainy season when it was difficult to preserve the salt from moisture (Pankhurst 1962, 213–48). According to Almeida, a dram of gold was worth 80 to 100 pieces of salt at the market nearest to the mines, 50 to 60 in Tigre, 25 to 30 in Dambea, and only 6 to 10 in Enarea when they were in good supply. All this shows that the salt was very cheap where it was obtained while in far-off regions it was said to be almost worth its weight in gold. Furthermore, when the salt bars were broken en route, they lost their value. Such variations were due to the fact that the salt had to be transported over long distances by donkey or mule on difficult mountain roads, often mere tracks, and across rivers during the rains, which were frequently impossible to ford. Also, the loads were subjected to heavy taxation en route. Alvarez reported meeting no fewer than 300 or 400 animals in herds on the roads of Massawa which was sent by the great lords. The animals were laden with salt on a journey each year to procure the wherewithal to pay their expenses at court. The salt caravans were, in fact, an almost permanent feature of the Ethiopian landscape.

In Kaindu (Tibet), as described by Marco Polo, there were tiny cakes of salt pressed with images of the Grand Khan and used as currency or money (Thomas 2004, 201). There were two forms of currency noted in this region: the greater money, which was a gold currency without any stamp of imperial; the second was salt money, called the 'small-money' (ibid.) Kaindu was blessed with abundant salt springs whose brine was boiled in pans to prepare salt cakes. When the salt water was boiled for an hour, it became a kind of paste, which was formed into cakes of the value of 2 pence each. These, which were flat on the lower side, and convex on the upper side, were placed upon hot tiles near a fire, in order to dry and harden. On this, the stamp of the Grand Khan was impressed; this could not be prepared by anyone other than his own officers. Eighty of the cakes were made to pass for a saggio of gold. But when these were carried by the traders amongst the inhabitants of the mountains and other parts little frequented, they obtained a saggio of gold for sixty, fifty, or even forty of the salt cakes.

In the medieval times in the region of Manipur, common salt, called *thum* (Singh and Basa 2013) in the Meitei dialect, produced locally in cake form, was highly valuable and used as a reward from kings for heroic deeds. All the salt wells were considered to be the property of the king and a tax of 1/5th was levied upon the quantity of water drawn from the salt well (Yumkhaibam 2024, 14–15). A

royal official called *Thumjaorungba* was hired to oversee the manufacturing and distribution of salt. Here, the salt was produced not just for the consumption of the inhabitants of the valley, but to be made an article of exchange with the surrounding tribes, who bartered for it with their tobacco, ginger, clothes and cotton. *Loiyam Shinyam*, a 12th-century CE text, outlines how rewards were distributed for capturing a tiger. Among ten hunters, three would receive rewards (Singh and Basa 2013, 4):

- a) The first would receive a parcel of paddy field and *thumnamma* (salt cake) which was equivalent to one hundred plates of common salt.
- b) The second hunter would receive cloth and salt.
- c) The third would receive a portion of salt and cloth.

One may assess from the above statement that the salt was an exclusive and highly coveted item in Manipur and this is because Manipur lies far away from the zone of production of salt; thus, its non-availability and rarity along with its demand as a day-to-day commodity of usages made it exclusive or high priced.

Though this evidence comes from Manipur, this phenomenon was not limited to the state alone; rather, similar conditions would have prevailed across North-east India. The non-availability of salt in this region led the people there to produce kind of plant potash, otherwise known as *audvidhalavana* in texts. Such a salt was produced in Arunachal Pradesh by the Apatanis. There are several researches on this type of salt; the present author has also attempted an ethno-archaeological study of the production of the same.

As far as the main source of supply was concerned, the salt pans of south-eastern Tibet and the lakes of the northern plateau were the main source of salt for the 'Extended Eastern Himalayas'¹¹ and north India in the pre-modern period (Lazcano 2022, 70–103). The salt from South-eastern Tibet reached these regions after passing through several hands, increasing the final price of the salt. The extreme scarcity of salt in these regions possibly made this product the most valuable commodity for trade. Vegetables, sugar, barley, corn and wheat were exchanged for salt. On the other hand, in many parts of Tibet, especially in the eastern and south-eastern regions, there were no conditions for cereal cultivation, so the only way to obtain cereals was through exchange of salt. Salt from the lakes was transported along with other livestock products loaded on yaks, sheep or camels to the agricultural areas, where it was exchanged for the coveted grain. Diverse people from all corners of the southern fringe of Tibet appeared at these trade fairs, exchanging merchandise, ideas, news, dialects, religious forms, and ways of life.

In Tibet, the Drokpas and Bhotias were the two groups responsible for the exchange of goods at the border passes.¹² The salt tax was paid at Ruthok or Purang on the routes to Ladakh, Kinnaur or Humla (North India), or along the banks of the Yarlung Tsangpo (Brahmaputra in India). Salt tax-collecting officials (*tsasho*) were stationed at the ferry crossing and collected tax from groups who would necessarily have to cross the river to reach the Himalayan buttresses. Tibetan texts mention contacts between Tibetans and the tribes of Arunachal Pradesh along the northern border of present-day Arunachal Pradesh from the beginning of the fifteenth century. In Arunachal Pradesh, Tibetan salt reached the Mishmi Hills (the eastern strip of the state) and this was consumed by almost all the tribes. In the Mishmi Hills, Tibetan and Chinese traders and small groups of Mishmis crossed the passes of the Upper Dibang basin or the border of the Lohit River, exchanging salt, Tibetan swords, coarse woolen cloaks, copper pots for the famous medicinal plant *mishmee-teeta*, musk, bear skins and other jungle products (Lazcano 2022, 74).

The villages of southern Tibet were also an obligatory crossing point in the 'Ancient Tea Horse Road' (7th century CE). Thus, the circulation of commodities on the trade network of China, Yunnan, Tibet and the Himalayan borders can at least be dated back to the seventh–eighth centuries CE and even further. The Ancient Tea Horse Road, as described by Gary Sigley, was an important conduit for commercial activity, including tea, salt, medicinal products, and luxury goods and cultural exchange, especially between Tibet and south-west China. It was another important entry point for Buddhism into China in addition to the more well-known Silk Road. All these activities on the crossroads of Tibet, south-China and eastern India suggests that till very recent times, salt played a valuable role as a medium of exchange for several other products.

Notes

- 1 The 'Great Migration' from the Rann of Kutch to Java in the sixth and seventh centuries CE.
- 2 Phoenicians were a prominent civilization along the eastern Mediterranean coast, primarily remembered as adept sailors and cunning merchants, emigrated between 3000 and 2500 BCE, from the shores of the Persian Gulf to the narrow Mediterranean coast of Syria.
- 3 Ishmaelites were a descendant of Ishmael, the son of Abraham and Hagar, and are often associated with the Arab peoples and the desert regions of the Arabian Peninsula
- 4 Navy of Hiram' refers to the fleet of ships belonging to Hiram, King of Tyre (modern-day Lebanon), who was a Phoenician ruler and an ally of the Israelite kings David and Solomon.
- 5 Han Dynasty time period: 206 BCE–220 CE (Western Han: 206 BCE–9 CE; Eastern Han: 25 CE–220 CE)
- 6 Zhongba was the ancient salt-production site in south-western China—an erstwhile part of the Tibet Autonomous Region.
- 7 The Three Gorges are three adjacent and sequential [gorges](#) along the middle reaches of the [Yangtze River](#) path of China, comprising the [Qutang](#), the [Wu](#), and the [Xiling](#) gorges. They span 193 miles, beginning at [Baidi City](#) of [Chongqing](#) in the west and ending at Nanjing Pass, at [Yichang City](#), [Hubei Province](#), in the east. Between these are the Fengjie and [Wu Mountains](#) of Chongqing, as well as Badong, Zigui, and Yichang of Hubei Province.
- 8 A *sextans* was one-ninety-sixth of a *denarius*.
- 9 [Etymonline.com](#), a proper historical source needs to be corroborated to prove the phrase 'worth his salt'.
- 10 Timbuktu is considered a gateway to the Sahara Desert, and key location for the exchange of goods connecting North African salt mines with the gold-rich regions of West Africa.
- 11 'Extended Eastern Himalayas', the term was coined by Stuart Blackburn and Toni Huber, includes Sikkim and Bhutan, present-day Arunachal Pradesh, the Burmese region of Hkakabo Razi, north-western Yunnan province, and the strip of Tibetan territory contiguous to the north of all of them.
- 12 Bhotias are culturally and linguistically Tibetan groups living on the Indian, Nepalese or Bhutanese side of the border. They have historically acted as intermediaries with the peoples further south, and it was they who brought the salt to Kashmir and the Himalayan midlands.

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Coin collecting, often referred to as the 'hobby of kings,' is one of the oldest and most enduring pastimes in human history, tracing its roots back to the Italian Renaissance. Historical accounts, such as those of Suetonius, describe Emperor Augustus's fascination with antique coins, which he often gifted to his close associates. Archaeological evidence further reveals that the practice of collecting coins dates back to the Roman era when coins were valued more as jewellery and decorative art than as currency. During the fourth or third century BCE, this passion inspired artists to create replicas of ancient coins, which also led to the emergence of forgeries. By the 17th century, numismatics transitioned from a hobby reserved for royalty into a structured academic discipline. By the eighteenth century, it had gained recognition as a scientific field. The nineteenth century marked a dramatic increase in private coin collectors, extending this pursuit beyond royalty to middle-class merchants and professionals. Societies dedicated to coin collecting emerged in Britain, Europe, and the United States, offering memberships and publishing periodicals. By the twentieth century, local entrepreneurs further popularized coin collection, spurring widespread archaeological excavations and broadening public engagement (Britannica 2024).

In India, the history of coinage extends back to the sixth century BCE, following a barter system. The development of coin collecting in the Indian context, however, remains debated. Some argue it predated foreign influence, while others suggest it was an indigenous phenomenon. Systematic numismatic studies began with the establishment of the Asiatic Society of Bengal in 1784 and gained momentum with the formation of the Numismatic Society of India in 1910. The society achieved a milestone in 1957 with a permanent building at Banaras Hindu University, fostering systematic research and collection (Numismatic Society of India 2024).

Museums and Coin Displays

Coins have been revered as valuable antiques since the early-19th century, leading museums worldwide to engage in a spirited competition to acquire the most exquisite specimens for their collections. In this era, coin selection criteria often revolved around factors such as metal type (gold, silver, or copper), the craftsmanship of portraiture, and the coins' historical and economic significance. These tiny yet impactful artefacts have always been central to museum collections, serving as windows into the socio-economic, political, and cultural aspects of past civilizations. However, despite their importance, the display of coins in museums was historically limited to a few showcases, usually three–four at most. Several factors contributed to this restricted approach:

1. *Specialized Subject Matter:* Coins were traditionally viewed as a niche interest, primarily appealing to numismatists and scholars. This perception often deterred museums from dedicating significant space or resources to coin exhibitions.
2. *Security Concerns:* Due to their small size and high value, coins posed logistical challenges for secure display, often leading to conservative exhibition practices.

These limitations resulted in coin collections being underrepresented in galleries, despite forming a significant part of museum holdings.

The Changing Scenario

In recent years, the landscape of coin galleries in museums has undergone a remarkable transformation. Coins, once perceived as objects of limited public appeal, have become central attractions, drawing in diverse audiences, including children and families. This shift can be attributed to evolving curatorial practices, technological advancements, and a deeper appreciation of coins' educational value. Modern coin galleries now emphasize engaging and accessible displays. Key innovations include:

- *Chronological Arrangements:* Coins are often presented in a timeline format, tracing their historical development and highlighting key periods in history. This approach allows visitors to connect coinage with broader historical narratives.
- *Periodical Distribution:* By grouping coins into distinct historical eras or dynasties, museums provide context and make the displays more relatable to visitors unfamiliar with numismatics.
- *Interactive Technologies:* Incorporating touch screens, magnified digital images, and multimedia aids has made it easier for visitors to explore the intricate details and stories behind the coins.

Coin galleries have become some of the most frequented areas in museums, with children finding the exhibits particularly intriguing due to their visual appeal, historical significance, and opportunities for interaction (Bhatia 1990).



Fig.1: Coin gallery, Indian Museum, Kolkata. Courtesy: Indian Museum, Kolkata

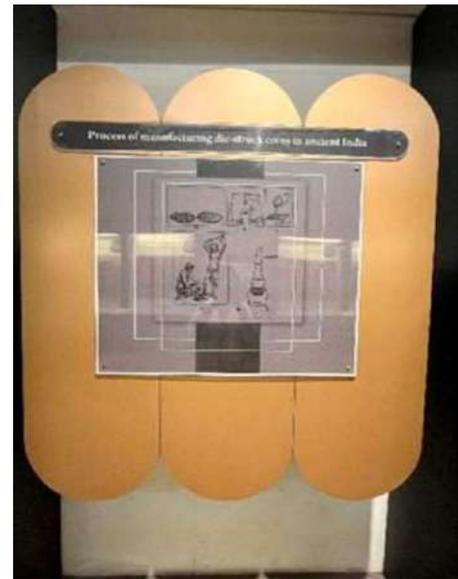


Fig.2: Diagram, Coin gallery, Indian Museum Kolkata. Courtesy: Indian Museum, Kolkata

Coin Displays in Indian Museums

Indian Museum, Kolkata : The museum boasts a remarkable collection of coins from various regions of South Asia, offering visitors an immersive journey through the history of numismatics. The gallery is thoughtfully designed with wall-mounted showcases with a slanted base, which allows the coins to be positioned horizontally for optimal visibility. Track lighting ensures focused illumination, enhancing the intricate details of inscriptions, symbols, and busts without creating

glare. Enlarged photographs of select coins on graphic panels provide a closer look at significant features, accompanied by well-explained diagrams of medieval coin manufacturing techniques. This visually engaging layout, combined with historical insights, captures the artistic and cultural essence of the coinage on display, Fig.2.

Arranged in chronological order, the collection begins with ancient Punch-Marked Coins and progresses through the evolution of South Asia's monetary systems, offering a narrative of the region's economic and artistic developments. Educational components such as detailed diagrams of minting techniques add depth to the exhibit, making it engaging for both casual visitors



Fig.4: Coin display at table-top showcase Bihar Museum. Courtesy: Bihar Museum, Patna

and researchers, Fig.1. The gallery successfully blends traditional artefacts with modern interpretative tools, creating an informative and accessible space that highlights the significance of coins as artefacts of history and culture.



Fig.3: Coin display in wall showcase Bihar Museum. Courtesy: Bihar Museum, Patna

Bihar Museum, Patna : The museum houses a diverse and captivating coin collection, beginning with ancient punch-marked coins and spanning various historical periods. The museum employs innovative display techniques to enhance visitor engagement and provide a deeper understanding of the coins. For example, some coins are displayed in table-top showcases with mirror bases, allowing visitors to view the reverse side of the coins through their reflection, Fig.4.

This unique approach enhances the visual appeal and encourages visitors to explore the intricate details on both sides of the coins. Additionally, steel coin holders highlight coins on the wall, ensuring that each piece is visible and easily appreciated, Fig.3.

In addition to traditional display methods, the gallery also features interactive touch-screen panels, where visitors can digitally create their coins, Fig.5. This hands-on experience adds a playful yet educational dimension to the exhibition, allowing visitors to learn about coin design and history in a fun and interactive way. These innovative elements make the Bihar Museum's coin gallery an engaging and informative space, blending traditional numismatics with modern technology to captivate a wide range of audiences.



Fig.5: Touch screen panel, Bihar Museum Courtesy: Bihar Museum, Patna



Fig.6: Wall-mounted showcase, Money gallery CSMVS. Courtesy: CSMVS, Mumbai



Fig.7: Individual showcases, Money Gallery CSMVS. Courtesy: CSMVS, Mumbai

The Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS), Mumbai : The gallery features a sophisticated display system that enhances the visibility and appreciation of the coins. One of the key elements is the wall-mounted showcases, where coins are securely fixed horizontally, allowing visitors to view them in a clear, accessible manner, Fig.6. These displays are designed to maximize space and showcase a wide array of coins in an organized and visually appealing way.

In addition to the wall-mounted displays, the gallery also uses individual showcases for select coins. These coins are held in steel rod holders, with focused lighting directed at each piece to highlight their intricate details and craftsmanship, Fig.7. The gallery utilizes pillar showcases not only to divert the visitor's route but also to display objects related to earlier forms of trade, such as grains and items used in the barter system. This innovative approach highlights the evolution of trade and monetary systems, offering visitors a broader context of the coinage journey.

To further engage visitors, the gallery includes a punching machine where visitors can create replicas of punch-marked coins for a small fee of Rs.10, providing a hands-on experience that deepens their connection to the history of coinage, Fig.8. Another notable feature is the flip-flop



Fig.8: Punching machine for coin replica Money gallery, CSMVS Courtesy: CSMVS, Mumbai



Fig.9: Flip-Flop panel, Money Gallery, CSMVS. Courtesy: CSMVS, Mumbai

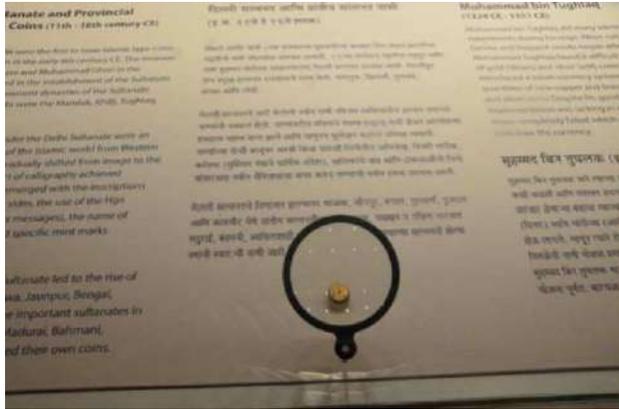


Fig.10: Magnifying glass, Money Gallery, CSMVS
 Courtesy: CSMVS, Mumbai



Fig.11: Peep-hole technique, Money Gallery, CSMVS
 Courtesy: CSMVS, Mumbai

panel, which displays an image on one side and the corresponding description on the other, offering a more interactive learning experience. For closer inspection, magnifying glasses are provided next to certain coins, allowing visitors to examine intricate details comfortably, Figs.9 & 10. Another unique feature is the pinhole bioscope model, where visitors can look through a small hole to view a documentary on the history of coins in India, Fig. 11.

This engaging presentation adds a dynamic, almost cinematic element to the gallery, allowing visitors to enjoy a compact, informative film in a fun, interactive way.

Bharat Kala Bhavan, Banaras Hindu University, Varanasi : The display progresses seamlessly from punch-marked coins of the early Mahajanapadas to the captivating Indo-Greek, Kushana, and Gupta period coins. It continues through the early medieval period and showcases the grandeur of Sultanate and Mughal coins, with a special emphasis on the intricate Zodiac coins issued during the reign of Jahangir. The collection then extends to the coins of the Princely States and the British era, culminating with the currencies released by the Government of India at the time of Independence.

To enhance the viewing experience, the gallery utilizes small fixtures to elegantly mount the coins on wooden boards, with a non-reactive fabric ensuring separation, Fig.12. The coins are securely displayed in wall showcases equipped with built-in lighting to highlight their beauty. The background of the showcases features a thoughtfully selected muted cream-yellow fabric that complements the coins perfectly. Additionally, large replicas of select gold coins are included to showcase their exquisite designs and intricate details, creating a truly engaging narrative of India's rich numismatic history, Fig. 13.

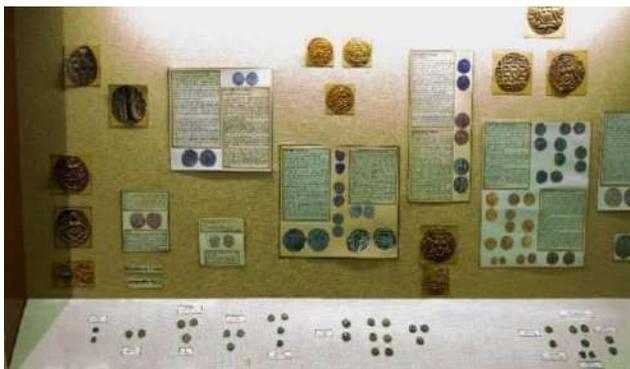


Fig.12: Wall showcase, Bharat Kala Bhavan
 Courtesy: Bharat Kala Bhavan, BHU



Fig.13: Display through graphic, Bharat Kala Bhavan
 Courtesy: Bharat Kala Bhavan, BHU

Changing Dynamics of Display

In the modern museum landscape, interactive technologies have become indispensable tools for enhancing the display and interpretation of artefacts, including coins. These advancements have transformed coin galleries from static spaces into dynamic and engaging environments, offering visitors richer and more personalized experiences.

From Information Kiosks to Advanced Digital Systems

Traditional information kiosks, once the standard for providing supplementary details about exhibits, have been replaced by state-of-the-art digital systems. Touch screen displays now dominate the scene, offering intuitive and visually appealing interfaces that cater to a broad range of visitors. One significant application of these systems is interactive maps, where visitors can trace the origins of coins. By simply tapping on a region, they can explore its historical and cultural significance, creating a geographical context for the coins on display.

Personalized Virtual Coins

One of the most innovative features in modern coin galleries is the ability to design personalized virtual coins. Visitors can interact with a digital screen to create their own coin designs, selecting elements such as symbols, inscriptions, and iconography. This not only provides a fun and interactive experience but also deepens visitors' understanding of the design choices made in historical coinage and their cultural meanings.

Multilingual Information Access

To cater to diverse audiences, these systems often support multiple languages, ensuring that information is accessible to all visitors, regardless of linguistic background. This inclusivity is particularly important in coin galleries, where international tourists and local visitors alike may have varying levels of familiarity with the subject matter.

High-Resolution Imaging for Deeper Study

Coins, by their nature, are small and intricate objects, often challenging to examine in detail. Interactive displays equipped with high-resolution imaging allow visitors to zoom in on specific areas of a coin, revealing minute details such as inscriptions, portraits, and decorative patterns. This capability is especially valuable for studying iconography and understanding the craftsmanship of ancient coin makers. Such imaging also supports numismatic research by providing a detailed digital representation of coins that can be analyzed without handling the physical artefacts.

Space Optimization in Galleries

Digital screens and touch-based systems offer another practical advantage—space-saving designs. Coin galleries often face limitations in physical space, as coins require secure and compact display cases. By using digital screens to present supplementary information, galleries can minimize the need for extensive labels and panels, creating a cleaner, more spacious layout. This approach allows curators to display additional artefacts or provide open areas for visitors to move comfortably.

Immersive and Engaging Learning Experiences

Interactive technologies provide a multisensory experience that enhances engagement. For example, digital stations could include audio guides synchronized with the images of coins, offering narrated stories about their history and significance. Similarly, augmented reality (AR) features can project a 3D model of a coin, allowing visitors to rotate and examine it from all angles. Such experiences cater to different learning styles, making the gallery appealing to a broader audience, including children, students, and casual visitors.

The Future of Coin Galleries

As museums continue to embrace these technologies, the potential for innovation in coin displays grows. Future developments might include virtual reality (VR) experiences, where visitors can immerse themselves in ancient marketplaces to see coins in their original contexts, or AI-powered tools that allow real-time translation and detailed iconographic analysis. These advancements not only elevate the visitor experience but also align museums with the expectations of a digitally connected world (Grammenos n.d.).

By integrating interactive technologies, coin galleries can fulfill their dual mission of education and entertainment while preserving the historical essence of the artefacts. This approach ensures that coins are not just displayed but actively brought to life, fostering deeper connections between visitors and the stories these objects tell.

Conclusion

By comparing the coin displays across various museums, it is evident that the displays at CSMVS and Bihar Museum are particularly engaging and participatory. These museums have embraced interactive and immersive methods that go beyond traditional exhibit formats, making the experience more accessible and enjoyable for visitors. The inclusion of features such as punching machines to create replicas of ancient coins or touch screens for virtual coin-making allows visitors to actively participate, which fosters a deeper connection to the history and significance of the coins. These engaging methods highlight the need for museums to focus on creating interactive displays, which not only raise awareness but also offer tangible takeaways. Replicas, which visitors can keep as tokens of memory, are an excellent way to leave a lasting impression and encourage further interest in numismatics. Additionally, coin-related products such as coin envelopes and replicas should be emphasized in museum gift shops to provide visitors with souvenirs that complement the educational experience.

To enhance the educational value and accessibility of coin collections, museums should incorporate coins into their gallery displays using innovative, cost-effective methods. Displays must be well-lit, and each exhibit should be accompanied by clear and accessible captions to ensure that visitors can easily engage with the content. Furthermore, museums should actively raise funds to acquire locally discovered coins of historical importance and include them in handling collections for interactive learning purposes. Providing public access to collections, even those not on display, for study or general interest is essential for fostering greater understanding and research. Gift shops should also offer coin-themed products related to the gallery content to spark visitor curiosity and

encourage the appreciation of numismatics. Additionally, organizing outreach programs or lectures on coins can engage the public and generate revenue for the museum. To support further research and learning, coin collections should be electronically catalogued and made freely accessible online. The establishment of specialized museums, such as the RBI Museums in Kolkata and Mumbai, is a positive step towards elevating the study and appreciation of coins in India, offering focused attention to numismatics and contributing significantly to the development of the field.

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Silver Coin of Islam Shah Suri, Jnana Pravaha Museum, Varanasi

Obverse: *'Islam Shah bin Sher Shah Sultan Khallada mulkahu'* in Square/*'Shri Islem Shahi'* in Nagari below the square/ AH 953

Reverse: The Qalima shahada within the center and name of the four pious Khalifas.