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Dear ONS members,

I write these words to you from Warsaw, Poland, as the International Numismatic Congress winds down on its last day. It is a rare time to meet colleagues and friends from all over the world and to forge new ties with scholars working on similar topics or sharing some common interests. Also, of course, it is a time to hear about new research in many different fields of numismatics. I personally feel very inspired to move forward on our Society's project to construct an oriental coins database, having heard what strides are being made in the building of online databases for many other types of coinage.

Traditionally, the congress is also marked by the release of a publication, the *Survey of Numismatic Research*, which offers overviews of the numismatic research findings for the last six (this time, seven) years. In the past this has been a printed publication. This year, however, while a paper version is still available, the *Survey* is being offered as a free downloadable PDF at https://www.inc-cin.org/survey.html. I count at least 14 chapters of relevance to our members; be sure to check it out.

The sessions on oriental coins were of course of prime interest at the congress. Below is a complete list of the papers relevant to our members. They are listed in the order in which they appeared on the congress schedule so that presentations on similar topics are listed together.

As you can see, it was a rich and varied selection of presentations, making for a very interesting five days. A highlight of the congress was the informal ONS reception held at the National Museum and organized by the head of the coin department there, Andrzej Romanowski, with the assistance of member Emilia Smagur. About 30 people (including a few prospective new members!) gathered to chat and socialize over snacks and drinks. Our thanks to Andrzej and Emilia for their hospitality.

Finally, mark your calendars! The next congress will be held in Frankfurt, Germany, in September 2027.

With warm regards,

Pankaj Tandon

Papers presented at INC 2022 Warsaw

Razieh Taasob Parthian occupation in Syria: numismatic evidence from Antioch and Apamea

Patrick Pasmans The coinage of the kings Attambelos IV and V of Characene (AD 54/5–73/4)

Julien Olivier, Maryse Blet-Lemarquand and Simon Glenn Graeco-Bactrian gold: Metal analysis of the coins of the Bibliothèque nationale de France using LA-ICP-MS

Michał Maliczowski The Buyids and the end of the influx of Islamic Dirhams into tenth century eastern Europe

Eugen Nicolae and Marius Blaskó The Ottoman campaign of 1595 in Wallachia: numismatic evidence

Juliette Francoise Money plurality in the early modern colonial context: The Mascarene Islands' case (Indian Ocean)

Arturo Annucci Authorities on the Islamic coinage of the eastern Iranian territories (eighth–eleventh centuries)

Lutz Ilisch Mine, residence, or home: the meaning of *ma'din amîr al-mu'minîn* on Umayyad coins

Carolina Doménech-Belda Sicily and al-Andalus: trade relationships and monetary circulation in the eleventh century

Warren Schultz Once more into the Broach: the Mamluk coins from Codrington, JBBRAS, 1881–2

Gunnar Dumke and Simon Glenn Oxus–Indus: a new typology for Graeco-Bactrian and Indo-Greek coins

Karin Pallaver East African societies, colonialism and the materiality of money

Dmytro Yanov The collection of silver oriental coins stored in the Odessa Archaeological Museum

Ehsan Shavarebi Monetary circulation in the Indo-Iranian borderlands: coin finds from archaeological excavations at barikot

Karan Singh The coinage of Pratishthana, a city state in ancient Punjab

Pankaj Tandon Metal analysis of Gupta gold coins

Anran Mao and Chi Xu Silk Road imitations of Byzantine and Sasanian coins: evidence from Shoroon Bumbagar in Mongolia

Lyce Jankowski Chinese silver ingots found in a tenth century shipwreck

Sutapa Sinha Turkish sultans of Bengal and Seljuk sultans of Rum: movement of motifs, legend, calligraphy on coins

Aram Vardanyan Numismatic evidence for a brief restoration of royal power in Armenia in the fifteenth century: a preliminary note

Joe Cribb Kushan coins in Xinjiang Province, China

Helen Wang Chinese coins in eastern Central Asia from the Han to the Tang dynasties

Gul Rahim Khan Ancient coin profile of Dharmarajika, Taxila (Pakistan)

Emilia Smagur and Andrzej Romanowski The circulation of coins in the North Konkan coast: Sopara case study

Shailendra Bhandare Networks and exchange: money movements across the Indian Ocean

Paula Turner Roman coins from India: review of the evidence since 1989

Brigitte Borel Movement of Roman coins into Southeast Asia: what does it mean?

Emily Pearce Seigerman Yaki-naoshi (焼き直し): How a nineteenth-century craze for East Asian arts propelled imitation Tokugawa coinage into numismatic collections worldwide

Dorota Malarczyk The inflow of Islamic coins on the Lesser Poland territories in the early Middle Ages

Stepan Stepanenko Paths and diversions: examining economic networks outside of Kyivan reach in the tenth century.

Viacheslav Kuleshov The earliest Russian coinage? Two groups of imitative dirhams from the late ninth to the mid-tenth century

Marek Jankowiak Towards a catalogue of early medieval dirham imitations

Hisashi Tagaki Shin'ichi Sakuraki Daishi Chieda: The coinage and paper currency of medieval and early modern Japan

Shin'ichi Sakuraki Japanese coins in the National Museum of Denmark

Hisashi Takagi Rethinking the definition of Bita, a subcategory of bronze coinage in sixteenth-century Japan

Daishi Chieda Yamada Hagaki（山田羽書): an investigation of Japan's oldest private paper currency

Yasushi Koga Competition of paper monies: a case of Japanese early modern local economy

Duoduo Zhang Graffiti in Chinese currency: images, texts, contexts

In addition there were panels on the Sylloge Nummorum Parthicorum Project (SNP) (*Michael Alram, Vesta Curtis, Chris Hopkins, Alexandra Magub, Fabrizio Sinisi*), Georgian numismatics (*Tedo Dundua, Natia Piphia, Leri Tavadze, Evgeni Tchanishvili*) and La numismatique antique et médiévale du Maghreb: état des lieux, enjeux actuels (*Laurent Callegarin, Jérémy Artru, Abdelhamid Fenina, Vivien Prigent, Ruth Pliego, Amel Soltani, Suzanne Frey-Kupper*)

A Brief Note on Two Newly Discovered Denominations of Eucratides I Megas: Tridrachms and Pentadrachms

Chenyu (David) Zeng

The most important monarch of the kingdom of Bactria, Eucratides I Megas, brought it to its peak. But it was also his militarism that caused it to decline. His reign was the turning point of the kingdom, during which a wide range of gold, silver and copper coins, including 20-stater gold coins weighing more than 160 grams, which were the largest gold coins in the ancient world, were issued. The other coins issued by the king were those of more regular currency units commonly used in ancient Greece, such as tetradrachms, drachms, hemidrachms and obols.[1] The coins of Eucratides I were the most important series of coins in the kingdom of Bactria.

At the end of 2019, a large hoard of coins buried at the end of the second century BCE was discovered in Kunduz province, Afghanistan. The hoard yielded about 1,200 Bactrian coins, as well as a small number of coins of Alexander the Great and the Seleucid Empire. Most of the coins are of Eucratides I, Heliocles I and Eucratides II, and there were also coins on the Attic standard issued by kings in the late period of the Bactrian and Indo-Greek kingdom, such as Plato, Menander I, Philoxenus, Lysias, Antialcidas, Zolius I, and some new material which have never been found before. This suggests that the hoard was buried around the 100 BCE.[2] This hoard is very similar to the Kunduz hoard found in 1946 in the types of coins unearthed. The hoard unearthed this time has a richer variety of coins and is one of the most important hoards of ancient Greek coins found in the twenty-first century. Many previously unknown original coins and rarely seen coins were discovered in the hoard. Perhaps the most important coins found among them were one tridrachm and four pentadrachms of Eucratides. The pentadrachm is a denomination that has never appeared before in the Bactrian series. One tridrachm had appeared in a CNG eAuction in 2017 but it was mistakenly recorded as a tetradrachm.[3] Both of those two denominations have never been seen in Western numismatic records, so there is no systematic study. Special attention should be paid to these new discoveries.

According to Osmund Bopearachchi's arrangement, the coins of Eucratides I mainly fall into 25 series. The above mentioned tridrachm and pentadrachm belong to Series 1. On the obverse is a bust of a diademed Eucratides, wearing an abolla or cloak, and on the reverse are the Dioscuri, Castor and Polydeuces from Greek mythology depicted as knights on horseback with spears and palm leaves in their hands. The inscription is a two-row horizontal one line inscription of ΒΑΣΙΛΕΩΣ above the figures and ΕΥΚΡΑΤΙΔΟΥ below. The four pentadrachms weighing around 21.50 grams are engraved with three monograms    (figures 1, 2, 3 and 4). The tridrachm weighs about 12.48 grams with the monogram (figures 5 and 6). The monograms of all the four pentadrachms and the tridrachm belong to the known monogram series, and their carving style of bust is very close to other examples with those marks. In addition to the conventional inscription, the reverse of the coin is engraved with the letter E on the pentadrachms and Γ on the tridrachm. The die axes of all the coins are at 12, which corresponds with other official coins of Eucratides, indicating that those coins were also minted officially rather than as imitations.

Figure 1 Pentadrachm of Eucratides I with the monogram  *21.53 g, 36–40 mm, die axis 12h*

Figure 2 Pentadrachm of Eucratides I with the monogram *21.55 g, 37–39 mm, die axis 12h*

Figure 3 Pentadrachm of Eucratides I with the monogram *21.10 g, 37–38 mm, die axis 12h*

Figure 4 Pentadrachm of Eucratides I with the monogram *(22. 30 g with the original patina and deposit, 38–39 mm, die axis die axis 12h)*

Figure 5 Tridrachm of Eucratides I with the monogram *12.48 g, 28-31 mm, die axis 12h*

1 Bopearachchi 1991, 66–72.

2 It is hoped that further details will be published in a future issue of this journal.

3 CNG eAuction 409, 8 November 2017, lot 334.

Figure 6 Tridrachm of Eucratides I with the monogram  *11.82 g, 30.5 mm, die axis 12h*

Figure 7 Drachms of Eucratides I with the denominational mark A, 4.25 g, 19 mm, die axis 12 h

Figure 8 Drachms of Eucratides I with the denominational mark A (4.16 g, 20 mm, die axis 12h

Figure 9 Tetrachms of Eucratides I with the denominational mark Δ, 16.96 g, 32 mm, die axis 12h

Figure 10 Tetradrachms of Eucratides I with the denominational mark Δ, 16.95 g, 32 mm, die axis 12h

Before the discovery of the pentadrachms and tridrachms, most of the above four types of coins were drachm and tetradrachm silver coins. Some coins have a slightly different arrangement of inscriptions on the reverse from others. Apart from the regular inscription of 'King Eucratides', denominational letters occasionally appear separately, A on the drachm (figures 7 and 8], and Δ on the tetradrachm (figures 9 and 10).[4] The meaning of individual alphabetic inscriptions on Eucratides' coins has not yet been examined by previous scholars. If we display the coins of Eucratides with those letters, it is clear that the marks represent denominations corresponding to the increasing weight and size of diameter:

A (Drachm) = 4.00–4.28 g and 18–21 mm
Γ (Tridrachm) = 11.82–12.48 g and 28.00–31.00 mm
(1 Drachm = 3.94–4.16 g)
Δ (Tetradrachm) = 16.83–17.02 g 32–36 mm
(1 Drachm = 4.20–4.25 g)
E (Pentadrachm) = 21.10–21.55 g and 35–41 mm
(1 Drachm = 4.22– 4.31 grams)

From the coinage of Athens, we could conclude the standard Attic standard weight of those four denominations as follows:[5]

Attic Drachm = 4.15–4.30 g
Attic Tridrachm = 12.45–12.9 g
Attic Tetradrachm = 16.60–17.20 g
Attic Pentadrachm = 20.75– 21.50 g

Kraay's denominations are theoretical, however, and pentadrachms were not produced in Athens, only by the Ptolemies.[6] It was an extremely unusual denomination, as are tridrachms, which are known in south Italy, but not on the Attic standard.

It can be seen from the list above that the tridrachm, tetradrachm and pentadrachm of Eucratides I all increase by the Attic standard drachm of around 4.2 grams, which matches the weight of his drachm. When these two kinds of coins are put into the known series, we can see that they have special arrangement rules: if the coins are placed from small to large, the individual letters appear in the order of the Greek alphabet. If so, it can be determined that the inscription of separate letters on the newly unearthed coins would be face value inscriptions, representing the unit of weight of the coin, i.e. A stands for drachm, Γ stands for tridrachm, Δ stands for tetradrachm, E stands for pentadrachm according to the Attic weight standard.

Bopearachchi argued that Menander made an attempt to introduce a new standard for the issues of bronze metal. Since the new system was different from the former one, so he added Greek letters system which represents the denominations on Menander I's second group of square bronze coinage: A for a single unit weighing 2.75 grams, B for a double unit weighting 5.50 grams, Δ for a quadruple unit weighting 11 grams and H for an octuple unit weighting 22 grams.[7] The new denominations of Eucratides confirm Bopearachchi's speculation that the letters represent denominations. It seems that Eucratides was the first to introduce these denominational letters on his silver coinage and that Menander copied this for some of his bronze coinage.

We should also note that not every series of monogram has all those four denominations. We have not seen drachms with the denominational mark A among coins carrying the mono-

4 Bopearachchi 1991, Eucratide I, Série 2, 8; 10; 11; 12; Série 1, 4; SNG ANS Bactria, Eucratides I, 434, 435, 439, 440, 441, 442.

5 For the standard Attic weight, see Kraay 1976, appendix I, Weight Standards; for the practical Athenian drachm and tetradrachm, there are large number of drachms weighted between 3.90 to 4.25, and tetradrachms around 16.80 to 17.10. The wider range of the weight standards seem necessary to be considered.

6 Lorber 2018 lists five types, 737, 742, 745, 747, 748.

7 Bopearachchi and Rahman 1995, 32.

gram 𐡇. The tridrachms are only seen in the coins with monogram 𐡇. Tetradrachms with denominational mark Δ have not been found among coins with the monogram 𐡗. Further discussion awaits the emergence of new evidence in the future.

Also, it is important to note that not all the coins issued by Eucratides I are marked with the letters representing the unit of face value; and not all of the coins with the three mint marks have the denomination units. Hence it was not general practice for coins of Eucratides I. According to previous studies, the coins of Bopearachchi Series 1 were issued shortly after Eucratides ascended to the throne. After obtaining a significant military victory, Eucratides added the title of 'the Great' (ΜΕΓΑΛΟΥ) to his coins. Thus the kingdom of Bactria began issuing coins of Bopearachchi Series 6 whose pattern developed from that of Bopearachchi Series 1, and the denomination unit inscriptions do not appear in the series of coins after Bopearachchi Series 1.

I believe that the coins inscribed with denomination units might not have been issued in the late stage of Bopearachchi Series 1. There are two possible reasons. First, the coins engraved with denomination units may have appeared in the early accession of Eucratides I, who, after ascending the throne, reformed the old coin system by adding tridrachm and pentadrachm units (and perhaps more), and engraving coins with the denominational symbol, thus forming a complete system of coin units. But eventually Eucratides I abandoned this practice and returned to issuing traditional coin units, possibly due to the low acceptance of the new ones. The second possibility is that, at the beginning of his accession to the throne, Eucratides I issued some silver pentadrachm coins without marking weight units. However, because both the tetradrachm and the pentadrachm used relatively large blanks, there was no obvious difference between them in appearance, which disrupted the use and circulation of coins. As a result, the mint specially added the inscription of denomination unit to show the difference.

I think the first hypothesis is more plausible. Since the coins marked with denomination unit inscriptions have a small number of issues and have not been found on a large scale, tridrachms and pentadrachms in particular, which have not been found in the past 200 years, it can be seen that their existence is very rare, and their issues might have been small at the beginning. As such, they are more likely to be experimental works in the early days of currency reform. After the new coin system had been in circulation for some time, it was probably not well received at home, so the issue was stopped. If so, this batch of coins with the inscription of the denomination unit may have been among the first coins issued in the early days of the reign of Eucratides I, which may have witnessed a less successful monetary reform.

Acknowledgements

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A Not So 'Unfortunate' Kushano-Sasanian Coin

Joe Cribb, Hans Loeschner, René Traum and Klaus Vondrovec

Figure 1 Copper coin of Peroz I Kushanshah, Balkh mint, about AD 245–70, 2.7 g, 18/21 mm (Hans Loeschner collection)

The condition of ancient copper coins often leaves much to be desired. The specimen on which this article is focused is a mess, not due to its condition, but to the circumstance of its production. It was made at the Balkh (northern Afghanistan) mint of the third Sasanian Kushanshah (Kushano-Sasanian ruler) Peroz about AD 245–70, early in his reign (figure 1). The mint workers made it using another coin instead of making a fresh blank, and some of the recycled coin's designs were not fully obliterated creating a confusion in its designs. The confused designs have made it the focus of some attention, so that this is the fourth article to deal with this coin and to attempt to explain what it represents.

The importance of this overstrike resides in the evidence it provides for Kushano-Sasanian chronology. One of the reasons the coins of the Sasanian Kushanshahs are important for the history of ancient Afghanistan is because they provide a chronological link between the Kushans and the Sasanian Empire. The history of the Kushan and subsequent period relies on various sources, Chinese historical texts, coins, inscriptions, documents and archaeology. The coins play an important part in this because they enable the kings named on them to be arranged in a sequence which can be linked with the other evidence. The first and last Kushan kings in Afghanistan, Kujula Kadphises and Vasudeva I (his successor Kanishka II

may have retained a portion of north-eastern Afghanistan) are named in the Chinese sources and inscriptions (Cribb 2018) and the last Sasanian Kushan Shah Varahran is named in Bactrian document (Sims-Williams 2007, 52–5 and 64–5).

The coin which is the subject of this article was acquired in 2005 by Hans Loeschner (HL) during a visit to the well-known Vienna Antiquariat Ingo Nebehay, where he met the historian and numismatist Dr Stefan Nebehay, who told him that the coin in question had been examined by Professor Robert Göbl, the celebrated numismatist who specialized in Kushan and Kushano-Sasanian coins. Göbl listed the type in his study of such coins, but did not include this example in his list (Göbl 1984, 117 and 140, type 1101).

In 2007 HL published the coin and interpreted the piece as a unique representation of the god Oesho on the reverse exchanging a Sasanian crown for a Kushan one. These details were a misunderstood aspect of the confusion of the overstriking and under-struck designs. He used this interpretation in a discussion of the Kushan chronology, comparing the AD 78 and AD 127 dating of the first year of the reign of the Kushan king Kanishka I. In 2015 Joe Cribb (JC) wrote to HL suggesting to him that the coin was an overstrike and that the likely undertype was a Merv mint copper coin of the Sasanian emperor Shapur I (AD 240–70), of the type published by Loginov and Nikitin (1993, figures 2–3). In 2018 JC gave the coin its second outing, publishing it alongside another overstruck coin of Peroz I in the collection of the British Museum where the under-struck coin is again a Merv issue of Shapur I (figure 2) (Cribb 2018, 18–22).

The third publication to focus on the coin was written by Nikolaus Schindel, the noted Vienna numismatist (2020). In his article he cast suspicion on the identification of the recycled coin overstruck by Peroz I. He suggested two reasons for rejecting the identification of the coin as a Shapur I Merv issue. He argued that the diadem ribbons seen in the left field of the reverse of the coin in the position where the god's arm should have been could not be from a Shapur I coin as they are not in that position on his Merv copper coins, and that the position JC had proposed for the fire altar on the under-struck coin was too far to the left of the coin to be plausible. He, however, conceded that it was overstruck and suggested that the coin might be overstruck on itself (Schindel 2020, 5: '*Zwar mag es sein, dass hier eine Überprägung vorliegt, doch ist auch eine Eigenüberprägung theoretisch denkbar*'). These points will be addressed below.

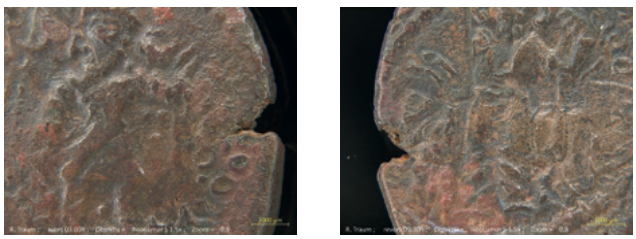

Figure 2 Details of the overstrike as photographed by RT with reflected light, left, obverse and right, reverse

Following Schindel's article, HL again examined the coin and in 2021 asked Dr Klaus Vondrovec (KV), Director of the Coin Cabinet at Kunsthistorisches Museum, Vienna, to enable a microscopic examination of the coin. This was performed by his colleague René Traum (RT) using a high-quality Carl Zeiss optical microscope from which high-definition images of the coin were made (figures 2 and 3). In an internal report to KV (Traum 2021) RT clearly identified the existence of an overstrike (figure 2). RT's report explicitly confirmed that the coin was overstruck on another coin type rather than struck on itself. KV also examined the coin and was of the same opinion.

Figure 3 Details of the overstrike as photographed by RT with side light, left, obverse and right, reverse

From the images produced by RT, a fresh examination of the coin was then possible for HL (figure 4) and JC (figure 5). HL observed that the head of Shapur I on the under-struck Merv coin became even more visible than before, with the outline of the king's head showing behind the figure of the god Oesho on the overstriking type. The position of the diadem ribbons and the shape of the king's crown closely matched those on examples of Shapur I's Merv coins (cf. figure 6), as published by Loginov and Nikitin from the material excavated at Merv (1993, nos 29–108). The reverse under-type behind the standing figure of the king on the obverse of the overstruck design was not as visible and from RT's image it was clear that JC's earlier drawing was incorrect. As Schindel observed what JC had seen as the flames of the fire altar was formed by the central prong of the trident above the fire altar in front of the king. The illusion of the flame shape was caused by what can be seen as a crack in the surface of the coin forming a triangular shape with the line of the trident prong. However, the improved view of the coin from RT's photographs showed that the fire altar on the reverse of the under-type is in a different position and can now be traced behind the figure of the king (figure 5b).

Figure 4 The overstrike detail of the bust of Shapur I under reverse of Peroz I Kushanshah's coin as observed by HL

Figure 5 Traces of the Shapur I under-type of the Peroz I Kushanshah overstrike as observed by JC, left, reverse on obverse, right, obverse on reverse

The traces of the under-type show another typical feature of Merv copper coins. The obverse/reverse relationship (die-axis) of the overstriking coin places the top of the reverse at 12:00 o'clock when the top of the obverse is also at 12:00, which was normal for the coins of this type, but the under-struck type shows a different relationship, so that the top of the reverse is at 3:00 o'clock when the top of the obverse is at 12:00, the orientation for many of the coins struck at the Sasanian Merv mint (others have the reverse at 9:00 o'clock).

Loginov and Nikitin described the coins which match the under-type of the Peroz I coin as an issue from early in the reign of Shapur I (1993, 228, 234–5, nos. 29–108). They dated this type early as many examples show traces of overstriking on the issues of Ardashir I (AD 223–240).

Figure 6 Copper coins of Shapur I, Merv mint, early reign, top, 2.71 g, 17 mm, below, 3.46 g, 19 mm (formerly Robert Schaaf collection, now in the numismatic collection of Princeton University, courtesy of Robert Schaaf)

In the British Museum there is another overstruck coin of Peroz I which shows traces of a Merv coin of Shapur I as its under-type (figures 7 and 8; Cribb 2018, 18–19). The reverse of the coin shows some details of the under-type beyond the margin to the right above the fire altar. The traces appear to be the back and arm of the left-hand attendant beside the fire altar on the reverse of Shapur I's Merv copper type. If the under-type has the usual obverse/reverse relationship with the obverse (at 3:00 or 9:00 o'clock), then there are no traces of the under-type on the obverse. If the recycled coin had an exceptional obverse/reverse relationship with obverse and reverse dies aligned at 12:00 o'clock, then the right-hand side of the king's shoulders could be showing the back of Shapur I's crown. Loginov and Nikitin illustrated examples of Shapur I Merv mint coins with this exceptional obverse/reverse relationship (1993, figure 2, nos 67, 86 and 103), so the obverse traces also appear to be of a Shapur I Merv copper type.

Figure 7 Copper coin of Peroz I Kushanshah, Begram mint, overstruck on Merv mint issue of Shapur I, 3.44 g, 19 mm (British Museum, 1996,0608.1, donated by M. Malek)

Figure 8 Copper coin of Peroz I Kushanshah (figure 7) showing traces of Merv mint issue of Shapur I undertype, left, obverse on obverse, right, reverse on reverse.

Schindel (2020) described HL and JC's attempts at understanding this coin as having rendered it '*unselig*' (unfortunate). Now thanks to the work of RT and KV the coin's luck has turned and its significance can be better understood.

As Schindel rightly observed, overstrikes are useful for providing a *terminus post quem* (time after which) for the production of the overstrike (or a *terminus ante quem* (time before which) for the under-type). That overstriking can take place long after is a well-known phenomenon, best illustrated by the second century Indo-Parthian coin in the British Museum (1907,1207.5) which was recycled by the Kabul mint to make a copper fals in the mid-nineteenth century (https://www.britishmuseum.org/collection/object/C_1907-1207-5). Unfortunately, the example Schindel chose to illustrate this phenomenon, his Sasanian drachm of Peroz (459–84) overstruck on a coin of Shapur II (309–79), i.e. after a gap of at least 80 years, is actually a triple strike with the same pair of Peroz dies, not an overstrike (Schindel 2014). What he identified as the headdresses of the altar attendants on a Shapur II drachm under the Peroz design are actually the feet of the attendants on the Peroz reverse die from one of the earlier strikings.

The overstriking of coins in the ancient world was a common practice, but one only occasionally visible when the overstriking was not done carefully. It was normally done on readily available coins which were not current where the coins were being made. Sometimes this was the recycling of the previous issue, which was being replaced, or on plentifully available coins current elsewhere. In this instance the overstruck coins for both HL's and the British Museum' Peroz I coins were from a different territory within the Sasanian empire. In both cases the overstriking confirms that the striking of coins in the name of Peroz I began after the beginning of the reign of Shapur I, i.e. they provide a *terminus post quem* for Peroz I's coinage. The question is how long after the start of the reign of Shapur I did this overstriking take place.

The existence of two overstruck examples of Shapur I Merv coins by issues of Peroz I Kushanshah suggests the ready availability of examples of the overstruck type in Kushanshah territory where the Peroz I coins were made. The most plausible explanation is that they had recently been brought there from Merv, which would indicate that the coins of Peroz I would have most likely been issued a decade or two after AD 240. Schindel would prefer to see the reign of Peroz I after AD 293 or even after AD 303 (Schindel 2005, 236–7; 2012, 73). A gap between the under-types and the over-striking of 50+ years seems less likely. The arguments for the earlier dating of Peroz I have been presented elsewhere (Cribb 2018), so will not be repeated here. If the other arguments are credible, then this coin and the other

overstrike together point to a closer chronological relationship between Peroz I and Shapur I, than that sought by Schindel. They also bear testimony to the movement of coins between Merv and Afghanistan. There is also some movement in the opposite direction as during the excavations at Merv a few Kushano-Sasanian coins were found there (Smirnova 2007, 384–7). Schindel proposed that most of the Kushano-Sasanian copper coins issued for northern Afghanistan (Bactria) were minted at Merv (Schindel 2012, 67), but the small number of Kushano-Sasanian coins (about 12) excavated there in comparison with the number of coins of the Sasanian rulers (about 700) makes that implausible (Smirnova 1996, 112). The discovery of Kushano-Sasanian coins in a traded hoard from Turkmenistan like the one reported by Smirnova (1996) or in a Turkmenistan museum (Schindel 2012, 67, n. 15) are less likely to provide evidence of where the coins were made. The hoard Smirnova published included more Kushano-Sasanian coins minted in Begram region and Gandhara (638) than coins minted for northern Afghanistan (571), so the hoard is clearly imported from Afghanistan (Smirnova 1996). It also included over a thousand imitation Kushan coins of the type found in Afghanistan and northern Pakistan, again imports into the Merv region.

For this previously 'unfortunate' coin the value of close and repeated examination has been justified. The renewed examination has provided the means of placing it in its correct context and of understanding its significance for revealing another small aspect of the fragmentary history of the Sasanian Kushanshahs. The value of these overstrikes is to confirm the relationship between the Kushanshahs and their Sasanian neighbours and overlords. When viewed alongside other overstrikes from the region connecting Kushanshah coins with Kushan ones this coin and its companion also provide further insights into the chronological relationship between the Kushanshahs and their southern Kushan neighbours (Cribb 2018, 18–22). The limited evidence for these kingdoms in ancient Afghanistan and Pakistan keeps the debate about their chronology alive and encourages the continued assessment of every piece of evidence. The resolution of this small question over a fragment of the evidence does not solve the bigger issues, but adds another piece to the jigsaw in the correct position.

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Re-reading a Silver Coin of Ancient Arakan and the Chronology of the Chandra Kings

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This article discusses an early coin of the Chandra dynasty of Arakan (Rakhine) in western Myanmar (Burma). In the most recent study of ancient Myanmar coins by Dietrich Mahlo, this type was dated to the first third of the fifth century CE (Malho 2012, 76). The coin in question (figure 1) was discovered in about 2008 along with five other conch/*śrīvatsa* (emblem of the goddess Śrī) type coins and at least seven other coins of early Chandra dynasty kings. The find spot was not known, but these coins were first noticed in the local market of the Comilla region, in the south-eastern part of Bangladesh, a region that belonged to the ancient kingdom of Samataṭa. This coin accordingly appears to be a stray from the hoard of eighteen coins found in Comilla in 2008 published by Noman Nasir and Nicholas Rhodes (2010; see table 1 below). Two less legible examples of the same type from this hoard were also illustrated by Nasir and Rhodes (2010, 155–6, nos 1 and 2), but not recognized (see figures 7 and 8 below).

Mahlo (2012, 76, type 27) presented a coin of this particular conch/śrīvatsa type describing its obverse inscription as Brāhmī script *raja*. Another example, the second example featured here (figure 2), was attributed by S. K. Bose and Noman Nasir (2016, 105–6, 192, type HA2.1) to the Arakanese king Rajachandra, reading the Brāhmī legend as *rajaca*[*ndra*]. Thus both Mahlo and Bose and Nasir read '*raja*' while the latter saw additional letter(s) after *raja* and read them as '*cha*[*ndra*]'. However, Bose and Nasir were hesitant about their reading, as they described the inscription as 'crudely engraved in Brāhmī characters' i.e. not fully legible. One of the examples from the hoard published by Nasir and Rhodes (2010, 155, no. 1) was also published by Bose and Nasir (2016, 192, no. HA1.1) as an anonymous issue of either Rajachandra or a later Arakanese king Devachandra. From close observation of these coins we have noticed the clear presence of additional letters after *raja* and hence present our findings about the inscription on this coin type (figure 3) and its significance for Arakanese history. Our analysis is confirmed by discovering the versions of the same inscription on eight other specimens of the same type from various other sources (figures 4–12). An eleventh example, illustrated by Htun (2007, 131, figure 249), but misread as *deva*, is not illustrated here.

Analysis of the legend

On the obverse of the coin, taking the letters 𑀭 *ra* and 𑀚 *ja* as having their standard Gupta Brāhmī forms, the inscription has to be read upside down in comparison with later coins in the same series. In this inverted orientation 𑀚𑀭 *raja* is clearly visible to the left of the top of the conch, while the letters proposed by Bose and Nasir, 𑀘 *ca* and 𑀦𑁆𑀤 *ndra* are not to be seen. In other words, *candra* is not seen on the coin. Instead after *raja* there are the Brāhmī letters 𑀝 *ṭa*, 𑀂 which is normally the *visarga*, a suffix of a syllable creating a sound like *ḥ*, or an independent letter pronounced *i* in a derived form, and what looks like the letter 𑀜 *ña* (pronounced *ny/yon*). If the inscriptions of all the illustrated coins are compared, it is evident that various versions of this inscription have been inscribed on them all (some with reversed versions of the letters).

Based on these observations of the coin inscriptions the legend can be analysed as follows. Comparing the letters on these coins with the tables of letter forms used in early Bengal provided by the late historian and epigraphist Shariful Islam (2018, 214–9), it can be inferred that the first letter on the coin is *ra,* the second letter is *ja,* the third letter is *ṭa,* and the fifth letter could be *ña* (*ny/yon*), while the fourth letter 𑀂 does not have a perfect match. The nearest match in Islam's tables is the vowel *i,* which may take different shapes like 𑀇, 𑀈, 𑀉, etc. On the coin the letter or sign may not be just a suffix of 𑀝 *ṭa*. That is why it is less likely to be read as *ṭaḥ*. Instead 𑀂 may be a derived form of *i* followed by 𑀜 *ñ* (*ny/yon*) or a distorted version of 𑀳 *ṅg*. If we consider 𑀂 as *ḥ* suffix of 𑀝 *ṭa*, the legend can be read as *raja ṭaḥñ* (or in local accent *raja ṭaḥyon*). Or if we consider 𑀂 as a separate letter, a derived form of *i* with two vertical dots instead of three then the inscription can be read as *raja ṭaiñ* (or in local accent *raja ṭaiyon*). If the final letter is a distorted *ṅg*, then it would be read *raja ṭaiṅg.* These possible readings suggest a relationship between the inscription and the name of Maha-**taing-**chandra the founder of the Chandra dynasty according to the Burmese chronicles (Zan 2011, 18–42). An alternative way of reading the legend by ignoring the tail of the final letter to form 𑀈, i.e. *raja ṭai*, would leave the meaning of the legend and the name of the issuing king more difficult to explain.

In this discussion, because of the uncertainty of the reading, coins of this type are referred to as *rajaṭa* [. . .] coins.

Conch and śrīvatsa motifs on the coin

It is to be noted that the conch (*śaṅkha*) on the obverse of this coin type is an outlier of the mainstream of early Arakanese coinage with bull and śrīvatsa. The conch and śrīvatsa symbols were commonly used on early Mon and Pyu coins from Myanmar (see figures 12–15). From close observation it is evident that the three-pronged device used on the reverse of these Chandra coins, often described as a trident (*triśūla*), appears to have been derived from the original śrīvatsa symbol on the coins of the Mon or Pyu kingdoms (Robinson and Shaw 1980, 20). Therefore, the motifs on the obverse and reverse of the coin in question, as well as their beaded borders, seem to have been influenced by contemporary Mon or Pyu coins. Based on the use of the conch/śrīvatsa types, it can be presumed that this type should be an early issue predating the

Figure 1 7.82 g, 30.5 mm, drawing of the inscription in green below (Md Shariful Islam collection)

Figure 2 7.7 g, 31 mm, (struck from same dies as figure 7), drawing of the inscription in green below (Noman Nasir collection)

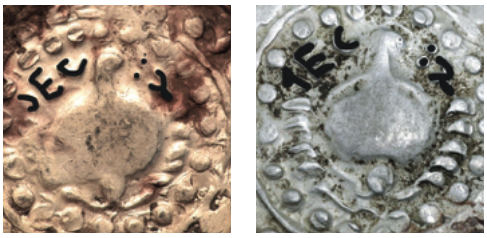

Figure 3 Inscriptions on figures 1 and 2 highlighted in black

Figure 4 American Numismatic Society 1828.27.29, weight 2.22 g, 15 mm (struck from same dies as figure 2), published in Wicks 1992, no. B, 83 and Mitchiner 1998, 63, no. 6.9 (three other examples have been published, Mahlo 2012, 75–6, nos 26.2 and 27a.2; Mitchiner 1998, 63 no. 6.7; see also Mitchiner and Pollard 1990, 49, pl. 4, nos 98 and 99)

Figure 5 Krisadaolarn and Mihailovs 2012, 48, pl. A28a, weight not recorded, 29.5 mm, drawing of the inscription in green below, with reversed ṭa

Figure 6 Rupam Ali collection, 6.33 g, 27 mm

Figure 7 Rupam Ali collection, 6.82 g, 29 mm (struck from same obverse die as figure 1), drawing of the inscription in green below

Figure 8 Comilla (?) hoard, Nasir and Rhodes 2010, 156, no. 2, 7.7 g, 29.5 mm, drawing of the inscription in green below

Figure 9 Comilla (?) hoard, Nasir and Rhodes 2010, 156, no. 1, 7.6 g, 29 mm

Figure 10 Rupam Ali collection, 7.76 g, 31 mm (struck from same dies as figure 11), with inverted ja and ṭa.

Figure 11 British Museum 1882,0508.38, 7.09 g, 28 mm (struck from same dies as figure 10) (Mitchiner 1998, 63, no. 66), also with inverted ja and ṭa

more common Arakanese bull/śrīvatsa type coins and that the conch on the obverse was subsequently replaced by a bull. As one of the early Arakan kings, Devachandra, used both conch and bull designs it can be assumed that the replacement took place during his reign.

The Mon and Pyu coins which appear to be the inspiration for the designs on the Arakanese conch/śrīvatsa coin type were decorated with various combinations of such motifs on both sides and are illustrated here (figures 12–15) to show their relationship with the Arakan coin type (figures 1–11)

Figure 12 Silver unit (tanka) of an unidentified Mon kingdom, Myanmar, fifth century (Spink Auction 17006, lot 410, 25 September 2017, 9.74 g, 25 mm https://pro.coinarchives.com/w/lotviewer.php?LotID=2804857&AucID=2767&Lot=410

Figure 13 Silver unit (tanka) of an unidentified Mon kingdom, Myanmar, eighth–ninth centuries (Marudha Auction 30, lot 53, 10 July 2020, 9.23 g, 29 mm https://pro.coinarchives.com/w/lotviewer.php?LotID=4590121&AucID=5012&Lot=53

Figure 14 Silver unit (tanka) Pyu kingdom of Śrikṣetra, Myanmar, fifth century (Heritage Auctions MPO54, lot 6534, 22 May 2017), 11.29 g, 30 mm https://pro.coinarchives.com/w/lotviewer.php?LotID=3911185&AucID=3997&Lot=6534

Figure 15 Silver unit (tanka) of the Pyu kingdom of Śrikṣetra, Myanmar, seventh century Marudha Auction 30, lot 55, 10 July 2020, 9.79 g, 30 mm https://pro.coinarchives.com/w/lotviewer.php?LotID=4590123&AucID=5012&Lot=55

being discussed in this paper. These Mon coins are of types found at Pegu (figure 12) and at Kyaikkatha (figure 13) in southern Myanmar, both are full units featuring a conch shell within a beaded border. On the reverse they both have a śrīvatsa emblem, the former containing an elephant goad (*aṅkuśa*) and the latter an unidentified design (which might represent a Buddhist stupa), with an ornamental pedestal/throne (*bhadrapīṭha*) on the left and other indistinct symbols to the right and above. Mahlo (2012, 123, type 60) dated the first type to the late fifth century and the second to the eighth–ninth centuries. The Pyu coins (figures 14 and 15) are both of types found at Śrikṣetra, the Pyu capital in southern central Myanmar. These full units feature on their obverse a pedestal/throne within a beaded border. On their reverses both feature a śrīvatsa, one containing a conch and the other a nine hill or stupa emblem with the sun and moon above and a water motif below and a thunderbolt (*vajra*) on the left and conch shell on the right. Mahlo (2012, 48, type 14) dated the former to the fifth century and the latter to the seventh century.

The close relationship between the motifs on the obverse and reverse of the discussed Chandra dynasty coin type (figures 1–11) and those on contemporary Mon and Pyu coins are suggestive of political, economic and/or religious relations between these kingdoms. Zan (2008, 242–3) in his study of Arakanese coins, identifying the kingdom of Arakan with its capital Vaiśālī (Wethali, Waithali, Pālī: Vesālī), showed a hoard of early Arakan coins that were found in 1985 at Hsindet village, on Khayine island in Taunggoke (Taungup) township, together with two Pyu coins of the same type as figure 15). The Arakan coins in this hoard illustrated by Zan (see table 1) included four conch/śrīvatsa types: one anonymous, and three in the name of Devachandra, and six bull/śrīvatsa types: three in the name of Devachandra, two of Yajnachandra and one of Bhumichandra. According to the king list in the inscription of Anandachandra at Mrohaung (see below) the three named rulers on these coins are the fourth, fifth and seventh kings of the kings with their capital at Vaiśālī, with Dvenchandra and Rajachandra as the first and second and Kalachandra as the third (table 2; Johnson 1944, 368–9, 380; Mahlo 2012, 88). Bhikku mistakenly attributed some Devachandra coins to Rajachandra (2008, 224).

The find spot of the Hsindet hoard lies in the southern part of Rakhine State near the Rakhine Roma (Yoma) mountain range. It was on the route from the Arakan capital Vaiśālī to the Pyu capital Śrikṣetra. The contents and location of the hoard suggest that the kingdoms of Pyu and Arakan had trade and perhaps political relations. Bose and Nasir (2016, 82) say, 'As such, the chain of similarity of the coins of Pyu, Chandras of Arakan and Harikela also indicate the trade and religious contiguity among these regions.' Therefore, alongside the said 'trade and religious contiguity among these regions' it is not unlikely that the coinage of the region had been influenced by political and cultural connections. Mahlo noted that a third unit example of the *rajaṭa* [. . .] type (like figure 4) was reported as excavated at Śrikṣetra (2012, 76, no. 27a.2).

Another hoard reported by Nasir and Rhodes as found in Comilla District in Bangladesh, in the territory of the kingdom of Samataṭa was slightly later than that found at Hsindet, but contained related coins (see table 1). It suggests similar links for Arakan with Samataṭa as those with the Pyu suggested above.

The identity of the coin issuer and the problems of Arakanese chronology

The main sources for the history of the Arakanese kings of Vaiśālī are the king list (table 2) in the inscription of Anandachandra at Mrohaung (published by Johnson 1944; further comment by Sircar 1957) and the surviving Arakanese chronicles (Zan 2008, 226). The place of the ruler named on the coin type featured here in the history of Arakan is clear from the coin designs which place it before the coins in the name of king Devachandra. Anandachandra's inscription places Devachandra as the fourth king ruling at Vaiśālī, but he is not mentioned in the chronicles. There are only eight kings

Table 1 Comparison of the Hsindet and Comilla(?) hoards of early Chandra coins (Bhikku 2008, Nasir and Rhodes 2010)

King named	*Position in Anandachandra's king list*	*Obverse type*	*Zan (2008) Hsindet hoard*	*Nasir and Rhodes (2010) Comilla(?) hoard*
Anon		Conch	1	
Rajaṭa…	1st or 2nd	Conch		2
Devachandra	4th	Conch	3	2
Devachandra		Bull	3	1
Anon		Bull		1
Yajnachandra	5th	Bull	2	2
Bhumichandra	7th	Bull	1	3
Bhutichandra	8th	Bull		1
Nitichandra	9th	Bull		1
Pyu			2	
Total			**12**	**13**

Table 2 Chronology of Chandra kings according to Johnson (1944) and Sircar (1957)

Kings of Vaiśālī	*Name and reign length according to the Anandachandra inscription*		*Johnson dates*	*Sircar dates*	*Inscrip-tions*	*Conch coins*	*Bull coins*	*Sun symbol on coins*
1	Dvenchandra	55	350–405	370–425		?		●
2	Rajachandra	20	405–25	425–45		?		●
3	Kalachandra[1]	9	425–34	445–54			x	◉
4	Devachandra	22	434–56	454–76		x	x	●
5	Yajnachandra	7	456–63	476–83			x	●
6	Chandrabandu	6	463–9	483–9				
7	Bhumichandra	7	469–76	489–96			x	● / ◉
8	Bhutichandra	24	476–500	496–520			x	●
9	Nitichandra	55	500–55	520–75	x		x	◉
10	Virachandra	3	555–8	575–8	x		x	◉
11	Pritichandra	12	558–70	578–90			x	◉
12	Prithvichandra	7	570–7	590-7			x	◉
13	Dhritichandra	3	577–80	597–600			x	◉
Not kings of Vaiśālī	Mahavira	12	580–92	600–12				
	Virayajap	12	592–604	612–24				
	Sevinren	12	604–16	624–36				
	Dharmasura	13	616–29	636–49				
	Vajrashakti	16	629–45	649-65				
14	Dharmavijaya	36	645–81	665–701	x		x	○
15	Narendravijaya	3	681–4	701–3				
16	Dharmachandra	16	684–700	703–20			x	○
17	Anandachandra	9+	700–9+	720–9+	x		x	◉
Kings not in king list	Yitniyachandra[2]						x	◉
	Chandrabu[3]						x	◉
	Suriyachandra[4]						x	◉
	Nitivijaya[5]						x	○
	Dharmarajah[6]						x	○
	Simhaganda-chandra[7]						x	○

Sources: 1 Heritage – MPO auction 74, lot 6681 (16 May 2022), 3.42g; 2 Mitchiner 1998, 63, no. 73; 3 Mitchiner 1998, 64, no. 75, Mahlo 2012, 78, no. 31; 4 Mahlo 2012, 83, no. 40; 5 Mahlo 2012, 85, no. 44, Bose and Nasir 2016, 200, no. HA16.1; 6 Mahlo 2012, 86, no. 45, Bose and Nasir 2016, 200, no. HA17.1; 7 Mahlo 2012, 86, no. 46

of Vaiśālī mentioned in the chronicles, but there are 22 named in Anandachandra's inscription and only one of them is an obvious match: the name of the second king in the chronicle, Razachandra, corresponds with the second king, Rajachandra, in the inscription. As the inscriptions on the coins under discussion all begin with *raja* it seems sensible to adjoin this coin's issuer with Rajachandra as proposed by Mahlo and Bose and Nasir, but as shown above the coin does not bear his full name. The proposed reading of the coin inscriptions as *rajaṭa* [. . .] equally suggests a link with the first king named in the chronicle Mahataingchandra or Śrī Taingchandra, founder of the Vaiśālī kingdom (Zan 2008, 226). In the Anandachandra inscription the founder of Vaiśālī is identified as Dvenchandra, and Johnson (1944, 368) has suggested a link between the *dven* in his name in the inscription and the *taing* in the founder's name in the Chronicle. As the coins inscribed *rajaṭa* [. . .] precede those of Devachandra the fourth king, they should be linked to one of the earlier kings, Dvenchandra, Rajachandra or Kalachandra. There is therefore a strong likelihood that the coins are issues of Dvenchandra and that the inscription

refers to him as 'King Taing' (reflecting the possible reading *rajaṭaiñ* or *rajaṭaing* outlined above), rather than the *raja* being the first part of king Rajachandra's name followed by *ṭa* . . . It is possible that the *dven* and *ṭaing* could be a title rather than a name, as it seems to have been attached to other royal names of the Chandra dynasty according to the Arakanese chronicle (Johnson 1944, 368). If this is the case, then *rajaṭaing* could be a title rather than a name and be equally applied to Dvenchandra, Rajachandra and Kalachandra. Such propositions cannot be definitively confirmed or disproved, as these early Vaiśālī coins are very rare and confirmation can only come if more of the conch type coins emerge with different, more informative inscriptions.

Variations in the interpretation of the Arakanese king lists, however, are many, especially with questions about the chronology of the surviving inscriptions and with the lack of coincidence between ~~the~~ Anandachandra's king list and the names of Arakanese kings surviving in Arakanese chronicles. 'At the moment, no one appears to agree and each expert offers a bewildering array of dates and theories' (Singer 2008, 10). The most widely adopted interpretation of Arakanese chronology is that based on the dating of the inscription by Johnson (1944, 365–6) to the early eighth century and even more precisely by Sircar (1957) who dated it to CE 729, both on the basis of their comparison of the style of writing with a parallel from Nalanda in northern India. From this comparison they constructed a chronology for the Arakanese kings of Vaiśālī, counting the reign lengths in the inscription back to the foundation of the kingdom by Dvenchandra, giving him a date around CE 370–425. Such a chronology has been adopted by Gutman (1976), Mitchiner (1979, 323–5; 1998, 59–78), Mitchiner and Pollard (1990, 45–52), Robinson and Shaw (1980, 15–20), Wicks (1980, 1985, 82–9, 1992), Zan (2008) and Bhikku (2008). Johnson (1944, 378, 382) linked Anandachandra with a king of Sri Lanka, mentioned as Śilāmegha in Anandachandra's inscription, and Wicks (1992, 89) suggested, on the basis of such a chronology, that this may have been Aggabodhi IV (about CE 727–66), but this does not take account of the fact that Śilāmegha was a recurring throne name for Sri Lankan kings over many centuries, and so this reference to Sri Lanka could not be fixed to a specific period.

Dating the beginning of the Chandra dynasty of Vaisali to the date CE 350/370 suggested by Johnson and Sircar on the basis of Anandachandra's inscription is at significant variance with the date about CE 788 based on the Arakanese chronicles proposed by Phayre (1883, 45). These dates continue to pervade the literature relating to the history of Arakan, even though they rest on very questionable evidence. Yunus, for example, in his recent history of Arakan resurrected Phayre's dating (Yunus 1994, 16–7), while in his monumental study of the history of the Vaiśālī kingdom, Zan used Sircar's dating to contradict that proposed by Phayre, calling Phayre's dating 'unacceptable and unreliable . . . unreasonable adjustments of reigns by only whims and fancies of the British scholars' (Zan 2008, 19–20). He also proposed a dating around CE 327 (ibid., 19) for the initial year of the dynasty based on his interpretation of the Arakanese chronicles, but without giving the relevant texts. The testimony of chronicles written a millennium later offers no more reassurance of the chronology than Anandachandra's inscription written 200 years or more after the event.

An alternative view on the chronology has emerged through a critique of the methodology used by Johnson and Sircar. Their analysis was based on dating through parallels in writing style with inscriptions from northern India and Bengal. In their study on early Arakanese scripts Kyaw Minn Htin and Jacques Leider (2018, 74) observe that 'the Sanskrit inscriptions, all dating to the first millennium or at the latest the eleventh century, are written first in so-called late northern Brāhmī script, subsequently in script types known to Indologists as Siddhamātṛkā or Gaudi, showing progressively greater resemblance to what would eventually become Bengali script.' Cribb (1986, 119–20) and Arlo Griffiths (2105, 321–2) have also commented on these two scripts and both suggest a degree of conservatism in the use of scripts in Arakan which accounts for the prolonged use of northern Gupta Brāhmī in Arakan well beyond its use in northern India and Bengal, and the eventual introduction of Siddhamātṛkā into Arakan at a date well after its introduction in Bengal. The dating of Arakanese inscription on the basis of comparison with dated Indian inscriptions therefore only provides *termini post quem* (dates after which) for the Arakanese inscriptions. The northern Brāhmī style was used with little change from the time it was introduced into Arakan in the late Gupta period (fifth to sixth centuries AD) until replaced by the Siddhamātṛkā style (about eighth century AD), which then remained in use until the tenth century. So the only certainty for the dating of Anandachandra's inscription is to place it later than the Nalanda inscription with which Johnson and Sircar compared it, i.e. 'in the eighth century at the earliest, without being able to exclude a date in the ninth' (Griffiths 2015, 331).

The chronological implications of the transition from the use of late northern Brāhmī to Siddhamātṛkā script, highlighted by Cribb and Griffiths, are not the only difficulties that apply to the widely used chronology for these kings, and Griffiths (2015, 316) noted that 'the Johnston-Sircar approach to dating this inscription must be treated as no more than a weakly supported claim' and, further, has also rightly questioned whether Anandacandra's king list is even an accurate record of the sequence of Arakanese kings. 'There is thus some reason to be suspicious of Anandacandra's inscription A. 71 as chronological guide' (Griffiths 2015, 318). Wicks (1985, 200) and Cribb (1986, 114) suggested that some of the kings in the king list may not have ruled as Arakanese kings, but were ancestors of the later kings in the king list. It should also be doubted whether the early parts of the king list represent an accurate account either of the sequence or of the identity of individual kings. Mahlo (2012, 94–5) has also discussed alternatives to the chronology and suggested that, although he has used Johnson and Sircar's chronology, 'Sircar's dating of the inscription to 729 . . . is consequently merely one possible option among others.'

Although Anandachandra's inscription appears to offer a useful list of the kings with reign lengths, it remains dangerous to rely on it the further in time it gets from his reign. A more reliable approach to the chronology of the Arakanese kings is that offered by the coins. Their typological and stylistic development indicates that the coins of the kings associated with the inscriptional king list allow the coins to be put into a sequence. The progressive changes of designs can be put

Table 3 Coins arranged into groups by their design

Group	*Name on coins*	*Design features*			*Position in king list*	*Recorded denominations*		
		Conch coins	*Bull coins*	*Sun symbol*		*unit*	*2/3*	*1/3*
1	Rajaṭa…	x		●	1 or 2	x		x
	Devachandra	x		●	4	x	x	
2	Devachandra		x		4	x	x	x
	Yajnachandra		x	●	5	x		x
	Bhutichandra		x	●	8	x		x
	Bhumichandra		x	●	7	x		x
3	Bhumichandra		x	◉	7	x		
	Nitichandra		x	◉	9	x	x	x
	Virachandra		x	◉	10	x	x	x
	Pritichandra		x	◉	11	x	x	x
	Prithvichandra		x	◉	12	x		x
	Dhirtichandra		x	◉	13	x	x	x
	Yitniyachandra		x	◉	–			
	Chandrabu		x	◉	–	x		x
	Suriyachandra		x	◉	–	x		
	Kalachandra		x	◉	3		x	
	Anandachandra		x	◉	17	x		
4	Dharmavijaya		x	◉	14	x		
	Dharmachandra		x	○	16	x		
	Nitivijaya		x	○	–	x		
	Dharmarajah		x	○	–	x		
	Simhagandachandra		x	○	–	x		

into a sequence by the style of writing on the coins with the earlier coins inscribed in northern Brāhmī and the later in Siddhamātṛkā. Firstly the transition from conch to bull separates the *rajaṭa* . . . and some Devachandra coins from the later issues. Other changes in the depiction of the designs also create a sequence, particularly the representation of the sun symbol above the śrīvatsa which has three different forms on the unit denomination, 1, a dot ●, 2, a dot in circle ◉ and 3, a circle ○. These variations enable the sequence of coin production to be established (table 3). These three versions are also confirmed as significant markers of progression by other changes in design, such as the inclusion of a circle of dots within the linear and beaded circle containing the śrīvatsa with the first version, its absence on coins with the second and third versions, and the use of Siddhamātṛkā style writing on the coins with the third version. The first group are therefore distinguished by their use of the conch obverse. Bull type coins inscribed Devachandra, Yajnachandra, Bhumichandra and Bhutichandra seem to form the second group. The transition from sun version 1 to 2 takes place in the reign of Bhumichandra, so the second version of the sun identifies the coins of the third group, which includes Bhumichandra, Kalachandra, Chandrabu, Nitichandra, Virachandra, Pritichandra, Prithvichandra, Dhritichandra, Yitniyaraja and Anandachandra. The fourth group identified by the third version of the sun includes Dharmavijaya, Dharmachandra, Nitivijaya, Dharmarajah and Simhagandachandra. The position of Anandachandra before his immediate predecessors in the king list created by this arrangement is clearly anomalous. The treatment of the sun design is not exactly the same as the rest of group 3 as it is smaller, but there is a dot in the circle form of sun. So far only a single example in the name of Anandachandra is known, so it may itself be anomalous. Anandachandra also fits into the denomination system of the fourth group, which appears to have been only issued as units.

The denomination system used by the Arakanese kings consists of a unit of about 7.6–8 g, a two-thirds of about 4.7 g and a third of about 2.4 g. The ratio between the denominations is puzzling, as the fractions are heavier than expected. There are also a few smaller denominations. The unit appears to have been a tanka, from the Sanskrit *ṭaṅka*, meaning a coin. Griffiths (2015, 332–3) has observed that the monetary term *taṇḍaka* appeared in Anandachandra's inscription (verse 52) as royal gifts (Furui 2017, 47–8, 52), as well as in the Devatideva inscription from Harikela (the kingdom to the north-west of Arakan) in reference to monetary payments, where coins closely based on the Arakanese ones were issued, so this appears to be the local rendition of the tanka denomination. The Pyu are also reported as using the same denomination for their heavier silver coins in the ninth century according to the Chinese New Tang Chronicle, where the word is rendered in Chinese as 登伽佗 *deng-qie-tuo*, pronounced 'tang-ga-dai' in the Tang period (Wicks 1992, 115–16).

The sequence of the coins suggested by the division of the coins into groups representing progressive change of design corresponds in some respects to the sequence of kings in Anandachandra's king list, which suggests that we can rely on some of its information; but the coin sequence does not fully correspond with the king list as it was understood at the time of Anandachandra, which suggests that we should not trust it fully and should use it with caution. The absence of coins for the third and sixth kings, Kalachandra and Chandrabandu, does not mean they should be excluded as their coins could still appear. The coin inscribed Kalachandra which has recently appeared on the market must represent a king of the same name who reigned later (during group 3), or the position of this king in the sequence was confused by the time of Anandachandra. What is certain is that the approaches taken in the past need to be reviewed. Perhaps other means of dating the kings will emerge in time.

A different approach to the chronology of Arakanese kings was suggested by Cribb (1986, 317–8), by linking the coins of Devachandra with issues from Samataṭa and Nepal with similar designs. This was later refined (Cribb 2013, 13–15) when a datable Cambodian coin with similar designs was discovered. All these coins have a reclining bull on the obverse and either śrīvatsa or an image of the goddess Śrī on the reverse. Like the Devachandra coin they also have inscriptions in Brāhmī and on all of them except the Cambodian coin a heavily dotted border. The form of the śrīvatsa on the Nepalese coin type has the same three-pronged form as on the Arakanese coins. Both the Samataṭa and the Cambodian coins were inscribed with the names of early seventh century kings, whose dates are well substantiated: Śaśanka ruling in Bengal and Samataṭa, about 600–37 and Īśanavarman ruling in Cambodia about 611–35. The related Nepalese coin type is dated to the early seventh century, but is inscribed with the name of a god. This relationship suggests that Devachandra's coins with bull/śrīvatsa coins should also be dated in the same period, i.e. the early seventh century. On this basis the Chandra dynasty of Vaiśālī would have begun in the late sixth to early seventh century and the coin inscribed *rajaṭa* [. . .] should be similarly dated. If the coin issuing kings named in Anandachandra's inscription had reign lengths as indicated there, then we could expect the inscription to have been erected about 200 years after the start of the reign of Devachandra, i.e. in the early ninth century. If the reign lengths are inaccurate then any date in the eighth to ninth century is possible.

The identity of the issuer of the *rajaṭa* [. . .] coins therefore remains obscure, but their position at the beginning of Arakanese coinage places their issue about CE 600. Previous attempts at attributing them to the second Chandra king Rajachandra cannot be substantiated and the frequently cited dating of the series which they commence has to be questioned.

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An Analytical Examination of Georgian–Sasanian Coins and Their Meaning in Numismatics

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Abstract The Sasanian empire succeeded the Parthian from the third to the seventh centuries in an area centred on modern Iran. At its greatest extent it reached from modern Turkey in the west and beyond Afghanistan in the east. The coins under discussion here come from the region of Georgia to the east of the Black Sea in the sixth and seventh centuries CE and are unusual in having early Georgian letters on them. The sequence of issuers and the authority of the coins is obscure, and a typology and discussion of the coins is offered here.

This paper looks at the coinage of the Sasanian empire, and the existence of a particular type of coinage that was created using a Sasanian model, but with the inclusion of Georgian letters. Given that the Sasanians were known for their high-quality minting standards and a high level of state control in the minting process, this potential imitation is of great interest. This series of coins has long been neglected, often only being looked at by a small number of scholars from the former Soviet Union, particularly Georgia. Hence it is in need of more in-depth analysis. Sasanian coinage and the region of Georgia and the Caucasus are also becoming increasingly important in archaeology due to the political climate of the Middle East as a whole, making additional studies especially worthwhile at present. This series in Sasanian coinage is often seen from nationalistic viewpoint, as representing early attempts at Georgian independence. This begs the question, is the existence of a particular group of Georgian–Sasanian coins an indicator of a Georgian effort for independence within the Sasanian empire? It is the intention of this research to show that the Sasanian empire used coins to better control the regions under their control, using the region of Georgia as the case study. This paper will attempt to understand and explain the unique style of Sasanian coinage known as Georgian–Sasanian that appeared around the sixth century AD. It is hoped that this will elucidate the ways in which coinage affects the broader scheme of the empire.

A major part to this will involve creating a catalogue of the known examples of this coinage. There are around 40 known specimens, from the Georgian National Museum, the American Numismatic Society, the Bode Museum, the Hermitage and the National Museum in Prague. Creating this catalogue will allow for analysis of the data, with references to support to the claims associated with the coins in question. This analysis will involve studying past interpretations and typologies, such as those of Yevgeni Pakhomov and Medea Tsotselia.

Of the 40 known specimens, information is available for approximately 32 of them.[1] The known specimens are detailed in the appendix with corresponding figures and the coin numbers refer to this list. They comprise eleven coins in the Georgian National Museum, five of which are in this study (coins 20–24), one in the American Numismatic Society (coin 12), ten in the Bode Museum (coins 2–11), six in the Hermitage, five of which are in this study (coins 14–18), and one that has yet to be published, one in the National Museum in Prague (coin 1) and one in the British Museum (coin 25). For the purposes of the study, some coins will be examined in detail due to their unique nature but not every individual coin will be looked at in detail. Each coin has been placed within a typology in order to make them comparable and in order to understand the bigger picture.

This information is based on museum collections and recorded secondary sources. There may in fact be some others that exist in private collections that have not been publically shown. For example, there have been only two examples of this coin type found in situ, one by Richard Koldewey during archaeological excavations in Babylon (coin 26) and one in Nedzikhi, which was excavated by the O. Lortkipanidze Archaeological Centre expedition in 1988 (Tsotselia 2002a, 431 and 1977, 153). Single coin finds are always difficult, as it is hard to assess their significance, especially if they have not been found in controlled circumstances such as archaeological excavations, and there may be many explanations for them turning up. It may be that the circumstances of finding are not truthfully reported either. As noted by Medea Tsotselia, many of the coin hoards from this region have been found during construction work and therefore not excavated properly. Tsotselia makes reference to one group of five Georgian–Sasanian drachms that were found in Tbilisi during construction, but the current whereabouts are unknown (Tsotselia and Depeyrot 2010, 140; Pakhmov 1926, 44). Another example is an anonymous Georgian–Sasanian coin that was found in Akhaltsikhe in 1900 which appears to have been sold around the time of finding, its whereabouts currently unknown (Tsotselia and Depeyrot 2010, 145; Pakhmov 1926, 44). It is also worth noting that another coin, found by the Germans in excavations at Babylon, is not in the Bode Museum collection or any of the other reported collections (coin 26 in the appendix, illustrated by Simon (1976), 153). Additionally, Lang writes of a Georgian Sasanian coin in the British Museum collection whose current details are not clear (Lang 1957, 139–40).

A number of details make the Georgian Sasanian coins unique. Although there are several types, it is important to highlight the main features that make them stand out from normal Sasanian coins. The first of is the Asomtavruli lettering that is present on the coinage. One example of this is in the use of letters Ⴂ and Ⴌ, which roughly transliterate as G and N (see figure 1). These have been interpreted as meaning Guaram, who has been discussed previously and was the *erismtavari* (Georgian, 'chief of the people') from 588–590. Another use of the Asomtavruli lettering is in Ⴟ and Ⴍ together, which roughly transliterates as JO, and whose meaning is currently unknown although there are several theories which will be discussed in detail later (see figure 3). The next detail is the addition of a cross, either on the obverse behind the head of the Shah, or more clearly on the reverse, replacing the fire altear (see figures 2 and 5). The last major change is a combination of the Asomtavruli lettering and the cross. The Asomtavruli lettering is generally read as ႱႴႬႱ, transliterating as SPNS, and another version reading as ႱႲႤႴ/ႠႬႭႱ which transliterates as Stephanos (see figure 4). These are assumed to be referring to Stephanos I.

1 An additional coin has recently been published since the original writing of this article, see Paghava and Janjgava (2015).

Figure 1 Asomtavruli lettering ႢႬ (Bode Museum, 18201945)

Figure 2 Cross on reverse (Hermitage, Inv. N ON-V-M-14207)

Figure 3 Asomtavruli lettering ႿႭ (Bode Museum, 18234170)

Figure 4 ႱႲႢႴ/ႠႬႭႱ *on obverse (Bode Museum, 18238817)*

Figure 5 Cross on obverse (Georgian National Museum, 405)

According to the research of Medea Tsotselia, the coins can be split into three types. All of the known specimens of these coins are shown in the appendix. Table 1 shows Tsotselia's typology with her numbering and descriptions (Tsotselia 2009).

Types 1 and 2b are based on the above-mentioned coins which feature the addition of a cross, either on the obverse behind the head of the Shah, or more clearly on the reverse, replacing the fire altar. The coins are anonymous in nature as other than the addition of the cross, there is no feature on them to indicate that this is not a standard coin of Hormizd IV. Type 2a is based on the first appearance of Georgian lettering. The lettering as mentioned above comes in several forms such as ႢႬ, ႲႬႢ and ႿႭ. Type 3a and b are based on coins with the ႱႴႬႱ and ႱႲႢႴ/ႠႬႭႱ lettering interpreted to mean Stephanos and the cross on the reverse replacing the fire altar.

When looking at these typologies, we encounter a few issues. The biggest issue is with Tsotselia's understanding of Vakhtang, Juansher and Stephanos. There is some debate as to the exact meaning in each of these coins.

Table 1 Tsotselia's typology

Type	*Description*
1	Coins in the name of Hormizd IV with a small cross on the obverse in place of the hair ball behind the king's head.
2a	Coins copying drachms of Hormizd IV with a Georgian monogram above the governor's head. This type was struck for the governors Gurgen, Juansher and Vakhtang.
2b	The second, later, type also copying Hormizd IV has a cross on the reverse instead of the altar flames.
3a	*Obv.* Bust copying Hormizd IV. Pahlevi legends: hlmzd to left and 'pzwn to right. The four Georgian letters SPNS for Stephanos appear on the margin of the coin. There is a small cross above the governor's shoulder. The design is surrounded by one circle of pellets with a crescent and star at 3h, 6h and 9h in the margin. *Rev.* A Zoroastrian fire altar with a cross instead of the flames, an attendant either side of the altar, all within a double row of pellets. The four astral symbols appear at 3h, 6h, 9h and 12h in the margin.
3b	*Obv.* Bust copying Khusrau II. The governor's headdress is topped by a globe and diadem. Instead of a Pahlevi legend the full name of the governor, STEPHANOS, is written in Georgian letters on either side of the bust. A double circle of pellets encircles the design. Three astral signs of the star and crescent are placed outside the circles.16 *Rev.* Modified Zoroastrian fire altar with a prominent cross instead of the flames of the fire. Two attendants stand either side facing the viewer. A triple row of pellets encircles the design. The astral signs of a star and crescent are placed in the margin at 3h, 6h, 9h and 12h.

Vakhtang

The Vakhtang coin in question is now in Berlin (coin 3 in the appendix). We do not know of a prince with the name Vakhtang that would coincide with the reigns of Gurgen or Stephanoz I. Since later Georgian coins, such as those of Vakhtang III dated to CE 1298/99 and 1299/1300, have a similar monogram, Pakhomov (1970, 20) suggested that the coins can be read as Vakhtang. When examining the monogram, though, and comparing it to the coins that are known to carry the monogram for Guaram, it is clear, these are undoubtedly identical through their design and content. On the coin in question, Ⴂ and Ⴌ are simply linked to each other. If it is a case where it is a different person from Guaram, it would be difficult to place another unknown erismtavari Vakhtang in the known chronology. One key aspect to this idea that there could have been another *erismtavari* is noted in the work of Cyril Toumanoff. Toumanoff observes that the earlier Prince Vakhtang I of Iberia, has no Classical equivalent. Toumanoff suggests the king may have been known by a nickname, that being Gorgasal, meaning the wolf, from the shape of the helmet he wore. This nickname is known as it has been recorded by the sixth-century Roman historian Procopius who writes of an Iberian leader Gurgenes (Greek Γουργένης) and Gurgenes has been suspected as being Vakhtang (Toumanoff 1963, 199–200). Interestingly enough, Gurgen is potentially derived from the Pahlavi term for wolf, *gurg* (MacKenzie 1971, 38; Rapp 2014, 21). Although an interesting theory, this identification of Vakhtang has not been universally accepted (Greatrex 1998, 129). This question of whether the Vakhtang coins are indeed referring to an unknown erismtavari or in fact are just another way of writing Gurgen creates an issue with defining the meaning behind this typology of coins.

Juansher

The second issue is that of Juansher, since again we have no record of anyone with that name who would coincide with the time period. The above coin is identical to Gurgen's coins, except for one detail: the letters above the depiction of the shah are replaced with two Asomtavruli letters Ⴕ and Ⴍ. There are several ways of deciphering ⴕⴍ. According to the *Online English–Georgian Catalogue of Georgian Numismatics* created by the Institute of Georgian History, some suggestions have been 'Javakheti' which is the name of a province in Georgia, or 'jvari' which means cross in Georgian. Georgian scholars such as Tsotselia and Lordkipanidze are of the opinion that this monogram is Jonber or Juansher (*Online English-Georgian Catalogue of Georgian Numismatics* 2016). This would mean though that Juansher is an unknown erismtavari who held enough power to mint their own coinage for a very short period (one year or even several months) after Gurgen. According to the Georgians, the presence of a distorted date on a Jonber/Juansher coin attests to the fact that it is an imitation of Gurgen's drachm and not that of an original Sasanian coin. With this theory in mind, it may be possible see these Juansher coins then as imitations of Sasanian coins done by a local lord who never gained any real power. According to Stephen Rapp (2014, 327), the reading of ⴕⴍ is more likely to be seen as being a representation of 'O Cross' and would have been minted in the earlier stages of this type of coinage. The fact there is currently only one specimen of this type of coinage would seem to indicate that this type was only minted very briefly. Another interesting theory to support the cross theory is in the idea of the lettering being a religious symbol. As the letter Ⴕ is an exception in the Georgian alphabet for its use of angles, this letter has been debated by scholars such as Helen Machavarian, a noted Georgian linguist and art historian, who sees Ⴕ as a monogram of Christ (Machavariani 2011, 121–2). Another theory, according to Georgian scholar Ramaz Pataridze, is that the letter is caused by the influence of outside languages, due to its function and shape similar to that of the Phoenician letter *taw*, Greek *chi* and Latin *x* (Pataridze 1980, 260–1). Considering the physical resemblance to the chi-rho, a well-known Christian symbol, this gives some potential credence to the theory of 'O Cross'. It is more likely that the 'O Cross' version of this is the more plausible option, as it could be seen as an early form of the religious iconography that is seen later in the coinage under Stephanos. This would also help to dispel the theory of the unknown Georgian prince. It should also be noted that although Juansher is a Georgian name and there are several historical figures in Georgian history that bear this name, none of them can be dated to this period.

Stephanos

The Stephanos I coins seem to feature two types, one early and one later. The variation has caused some debate as to what it truly meant. The early version, which features markings which fit both Hormizd IV and Khrusow II, has caused some argument for it being an early imitation. Pakhomov concludes that the minting of the early variation could have taken place only when Georgia was Iran's vassal, and within the Georgian monetary circulation, when there were mainly Ohrmazd IV's coins, and Khusrau II's coins were just entering into circulation, causing some degree of variation (Pakhomov 1970, 28). Pakhomov also notes that whoever struck the coins could have easily mistaken the number of the circles, and therefore it could be simply a mint error. This may also explain why there seems to only be one known specimen. On the other hand, Tsotselia puts great importance on the use of the cross, and sees this as evidence that Stephanos I's coinage was issued to proclaim his political power, stress his religious orientation and demonstrate his political independence from Iran (Tsotselia 2009, 435). This later coin has also been argued as being minted by Stephanos I's grandson Stephanos II by other scholars (Paghava and Janjgava 2015, 212). There are several issues with the later attribution. Stephanos II reigned from 637–50 AD. Very early on in his reign, 645, not only was he required to recognize the control of the Caliph when the Arabs moved into Georgia, but he also would not have had Sasanian coins circulating to copy (Suny 1994, 27).

New typology and understanding

With these things in mind, it is my opinion that the typology of the coins should look more like table 2, with a typology that gives more credence to the minor differences.

This new typology creates several distinctions that allow for a better understanding of the coinage. By creating a separate anonymous category, it allows for the recognition that the early coins do not have a specific reference to a Georgian leader. Additionally by splitting it into 4 categories, it allows for an understanding that there was a variety in the minting of this coinage. The splitting of type 2 into 3 categories creates a similar result. By creating type 2b and 2c, it becomes clearer that there is a difference and something must have occurred to cause this different minting style, especially with type 2c which is clearly minted differently with regards to the writing of ԵԻԼ (see coin 2). Type 3 Juansher/O Cross has been created as a separate type in order to highlight that it is not simply a slightly modified type 2, but an entirely separate coin that may hold a very different meaning. The Tsotselia type 3 has remained virtually the same, only changing the number relative to the other coins. The Stephanos type, both Tsotselia and I seem to agree, is a coin of Stephanos and that one is most likely earlier while the other one is later.

Other than redefining the typology, there are understudied aspects of this coinage that seem to have not been mentioned by any other author in detail. Such aspects are the iconography, and minting techniques of these coins.

This iconography not only follows the standard Sasanian design, even with the Georgian changes, but also the reigns of shahs. The change from a Hormizd IV design to a Khusrow II design, shows that whoever was minting these would have been aware of the political change between the two shahs, speaks volumes. This could however just be a reflection of the Georgians copying the coins that were circulating in Georgia at the time, but then the question arises, why would the Georgians even bother to change the imagery to a shah that they do not follow? As pointed out by both Tsotselia and Pakhomov, the earlier anonymous and Guaram types appear to be based on the Hormizd IV Göbl SN 1/1 from the number of circles and the style of crown. The reign of Guraram (588–90) would in fact line up with the later part of the reign of Hormizd IV (579–90). It would make sense that the coins circulating in Georgia

Table 2 Revised typology

Type	*Description*
1a Anonymous	Bust of Hormizd IV with a small cross on the obverse in place of the hair ball behind the shah's head.
1b Anonymous	Bust of Hormizd IV and has a cross on the reverse instead of the altar flames.
1c Anonymous	Bust of Hormizd IV with a small cross on the obverse in at the 12h position in the field.
2a Gurgen	Bust of Hormizd IV with a Georgian monogram of Gurgen above the shah's head.
2b Gurgen	Bust of Hormizd IV with a Georgian monogram of Gurgen above the shah's head. Because of way it is written, this has been confused as Vakhtang
2c Gurgen	Bust of Hormizd IV with a Georgian monogram of Gurgen between the 4h and 5h.
3 Juansher/	Bust of Hormizd IV with a Georgian monogram O Cross T of ႵႭ above the shah's head.
4a Stephanos/early	*Obv.* Bust copying Khusrow II. Pahlevi legends: GDH apzwt to left and ʻ hwslwb to right. The four Georgian letters ႱႴႬႱ (SPNS) for Stephanos appear on the margin of the coin. The design is surrounded by one circle of pellets with a crescent and star at 3h, 6h and 9h in the margin. *Rev.* A Zoroastrian fire altar with a cross instead of the flames, an attendant either side of the altar, all within a double row of pellets. The four astral symbols appear at 3h, 6h, 9h and 12h in the margin. Traces of mint abbreviation and regnal date are present
4b Stephanos/later	*Obv.* Bust copying Khusrau II. The shah's headdress is topped by a globe and diadem. Instead of a Pahlevi legend the full name of the governor, STEPHANOS, is written in Georgian letters on either side of the bust (ႱႲႤႴ/ႠႬႭႱ). A double circle of pellets encircles the design. Three astral signs of the star and crescent are placed outside the circles. *Rev.* Modified Zoroastrian fire altar with a prominent cross instead of the flames of the fire. Two attendants stand either side facing the viewer. A triple row of pellets encircles the design. The astral signs of a star and crescent are placed in the margin at 3h, 6h, 9h and 12h.

at the time would be those of Hormizd IV and the easiest to copy. The reign of Stephanos I (590–627) however, lines up with reign of Khusrow II (590–628). The later Stephanos type coins are certainly based on Khusrow II Göbl SN 1/1. If this style is merely a matter of local Georgian princes copying the circulating Sasanian coins, then why would there be a change in style from the Hormizd IV coins to the Khusrow II timed to their reigns, as Hormizd IV coins would have still circulated for some time after his reign.

Additionally, it becomes very apparent that these coins do fit into a standard of weight and size, being around 3 grams and between 27–30 millimetres in diameter. This is about 1 gram less than the standard of most Sasanian coins, but still could constitute an accepted standard since all of the coins are around 3 grams. This is of note because it would mean that someone at the time did this deliberately, as it is not something that could have been done by chance. That being said, it would be impossible to confirm whether the person directing this operation was of Georgian or Persian political alignment. If whoever was orchestrating this was in fact Persian, they would have had to have enough knowledge of the Georgian alphabet in order to create dies. This could have been possible as the Persians had a known presence in the region for several centuries before this. As pointed out by Tsotselia though, it is well known that Sasanian drachmas were subject to a high degree of control by the state. Tsotselia argues that drachmas might have been struck locally at mints. Tsotselia also states that it is not clear whether the dies for the coins were made locally or were cut by the Sasanian government and sent to the local mints for use in striking (Tsotselia 2003, 1680). It is probable that if these coins were indeed being made by locals, the Sasanian central authority at least extended its permission for the coins to be minted. If these dies were indeed made locally as Tsotselia has suggested, it may explain some of the errors that are seen.

In a continuation of the idea of central control in minting, regarding the ႵႭ coin, XRF readings came out at 93 per cent silver and 5 per cent copper (Bode 18234170). The metal of this coin then is well refined and seems to be more indicative of a centrally minted coin, than one that was crudely made by a local lord of minor power. This provides evidence contrary to the theory of an unknown erismtavari named Juansher.

It should be noted as well that two of the coins of Gurgen come from one set of dies. Coins 1 and 2 in the appendix appear to be from the same obverse and reverse dies, according to Pakhomov (Pakhomov 1970, 19). Although there are slight differences in the coinage, this can be attributed to wear of the dies, highlighting that this was not a one off minting of coinage, but something that would have been done several times. It is also apparent when looking at the other examples of the Gurgen coins that there were multiple dies.

Figure 6 Coin 16, double cross

Additionally, one of the anonymous type 1b coins seems to have an error on the cross (coin 16 in the appendix; figure 6 is a close view of the error in question). When examining the specimen it becomes clear that the cross has been stamped twice, resulting in a double outline of the cross. Furthermore, this seems to be the only feature on the coin that shows that there were issues with the minting of this coin. There are two potential answers to this. One is that it is a mint error and the double cross is merely the result of someone stamping the coin twice or an error in the die. The issue with this, though, is that no other features on the coin seem to carry errors, which would be expected if an error in striking was made. The second potential answer is that the cross was added post-minting as a countermark. The countermarking answer also has issues. The area around the cross is fairly clear and there is no visible punch mark on either side of the coin that would indicate

that something was added after the minting event. Neither of these answers can be confirmed conclusively, but they do raise issues with how these coins were minted. Regarding the two coins that are die linked, this cross error, and the potential minting error with the type 4a Stephanos coins, many of these answers could be found through an extensive die study. An extensive die study was not possible for this current study owing to having no access to the coins, but would be worth investigating much further in subsequent research.

One of the specimens (coin 11 in the appendix) appears to have the ZWZWN mint mark. This could have two logical explanations, one being that the Sasanians were putting their mint mark on an earlier version of one of the coins, since it does appear to be on the earlier type 4a version of the Stephanos coins. Another possibility is that this is in fact an imitation of a known mint sign, since adding the mint design to a coin would make it look more official, since this is potentially a mint mark of Armenia. It is also important to note how without the Georgian variations to it, this coin perfectly mirrors a Hormzd IV (Göbl 1971, plates 12 and 13, SN1/1) on the obverse, but on the reverse it follows the pattern more akin to a Khusrow II (Göbl SN1/1), with two rings instead of one. Additionally, XRF data on this coin found the coin contained 90 per cent silver and 7 per cent copper (Bode 18208695), which is well within the acceptable range for Sasanian minting, and which I hope to discuss more in a future publication. Last, this coin appears to be very well struck, and if it is indeed a mint error as Pakhomov suggested, it was a very well made error. Of course, if this coin is coming from the frontiers, this may explain the discrepancy between the types (see above). This can be furthered studied as another specimen of Stephanos (see appendix, coin 10) which does not feature the ZWZWN mark, only contains 75 per cent silver, which is suspiciously low for Sasanian coins. It is not the only coin, however, that features the ZWZWN mint mark. Coins 13, 15, 19 and 21 feature the ZWZWN mark and are of the earlier Guaram type of coinage. It is also very possible that several other coins have the mark but were unavailable for this study. What this means is that this mint mark is featured at various points in the minting of the Georgian–Sasanian coinage, showing that this is something that is being done purposefully.

Regarding the ZWZWN mint mark, it is known that the Sasanians had a mint with the sign BBA, which may have been used as a 'court mint' by the shah and would have travelled with him. This court mint may have been used in different ways depending on the shah (Malek 2019, 87). Thus it is not entirely improbable for the Sasanians to have another travelling mint in a place like Armenia or Georgia which was in constant flux for control and would have needed a mint present for use with the army. It is possible that this mint sign was used due to its resemblance to the Pahlavi word for drachm or money. Nikitin writes that it is possible that some of the coins are genuine drachms of Hormizd IV, which were made by some travelling mint that was carried with the army (Nikitin 1993, 2). Nikitin goes further with this explanation, suggesting that when the original stock of Sasanian drachms ran out, local imitations may have been made in order to meet the needs of the local people, which may help to understand one of the reasons for the creation of the Georgian–Sasanian coins (Nikitin 1993, 2). The Georgian-Sasanian examples with the mark ZWZWN can also be compared with several examples from the reign of Hormizd IV, all found in the region of Armenia. Although the Armenian examples do not carry any Georgian lettering, they do seem to have the same minting features of the Georgian–Sasanian specimens, making them comparable (Khurshudian and Zohrabian 2002, 77).

It is worth noting that this was not a region that could be expected to follow normal minting practices. Unlike many of the known Sasanian mints which were located in well-known areas of the Iranian heartland, and therefore not under constant threat, the regions of the Caucasus were under constant threat from the Roman Empire to the west and Hunnic/Turkic peoples to the north. This is important to note as it means that many of the mints within the empire would have had a much easier time producing well refined and well struck coins in comparison with a region that was in constant flux. It is also important to recognize that coins were not simply struck to support local economies. Sears states that numismatic evidence demonstrates that drachms were specifically struck during the later period of the sixth century to support the logistical needs of the Sasanian army in their wars with the Byzantine Empire. These needs consisted mainly of the payment of soldiers and the expenses of procuring food and supplies. It is also important to consider that due to the near constant warfare, the size of the army would have increased (Sears 1997, 360–1). However, the longer campaigns, especially into remote mountainous regions such as the Caucasus where supplies could not be relied upon, could have also caused there to be a need for coinage to be minted more locally with the army. This is also supported by Hahn who states that a similar practice was used by the Byzantine Empire (1981, 107–8). Both minting chronologies and records of where these coins were released into circulation tie the massive emissions to Sasanian military activity (Sears 1997, 361). The minting of these activities of Hormizd IV's may also be due to pressure caused by the rebellious actions of the usurper Bahram and attacks by the Hepthalites (Mochiri 1972, 37). Sears states that Hormizd's later coins are more certainly linked to the campaigns in the Caucasus, and given the amount of hoards from this time that have been found in the region, this is quite possible (Sears 1997, 361). The slight rise in output at the end of his reign corresponds to the approximate years of military activity in this region and previously stated information regarding the reign of Guaram, and the theories of Nikitin regarding the possible use of the ZWZWN mint.

This issue of the region being in constant flux could also help to explain the semi-anonymous coins, such as the specimens with small crosses, the Juansher/O Cross specimens, and the multiple variations to the Guaram coins. The region was in constant back and forth between Roman and Sasanian control, and the minting of any coins would have to reflect this changing allegiance. It is very possible that the different forms of crosses were added over time as a way of slowly acclimatizing the local populace to Sasanian acceptance of Christianity. A Sasanian minting of these coins would also explain how Guaram could be spelt as or 𐭣𐭭 (GN) and 𐭣𐭭𐭣 (GNG). It has been noted before that Gurgen was the official term used for foreign relations, and found in the coinage and in foreign sources (Toumanoff 1963, 434). It would be logical to see how a foreign entity such as the

Sasanians would use the foreign spelling of a name, and even have multiple ways of spelling it, especially as in the example of coin 12 it is written in a format similar to that of the Middle Persian inscriptions. It is also known that Guaram did rebel and sided with the Byzantine Empire, which may also account for the need to change iconography, since it may have been seen that what was being done was not working.

If this copying of Sasanian coins was merely a matter of using what was circulating, then why did the Georgians not use the Byzantine coins as a model? Byzantine coins were also circulating, as seen in the ten Byzantine hexagrams found among 1,385 Sasanian drachms in a hoard in Tsitelitskaro (Tsotselia 2002, 30). Many Byzantine and Sasanian coin hoards have been found throughout the modern country of Georgia (see Tsotselia and Depeyrot 2010). There were more Sasanian coins circulating in eastern Georgia, just as there seems to be a tendency for the Byzantine coin hoards to be in the west of the country. This split in the circulation coinage would follow what is known of how the region was split politically. Despite this, Byzantine coinage would have still been known to the people in eastern Georgia, and therefore if these coins are indeed local imitations, using the Sasanian coinage would have been a choice.

It can conclusively be seen, then, that the minting of this went beyond simply copying someone else's coinage. The fact that the Georgian–Sasanian coinage fits in with what is known of the specifications of Sasanian minting practices and appears to be a series of coins that were minted several times and with a high degree of precision corroborates this. Additionally the coins are minted and change in line with the succession not only of the Georgian princes, but of the Sasanian shahs, indicates that there is a political motive behind these coins. This can be corroborated with the geopolitical knowledge of the area provided by scholars who have shown that there was a great deal of activity in the region of Georgia.

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Appendix : The coins

1 Tsotselia Type 2, Ouellet Type 2a, 27 mm, 2.713 g, Muzeum-Naprstek, Prague, N614, ex Augst collection

2 Tsotselia Type 2, Ouellet Type 2a, 27 mm, 2.84 g
Bode Museum, Germany,18238813
According to Pakhomov, both obverse and reverse die match with the coin in the Czech Museum, which I believe may be correct (Pakhomov 1970, 19)

3 Tsotselia Type 2, Ouellet Type 2a, 29 mm,2.89 g
Bode Museum, Germany,18238815

4 Tsotselia Type 2, Ouellet Type 4, 25 mm, 2.71 g
Bode Museum, Germany,18234170

5 Tsotselia Type 2, Ouellet Type 2a, 27 mm, 2.96 g
Bode Museum, Germany,18201945

6 Tsotselia Type 2, Ouellet Type 2a, 29 mm, 2.69 g
Bode Museum, Germany,18238810

7 Tsotselia Type 3b, Ouellet Type 4b, 29 mm, 3.00 g
Bode Museum, Germany,18238817
The official catalogue of the Bode Museum has the Stephanos coins as being of a Hormizd IV design, but in fact both myself and Tsotselia see them as a Khsurow II design

8 Tsotselia Type 3b, Ouellet Type 4b, 26 mm, 2.94 g
Bode Museum, Germany,18238818

9 Tsotselia Type 3b, Ouellet Type 4b, 27 mm, 3.02 g
Bode Museum, Germany,18238819

10 Tsotselia Type 3b, Ouellet Type 4b, 27 mm 2.82 g
Bode Museum, Germany,18238820

11 Tsotselia Type 3a Ouellet Type 4a, 28 mm, 2.89 g
Bode Museum, Germany,18208695

12 Tsotselia Type 2, Ouellet Type 2c, 31 mm, 2.64
American Numismatic Society, 750. 1999.54.1

Note: the Bode Museum pictures are reproduced by kind permission of the Münzkabinett, Staatliche Museen zu Berlin, photographs by Lutz-Jürgen Lübke (Lübke und Wiedemann)

14 Tsotselia Type 2, Ouellet Type 2a, 31.0 mm, 2.91 g
Hermitage, N ON-V-M-14198

15 Tsotselia Type 2, Ouellet Type 1a, 30.0 mm, 2.92 g
Hermitage, Inv. N ON-V-M-14202

16 Tsotselia Type 2b, Ouellet Type 1b, 28.0 mm, 2.44 g
Hermitage, In NN ON-V-M-14199

17 Tsotselia Type 2b, Ouellet Type 1b, 29.0 mm, 3.21 g
Hermitage, In NN ON-V-M-14200

18 Tsotselia Type 3b, Ouellet Type 4b, 28.0 mm, 2.78 g
Hermitage, Inv. N ON-V-M-14207

19 Type unknown, 28.0 mm, 2.88 g
Hermitage, Inv. N ON-V-Azmuz-7515, coin is currently unpublished, illustration not available

20 Tsotselia Type 2b, Ouellet Type 1b
Georgian National Museum, 1571

21 Tsotselia Type 3b, Ouellet Type 4b
Georgian National Museum, 1710

22 Tsotselia Type 1, Ouellet Type 1a
Georgian National Museum, 4056

23 Tsotselia Type 2, Ouellet Type 2a
Georgian National Museum, 4058

24 Tsotselia Type 2b, Ouellet Type 1b
Georgian National Museum, 4059

25 Tsotselia Type 4b, Ouellet Type 4b, 27 mm, 2.75 g
Quondam British Museum, mentioned in Lang (1957)

26 Tsotselia Type 2, Ouellet Type 1c, 29 mm, 3.02
Current location unknown, excavated at Babylon

27 Tsotselia Type 1, Ouellet Type 1a, 3.94 g
Current location unknown, private collection; sold at auction in 2005 by Dr Busso Peus Nachf, auction 384, lot 465 9.7, illustration at https://www.acsearch.info/search.html?id=263874

King Mindon's Early Coinages

Jun Li

In the history of numismatics, Mindon Min or King Mindon of the Myanmar Konbaung dynasty is famous for his beautiful peacock coins. But what is less known is that before the newly constructed Mandalay mint, which was equipped by machines and dies imported from the Heaton Mint in Birmingham, England, began to produce the peacock coins in 1865, he had tried several times to follow his great grandfather King Bodawpaya to make coins.

Compared with the peacock coins manufactured with new equipment from 1865, the early coins of Mindon are very rare and they have received less attention. This article aims to study the achievements of the numismatics community in this field so far, and draw some new inferences about its timeline with some new evidence.

Research history of the coins of King Mindon

Figure 1 Arthur Phayre[1]

The earliest record of the early coinage of Mindon was made by Sir Arthur Purvis Phayre. He was born at Shrewsbury in 1812 and in 1829 he went to India and joined the British Indian army. His first experience in Burma was in 1834 and three years later he was appointed senior assistant to the commissioner of Arakan. In 1846 he became the principal assistant to the commissioner of the Tenasserim Provinces. In 1849 he became the commissioner of Arakan (Yule 1886). After the Second Burmese War he was nominated to the charge of the new territory of Pegu province and also played a role as the governor general's agent in the negotiations with the court of Burma (Hall 1932, xi). In 1862 Phayre was appointed the first chief commissioner of British Burma, which included all the four provinces of Arakan, Pegu, Martaban and Tenasserim.

Phayre began to learn Burmese when he first served in the Arakan. In 1854, when Mindon sent his envoy to Calcutta, he was responsible for accompanying him and acting as an interpreter. In the following year, he was sent by the governor general British India to lead a mission to visit Amarapura in Myanmar. In 1862 and 1866 he also visited Mandalay, Mindon's new capital. He left Burma in 1867.

Phayre's *History of Burma* (1883) was the first English-language work on Burmese history. In numismatics he published articles in the *Journal of the Asiatic Society of Bengal* in 1846, 1863 and 1872. In 1882 he published *Coins of Arakan, of Pegu, and of Burma*, the first monograph on Burma coins, in which he simply recorded two types of silver peacock coins of Mindon, without details of their context (1882, 36, plate 5).

Figure 2 Richard Carnac Temple, from Oldham's obituary (1931)

Another scholar who made contributions is Richard Carnac Temple. He was born at Allahabad on 1850 and educated at Harrow and Trinity Hall, Cambridge. He joined the army and went to India in 1871. He was transferred to Burma when the Third Burmese War broke out in 1885. He served at Mandalay and other places as assistant commissioner, cantonment magistrate and deputy commissioner, eventually becoming official president of the Rangoon Municipality and Port Commission in 1891. In 1894 he was appointed chief commissioner of the Andaman and Nicobar Islands. He retired in 1904 (Oldham 1931).

Temple was an expert on folk religion and wrote a pioneering work, *The Thirty-seven Nats: A phase of spirit-worship prevailing in Burma* (1906), but he was also a distinguished antiquarian, and from 1885 was the proprietor and editor of the journal *Indian Antiquary* for 46 years until his death in 1931 (Oldham 1931). Between 1897 to 1931 he published a series of numismatic works in the journal listed in the references here.

He discussed Mindon's coinages in his *Notes on Currency and Coinage among the Burmese* (1928), and also Mindon's new mint and traditional method of making coinage (1928).

In 1980 Michael Robinson and Lewis A. Shaw published their work *The Coins and Banknotes of Burma*. They fully discussed all materials available at that time, and it remains the standard reference work. In chapter 10, 'Mindon's early coins and the founding of Mandalay', based on Phayre, Temple and other contemporary records, they discussed all three known types of Mindon's early coinages and numbered them as 10.1,

1 Watercolour with pen-and-ink of a portrait of Sir Arthur Purvis Phayre from Colesworthy Grant, 1855, *A Series of Views in Burmah taken during Major Phayre's Mission to the Court of Ava in 1855*, The British Library WD540(105).

10.2 and 10.3. These are still the three main types of known Mindon's early coinages now.

The most important work on Myanmar numismatics by a Myanmar numismatist is Than Htun (Dedaye)'s *Auspicious Symbols and Ancient Coins of Myanmar* published in 2007, which includes Mindon's early coinages.

The *shwe pyi so* type

Figure 3 'Shwe pyi so' coin (British Museum 1960,0504.1)

Robinson and Shaw's type 10.1 with the *shwe pyi so* bird (the common iora) on the obverse, the legend 'Religious Era 2396' (the Buddhist era starting in 544 BCE in Burma, so AD 1852–3) on the reverse, with a dotted rim on both sides and a plain edge. At present the only known piece is in the British Museum (registration number 1960,0504.1, donated by W. T. Wilcox), weight 16.45 g (approximately 1 kyat, the silver denomination introduced by Mindon), diameter 39 mm.

Figure 4 Tin example of 'shwe pyi so' coin (Pitt Rivers Museum 1899.12.67)

Temple (1913, 124) recorded that there was a tin piece of *shwe pyi so* coin in his collection, but he identified the obverse design as cock and mistakenly classified it as a coin from Tenasserim, a coastal region in the south of Burma where tin and lead coins were issued from the mid-seventeenth century into the nineteenth century. Its maximum diameter is 38 mm. Temple donated it to the Pitt Rivers Museum (1931, 70, 74), where it is still incorrectly described as a gambling counter. Judging from the material, this coin is more likely to be a contemporary forgery, and perhaps it can also explain the reason for the short-lived *shwe pyi so* coin.

Than Htun (Dedaye) recorded a small silver *shwe pyi so* coin in his collection (2007, 180), which is the only one of its size known. The coin was pierced, with a plain edge. Its design is similar to that of the large silver type, except the words 'Religious Era' above '2396' is omitted and the date fills the flan, weight 2.01 g, diameter 15 mm. From its weight which is close to 1/8 kyat, it appears to be the smaller denomination, the mu (Robinson and Shaw 1980, 6).

Figure 5 Small type of 'shwe pyi so' coin (Than Htun (Dedaye) collection)

Peacock with spread tail in full display type

Figure 6 Peacock with spread tail in full display coin (British Museum 1882,0508.45)

Robinson and Shaw's type 10.2 has a peacock with spread tail in full display decorated with rosettes on the obverse, Yahan Poppasaw's Era 1214 (starting in 639 CE, so AD 1852–3) is surrounded by wreath and rosettes on the reverse. The diameter is 29.5 mm and it has a reeded edge. Robinson and Shaw recorded three known pieces at that time, one each from the American Numismatic Society, the British Museum and a private collection. The weight ranges from 16.04 g to 16.24 g (approximately 1 kyat).

There are currently nine pieces known in private collections (possibly including the coin in a private collection listed by Robinson and Shaw).

No.	*3rd party certificate*	*Last auction record*	*Previous auction record*
1	NGC AU55		
2	NGC AU50	2008/11 St James 10	
3	NGC AU50	2020/7 Auction World 21	
4	NGC XF45	2016/1 SBP New York	
5	PCGS XF45	2018/4 SBP Hong Kong	2013/9 Jean Elsen 118
6	NGC XF40	2009/5 Goldberg 53	2006/9 St James 5
7	PCGS AU	2018/8 SBP Hong Kong	2009/5 Baldwin 59/60
8	NGC XF	2019/1 HA Seki Collection	2010/8 Baldwin Hong Kong 49
9	—	2006/5 Baldwin 45	

Robinson and Shaw quoted Temple's record, based on the description 'Rupee, Ava Mint' in the collection of the Indian Museum in Calcutta and mentioned in Mint Letter No. 791 dated 31 January 1854, and dated type 10.2 to a date of manufacture of 1853. As for the 'Ava Mint', Robinson and

Shaw believed that apart from the minting equipment from Calcutta introduced by King Bodawpaya at the end of the eighteenth century, there is no evidence that there were other mints in Burma, and they also doubt whether it was possible to process the edges of coins using old equipment.

Than Htun (Dedaye) (2007, 183–4) classified type 10.2 as a trial or pattern piece, like the peacock patterns from the Heaton Mint.

Peacock with folded tail type

Figure 7 Peacock with folded tail coin (British Museum 1921,1014.151)

Robinson and Shaw's type 10.3 has a peacock with folded tail and facing left, decorated with wreath and rosettes on the obverse, Yahan Poppasaw's Era 1222 (AD1860–1) is surrounded by wreath and rosettes on the reverse. The diameter is 32 mm and it has a reeded edge. Robinson and Shaw recorded two known pieces at that time, one in the British Museum (registration number 1921,1014.151, from Spink & Son Ltd, ex Eyre collection) and one in a private collection. The weights were given as 16.02 g and 16.36 g (approximately 1 kyat).

There are currently two pieces known in private collections (one is possibly the one in the private collection listed by Robinson and Shaw).

No.	*3rd party certificate*	*Last auction record*	*Previous auction record*
1	PCGS AU53	2018/4 SBP Hong Kong	2016/7 Auction World 5
2	NGC XF45	2019/1 HA Seki Collection	

Than Htun (Dedaye) (2007, 183–4) classified this 10.3 type also as a trial or pattern piece like the peacock patterns from the Heaton Mint.

A summary of all the known pieces is shown in table 1.

Burmese official records

There are three royal orders related to the issue of coins of the *shwe pyi so* bird type (Than Tun 1989, 17–18), all published on 29 January 1854, less than one year after Mindon came to the throne. Their contents are similar and concern the issue of coins with design of *shwe pyi so* bird and Religious Era 2396. One mentioned (translated by Than Tun)

Figure 8 King Mindon (from Yule 1858, plate 1)

> With 'Lump Silver Currency' – percentage of impurity in silver varies with intension [*sic*] to cheat and this is unquestionably thieving for which sin one would be punished in hell, on the other hand foreigners who come to trade with us prefer using coined money, King Badon 1782–1819 issued silver and copper coins as currency, following that example coins would be issued now, put on the obverse Anno Buddhae 2396 when the king ascended the throne and the figure of a bird called Shwe Pyi So on the reverse of the new coin.

Another reads (translated by Than Tun)

> Order Merchants from other countries frequently visited this country and it would be of mutual benefit to have coined money; issue coins with the Year of the Buddha's Religion when the king ascended the throne and the mark of Shwe Pyi So, on the reverse.

For context, in Burma under the early Konbaung dynasty the currency in circulation was still silver, and was used by weight. Faced with the inconvenience of weighing money in every transaction, it was a natural choice to try to create coined money. At the end of the eighteenth century, Bodawpaya, the great-grandfather of Mindon, first tried to make changes. He ordered silver coins using the design of Pyu coins that had circulated in Burma in the fifth to ninth centuries and newly designed double fish copper coins from Calcutta, as well as corresponding coinage equipment and dies for subsequent local manufacturing. Attempting to put silver coins that are valued higher than their intrinsic value into the market would arouse fierce resistance from merchants who are used to weighing silver day to day. After ineffectually threatening to cut off some people's heads, Bodawpaya had to give in and allow the silver bullion to continue to circulate in the market. On the other hand, although it may be a very limited area, the double fish copper coins remained in circulation for a long time (Hauret 2019).

Bearing in mind these points, we can look at the content of the royal orders, and summarize the following conclusions.

Table 1 Summary of known pieces

Reference	*Shwe pyi so coin*		*Peacock with spread tail (kyat)*	*Peacock with folded tail (kyat)*
	Large type (kyat)	*Small type (mu)*		
Phayre	—	—	(1882), plate 5, no. 3	—
Temple	(1913), plate 5, fig. 5* (1928), 44 (no illustration) (1931), fig. 6**	—	Phayre (1882), plate 5, no. 3	—
Robinson and Shaw (1980),	fig. 10.1	— —	fig. 10.2	fig. 10.3
Than Htun (Dedaye), (2007), 188–4	plate 302.1	plate 303	plate 310.2	PL310.3
Krause and Mishler (1991), 2150	KM no. 15	—	KM no. 11	KM no. 16
Obverse	*Shwe pyi so* bird	*Shwe pyi so* bird	Peacock with spread tail in full display	Peacock with folded tail
Reverse	Religious era 2396 (1852–3)	Religious era 2396 (1852–3)	Yahan Poppasaw's era 1214 (1852–3)	Yahan Poppasaw's era 1222 (1860–1)
Edge	Plain	Plain	Reeded	Reeded
Diameter (mm)	39–40	15	29.5	32
Weight (g)	16.45	2.01	16.04–16.24	16.02–16.36
Known (museum collection)	1 (BM) Tin 1 (PRM)	0	2 (BM/ANS)	1 (BM)
Known (private collection)	0	1	9	2

* Described as 'Tin cock coin, or perhaps counter, token or tally, from Mergui. Reverse has a badly inscribed Burmese legend, which reads: *thâthanadaw* (in the type of) religion; date illegible'.

** Described as 'a Tenasserim cock coin or token'.

1 The main purpose of the *shwe pyi so* coin was to put it into circulation to eliminate the drawbacks of weighing currency, and facilitate trade.

2 The Religious Era 2396 year does not indicate the date of manufacture or issue, but the year when Mindon came to the throne (AD 1853).

3 As with the relocation of the capital to Mandalay, the issuing of coins was also a policy in which Mindon followed his great-grandfather Bodawpaya.

4 The official issue of the *shwe pyi so* coin began on 29 January 1854.

Judging from the very limited existence of *shwe pyi so* coins and the fact that the British who visited Amarapura in 1855 recorded that Burma had no coins in circulation at that time and they were still weighing weighing bullion (Yule 1858, 258), it appears that the *shwe pyi so* coin did not achieve Mindon's original purpose.

Temple's footnote about the 10.2 type

Robinson and Shaw said that the 10.2 type peacock coin was made in 1853, which is is inconsistent with the time when the Burmese royal orders announced the circulation of the *shwe pyi so* coin. If the 10.2 type peacock coins were already being manufactured in early 1854, it would be difficult to reasonably explain the issue of the *shwe pyi so* coin in the royal orders at the same time.

Therefore, it is necessary to re-examine the records of Temple quoted by Robinson and Shaw. Temple's description appeared in a footnote on the silver coins of Mindon in the *Notes on Currency and Coinage among the Burmese*, published in 1928 (1928, 44, fn 46). Temple wrote,

> See No. 871 in the Indian Museum, Calcutta Mint Collection, described as "Rupee, Ava Mint," in the Catalogue, 1883, and as being referred to in Mint letter No.791, 31 January 1854.

In the corresponding text, in addition to quoting Phayre's plate, Temple mentioned that

> It was sufficiently rare, for neither myself nor any other local collector I could consult seemed to have ever even heard of it, except in Phayre's account.

The 1883 catalogue referred to by Temple is unknown. Among the publicly published collection catalogues of the Indian Museum that can be found so far, the only one published in 1883 is John Anderson's two-volume *Catalogue and Hand-book of the Archaeological Collection in the Indian Museum* (1883), but it does not include the Burmese coin collection, nor does it use a numbering system such as 'No. 871'. Among the early catalogues concerning the Burmese coin collection, only the fourth volume of the *Catalogue of the Coins of the Indian Museum* by Charles Rodgers published in 1896 recorded Burmese silver coins in the 'Modern Asiatic Coins' chapter (1896, 185–6).

Rodgers did not use a numbering system such as 'No. 871' either, nor did he provide any plates of Burmese coins. According to the description, all the 13 Burmese silver coins collected by the Indian Museum can be classified as shown in table 2.

Table 2 Burmese silver cons in the India Museum

No.	*Type*
10773/154.0/1.05	King Bodawpaya's Pyu style silver coins
10774/154.0/1.05	
7762/156.0/1.15	
10624/180.5/1.21	Heaton type peacock coins
10625/180.5/1.21	
10775/181.0/1.2	
10776/182.5/1.2	
10771/21.5/0.62	
10772/21.5/6.61	
10763/24.2/1.5	Bird like a crow, standing to r., in dotted circle, inscription in Burmese, double-struck, Ava mint
11862/164.0/1.1	Arakan style coins
11863/166.5/1.13	
7761/147.0/1.08	

Except for the coin numbered 10763/24.2/1.5, the other 12 coins seem to have nothing to do with the types of coins being discussed. The coin numbered 10763/24.2/1.5 looks like the coin that Temple refers to from the description of 'Ava Mint'. From Rogers's description of the design on both sides of the coin, it does not seem to be the peacock coin of Temple's footnote, but it is very consistent with the characteristics of the 10.1 type *shwe pyi so* coin. It is very likely that there is another 10.1 type *shwe pyi so* coin in the Indian Museum.

The research process before Temple wrote this footnote is not known. Combining his articles over the years, Phayre's 10.2 type peacock coin is the only one that Temple identified as a Mindon-period silver coin except for the Heaton type peacock coin (Temple (1928, 44). Temple never had any account of the 10.3 type peacock coin, and seems not to have been aware of its existence. As for the 10.1 type *shwe pyi so* coin, he mentioned it twice in 1913 (124) and 1931 (70–5) and regarded it as a Tenasserim coin. It was the same in 1928 when the footnote was written. Temple may not have seen the piece of the collection in the Indian Museum, and the written description he relied upon may not be as clear as Rodgers's record. Compared with the Mindon silver coin he knew, naturally he would think that it was Phayre's 10.2 type peacock coin since it is obviously not the Heaton type peacock coin.

If the coins noted in the Calcutta Mint on 31 January 1854 are in fact type 10.1 *shwe pyi so* coins, it would more closely match the production and issuing date of the *shwe pyi so* coin in the Burmese official records. However, Robinson and Shaw's description that the 10.2 type peacock coin was made in 1853 is needed to be updated.

I hope that there will be a chance to obtain more evidence from the coin collection of the Indian Museum to confirm the above conclusion.

Phayre's 10.2 type piece

For Phayre, Mindon's coins are entirely contemporary coins. Probably because of this, in his *Coins of Arakan, of Pegu, and of Burma* (1882), Phayre did not spend much time introducing Mindon's coin. He only included two different types of silver peacock coins from Mindon as numbers 3 and 4 in plate 5. The corresponding description is also limited to the inscription and peacock design on the coins. Among them, number 4 is the ordinary Heaton type peacock coin, and number 3 is the 10.2 type peacock coin.

Figure 9 Phayre's plate 5 no. 3

Figure 10 Phayre's plate 5 no. 4

In his numismatic works, there has never been any description of the 10.1 type *shwe pyi so* coin and the 10.3 type peacock coin. He should not know the existence of these two coins.

Later, Phayre's coin collection was donated to the British Museum. As in his book, there are only two silver coins from the Mindon period. Among them, the one with the museum registration number 1882,0508.46 is the Heaton type peacock coin, which should be the original piece of number 4 in plate 5. The museum number 1882,0508.45 is a 10.2 type peacock coin, which should be the original piece of number 3 in plate 5, which is also the one in the collection of the British Museum recorded by Robinson and Shaw.

Figure 11 Thomas Spears[2]

A further clue came from Thomas Spears, a Scottish businessman who settled in Amarapura. He had been engaged in trade in Burma since 1837 (Yule 1858, 140). In early 1852 he was taken into custody with other Europeans on the eve of the Second Burmese War. After Mindon came to power, he

2 Watercolour with pen and ink of a portrait of Sir Arthur Purvis Phayre from Colesworthy Grant, 1855, *A Series of Views in Burmah taken during Major Phayre's Mission to the Court of Ava in 1855*, The British Library WD540(105).

was released and was taken care of. In the post-war negotiation between Britain and Burma, he sent back various accounts as the British correspondent in Amarapura, and on the other hand, as the representative of Mindon, he sent official messages to the British on behalf of Burmese court (Hall 1932, xl–lii). By the time the Phayre mission visited Amarapura in 1855, he had already gained the trust of Mindon, and was in and out of the palace almost every day (Yule 1858, 140).

In a letter written by Spears to Phayre from Amarapura on 13 July 1854 (Hall 1932, 222–4, letter 143) Spears said,

> He also wishes to have a look at the Mint. I do not know whether you have ever seen any of the present King's coinage, so I will now enclose [for] you a specimen by which you will see they have much room for improvement.

This letter is an intelligence letter he wrote to Phayre as a British correspondent. The main content of this letter regards candidates for the Burmese mission about to visit Calcutta. The mint referred to is the mint at Calcutta, which the Burmese hoped to visit, the purpose being to improve Mindon's coinage which had 'much room for improvement' at that time.

The people who wish to visit the mint in the letter refer to the ordnance officer (Spears writes Amyouk Woon and Yule writes Pabé-woon (Yule 1858, 89)) that will take part in the mission to visit Calcutta. This position literally means the officer in charge of craftsmen. Except for guns, matters related to metal processing such as bell casting are also his responsibilities (Yule 1858, 245). In addition, it also includes shipbuilding (Hall 1932, 223), collecting information on new weapons and equipment (Yule 1858, 128), and even learning photography (Yule 1858, 89).

Hall, in the comments following this letter, assumed that because no minted coin was issued until the silver peacock coin was manufactured in 1861, the specimen referred to here was just a small lump of 'flowered silver'. However, the mint that Heaton helped build was later and the production of coins was officially started on 11 November 1865, (Than Tun 1989, 125). Considering that a visit to the British mint in Calcutta would not be of any help in improving the silver bullion made by traditional casting methods, the coin here is obviously still the coin made by modern pressing.

Combined with the previous analysis, we can roughly draw the following conclusions.

1 The coins that Spears sent to Phayre would be the only early coins of Mindon that Phayre knew, the 10.2 type peacock coin.
2 The British Museum's 10.2 type peacock coin of Phayre collection is probably the original item sent to him by Spears.
3 The Burmese ordnance officer was responsible for making the 10.2 type peacock coin, which was probably produced in his metal processing facility.
4 At least as of 13 July 1854, the 10.2 type peacock coin was being produced and it was in the process of being improved. Based on this, we can correct the date of the type 10.2 peacock coin.

There is no record that the follow-up Burmese mission to Calcutta actually visited the mint. Judging from the rarity of type 10.2 peacock coins, the attempted improvement may still not have reached the target.

Conclusions

Based on the analysis of the aforementioned items, we can rearrange the timeline of Mindon's early coins as follows.

17 February 1853	Mindon ascended the throne (Than Tun 1989, 17)
29 January 1854	Announcement of the 10.1 type *shwe pyi so* coin issuance
31 January 1854	A letter of the Calcutta Mint mentions the *shwe pyi so* coin
13 July 1854	Seeking to improve the already made 10.2 type peacock coin
13 January 1857	Decided to move the capital to Mandalay (Than Tun 1989, 1)
1860 or 1861?	Manufacture of 10.3 type peacock coin
April 1863	William Wallace was commissioned to help order new mint (Robinson and Shaw 1980, 82)
16 January 1864	William Wallace paid the Heaton Mint to order the new mint (Robinson and Shaw 1980, 83)
11 November 1865	New Mandalay Mint was officially put into production

Furthermore, compared to the type 10.1 *shwe pyi so* coin, the craftsmanship of the type 10.2 peacock coin and the type 10.3 peacock coin is obviously better. It is possible that dies of the latter two are from outside Burma, or even from Europe. But the Indian Museum's 'Ava Mint' record of the type 10.1 *shwe pyi so* coin and the Burmese ordnance officer's attempt to improve on the type 10.2 peacock coin in 1854 indicate the high probability that the production of these early coins of Mindon was still in Burma.

Although his attempts failed to achieve the original goal of stopping the weighing of bullion, it is believed that Mindon made up his mind to introduce new coinage technology from Europe. It laid the foundation for the subsequent issue of the Heaton type Burmese peacock coin.

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ONS Pakistan Region Meeting

A meeting of members from the Pakistan region of the Oriental Numismatic Society was held over dinner on 7 August 2022. Members discussed some newly found coins and other related material. Members were also updated about the proceedings of the ONS 50th Anniversary Conference and issue 248 of the ONS journal was delivered to the members.

ONS members from the Pakistan region, from left to right, Colonel (retired) Nasir Hussain, Shahbaz, Shafqat Mirza, Dr Kaiser, Zahid Mahmood and Haroon Tareen

As the meeting was held at short notice, some of the members who were present at Islamabad could not attend due to prior commitments elsewhere.

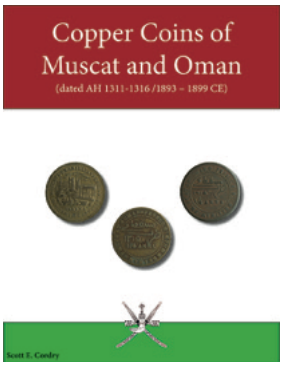
Retirement of the Keeper of Coins at Lahore Museum:
Ms Naushaba Anjum Naushaba, who held the post of Keeper of Coins at Lahore Museum for almost 25 years, opted for early retirement from service in July 2022. She had looked after the coin collection of Lahore Museum with great diligence and efficiency during her career and arranged the display of coin collection to general public. This made the Lahore Museum one of the few museums in the world where a numismatic collection is on display. Substantial additions, around 12,000 coins, were made to the collection during her tenure and the collection now exceeds 47,000 coins. She had the entire collection of the museum digitized and she updated the R. B. Whitehead catalogues that covered the museum's collection. Sadly the updated versions have not yet been published due to paucity of funds at the museum, but perhaps they can be published at some later stage. She is a member of the ONS.

An new officer has now been appointed to replace her as the curator of Lahore Museum.

Haroon Tareen
Regional Secretary, Pakistan

Book Notice

Copper Coins of Muscat and Oman dated AH 1311–1316 (1893–1899 CE) by Scott E. Cordry
ArabianCoins.com, New York, 2021
50 pp, illustrated throughout in colour, ISBN 9781639447930, pbk, $30 + $15 international shipping from ebay



Towards the end of the nineteenth century maritime trade between the major ports of the north-western Indian Ocean (Zanzibar, Aden, Muscat, Karachi and Bombay) greatly increased. Consequently, from 1893 to 1899, quarter anna copper coins of Muscat and Oman were minted and circulated around the north-western Indian Ocean as regional small change. During these few years, numerous quarter anna coins with a range of varieties of legends, decorative elements and die mulings as well as countermarks were struck. The book gives comprehensive information on these copper coins of Muscat and Oman bringing to light to all known varieties in a systematic presentation.

After a preface by the author reflecting his passion studying those issues, a detailed introduction by Wolfgang Schuster follows, which focuses on the historical and geographical background, use and importance of this 'Indian Ocean trade currency'.

The series of Muscat and Oman quarter anna copper coins spans across three generations of Omani rulers of the Al Bu Sa'id dynasty: Sultan Faisal bin Turki, Sultan Taimur bin Faisal and Sultan Sa'id bin Taimur. Accordingly, all coins issued under the respective rulers are grouped and presented in separate chapters which open with a brief biography of the sultan, followed by a detailed chronological listing of all known coin dates and varieties with illustrations.

Though the illustrations are in full colour and at 150 per cent enlargement, it is to be regretted that the contrast in some of the printed photos is too weak to allow for ready identification, nor do the descriptions provide support in pointing out the precise differences between varieties.

As we only find some quarter anna copper coins rather superficially covered in standard coin catalogues, the nearly 80 coin varieties presented in the book are identified by unique SC-catalog numbers as reference for coin collectors, coin dealers and numismatists.

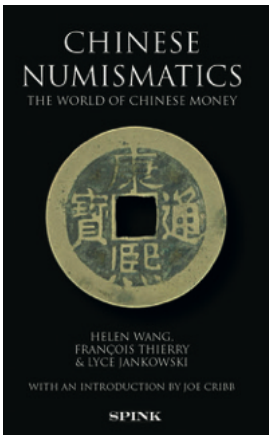
An appendix shows all listed coins with their SC-number and estimated retail prices in three conditions in US$.

This first fully illustrated work sheds light on a relatively complicated and complex series that so far has not been researched in depth. Having catalogued and described dozens of varieties, this new catalogue is a valuable reference to anybody wishing to explore the varieties and history of quarter anna copper coins of Muscat and Oman.

Wolfgang Schuster

Book Reviews

Chinese Numismatics: The world of Chinese money
by Helen Wang, François Thierry and Lyce Jankowski
with an introduction by Joe Cribb
Spink, London, 2022
173 pp, illustrated throughout in colour, ISBN 9781912667888
£30 hbk, £18 PDF.



In China the interest in coin collecting can be traced back to the sixth century AD, nearly a millennium before the first treatise on numismatics in the West, and it was maintained despite the rise and fall of the various dynasties. In the middle of the 18th century, the Qianlong Emperor possessed the most complete coin collection comprising all the coins issued in East Asia since the seventh century BC; that is to say covering nearly 2,500 years.

This is the first book to explore the history of Chinese numismatics from both Eastern and Western perspectives. With upwards of 100 illustrations of coins, documents and personalities in the text, it consists of three papers by eminent Sino-numismatists that, as the publisher's blurb notes, complement each other beautifully and give a sound introduction to the beginnings of the study of Chinese numismatics, focusing on the nineteenth century.

In the introduction, Joe Cribb presents the other contributors. He then relates his experiences with the Chinese coin collection in the British Museum. The articles are

Currencies of Ancient China from their Origins to the Late Empire by François Thierry.

François explores Western accounts of Chinese coinage – often contemptuous, incredulous or simply inaccurate – and then Chinese views on the nature of money.

Numismatic Friendship: Social Networks of Numismatists and Coin Collectors during the Late Qing Dynasty by Lyce Jankowski.

Lyce investigates the relationship between collectors and scholars of Chinese coins, and the social network that existed between these people in the late Qing dynasty.

Many collectors published catalogues, monographs or scholarly studies. These publications, which were inspired by the scholarly methods applied in literature called the 'School of verifications and proofs' *(*考證 學 *kaozhengxue*), led to a methodological revolution in numismatic studies.

The article takes us into the world of collections and collectors in China, taking as a common thread a group of scholars passionate about epigraphy and numismatics gravitating around Beijing during the first half of the nineteenth century. There was a complex social network made up of collectors, numismatic scholars, antique dealers, and also counterfeiters.

A Short History of Chinese Numismatics in European Languages by Helen Wang.

This is far more than a bald list of book titles, and gives much of the background of these publications.

Chinese Money Matters, So Why Does it Have Such a Low Profile? by Helen Wang.

Helen shows that the collections of Chinese coins in various institutes are more numerous than other such objects, and details some more bibliographic material.

Publications on East Asian Numismatics by the Authors.

An impressive list of publications from the contributors.

With its interesting and stimulating approach to Chinese coins and their collectors, this book will be of interest both to those starting to study them as well as the knowledgable collector or scholar.

David Hartill
ONS Editorial Adviser

Maldives Local Coins 1070-1331 AH – AD 1660-1913
by Peter Budgen
Bremer Numismatische Gessellschaft: Bremer Beiträge zur Münz-und Geldgeschichte, Band 11, 2020
214 pages, profusely illustrated in colour,
ISBN 9783000637025, €39

To paraphrase the author of this interesting and detailed numismatic study, the name 'Maldives' conjures images of turquoise seas and shimmering tropical beaches. However, the archipelago, located some 750 kilometres to the south-west of the Indian subcontinent played a very significant role in the Indian Ocean trade for over a millennium. The ancient history of Maldives begins as a Buddhist kingdom, but a Muslim sultanate was established here after the last Buddhist king converted to Islam in the mid-twelfth century. Eight dynasties of sultans ruled Maldives, until 1968, when the sultanate was abolished and replaced by a republic.

Maldives had two important commodities to offer: cowry shells and coir. The first constituted a valuable non-metallic exchange medium for regions as far afield as the East African coast, Bengal and the 'East Indies'. The second was invaluable as a material of construction in shipbuilding and was traded to centres of that activity across the African, Indian and Arabian seaboard. Due to these commercial connections and the location of Maldives as a safe haven in the vastness of the Indian Ocean, the archipelago emerged as a key nodal point in the 'connected spaces' of the Indian Ocean trade networks. The islanders had ethnic and religious affinity with polities along the Malabar coast, particularly the Arakkals or 'Ali Rajas' of Cannanore. After the sixteenth century, the shadow of European colonialism was cast upon the Maldives. Early interactions with the Portuguese were often belligerent. However, the Dutch, who ousted the Portuguese and established a base in Ceylon (Sri Lanka), maintained cordial relations with the Maldivian sultans. The Sultans reciprocated with accepting a nominal Dutch suzerainty. This state of affairs continued after the British took over Dutch Ceylon in early nineteenth century. Maldives was gradually made into a British protectorate, much like other island and coastal polities in the Indian Ocean region, like Zanzibar and Oman. British imperial intervention helped make the sultanate into a constitutional monarchy in 1932.

As a major source of one of the world's most successful non-metallic currencies, it is no wonder that the sultans of Maldives issued their own metallic coins quite late. It took nearly 500 years after the establishment of the sultanate for coins in the name of the reigning sultan to appear, which is quite against the grain for an Islamic polity where the right of *Sikka* is usually considered to be a testament to kingship. However, there is room to believe that the sultanate was not totally unaware of metallic money; foreign coins, most importantly the silver larins, brought to the islands as trade money were very likely circulated as well. Perhaps because the coins of the Maldives are rather plain, unattractive inscriptional pieces, not much attention was paid to Maldivian numismatics. John Allan, the Keeper of Oriental coins in the British Museum wrote the first definitive article on the subject in 1912. H. C. P. Bell, a colonial officer who worked in the governments of India and Ceylon, followed Allan's contribution. More recently, numismatists like Raf van Laere, Tim Browder and Wolfgang Bertsch have contributed to the subject in good detail. The Maldivian coinage also featured in the *World of Islam* volume of Michael Mitchiner's monumental compendium *Oriental Coins and their Values*. Additionally, works such as H. W. Codrington's catalogue of coins in the Colombo Museum and the American Numismatic Society's monograph on the Gampola larin hoard by Howland Wood have important bearings on Maldivian numismatics.

South Asian numismatics has had a long tradition of 'enlightened collectors' rather than academics making sterling contributions to the field, sometimes on very obscure topics. Peter Budgen joins the short, but illustrious list of numismatist collectors through this monograph. It is by far the most definitive catalogue yet produced of Maldivian currency of nearly 250 years. It is divided into 14 sections, including a short historical section, an overview of locally struck coinage and a descriptive catalogue, with coins arranged by the names of issuing sultans. There are further interesting sections on 'non-routine' coin issues, on metallic analyses of the coins and on minting methods. The book has six appendices, including a bibliographic reference, a king list, a tabulated summary of metallic analyses by different methods and translations/ transliterations of Arabic inscriptions, helpfully accompanied by neat line drawings.

A detailed introduction to 'Study Sources' outlines previously published sources and complements them with 'limited publication' or unpublished sources and also online sources.

The section on Maldivian history follows this after a short introduction to the dating system employed on the coins. An overview of locally struck coinage is presented thereafter. It is evident that the local coins of Maldives derived their nomenclature from the eponymous silver larins, said to have been named as such after the city of Lar in Larestan county, province of Fars in southern Iran. In the sixteenth century,

larins became a very popular form of money circulating along the Indian Ocean trade networks. Made from reliably good-quality silver and of an unusual 'hairpin' shape, the larins were produced locally in places like Dabhol and Rajapur on the western coast of Maharashtra. Larins produced in Ceylon had an even more unusual shape, with the 'hairpin' being bent into a sigmoid 'J'- or 'S'-shape after the coin was struck. As Budgen mentions, a French traveller Francois Pyrard saw silver larins being locally produced in the Maldives during his stay there (1602–7). Although earlier researchers like Bell listed some larins apparently struck in the name of the Sultan of Maldives, their authenticity has been doubted. Budgen rightly remarks that it has been very difficult to locate confirmed specimens of larins struck in Maldives. Indeed, if the illustration of the only one from his collection is to be believed, it surely appears to be a modern fantasy, as evident from its weight and fabric. Nevertheless, the circulation of Persian larins undoubtedly led to the local coins in the Maldives being denominated as such, although moving considerably away from the metal, shape, weight and fabric of these trade coins. The denomination larins was later appended with adjectives like *bodu* (= large) and *Kkuda* (= small) to denote specific coins. Budgen divides the local coins of Maldives in five periods, mainly based on chronology its mapping on the coinage in terms of issuance and typology. These periods are not equally compartmental but rather reflect different monetary realities, such as metallic debasement, fluctuation in weight, denominative structuring and method of manufacture.

The next section, 'Non-routine coin issues' presents a few interesting and unusual issues which do not fall in the regularities of coin production in the Maldives. 'Non-routine' usually covers artefacts referred to as 'patterns' or 'trials' by numismatists but Budgen has included what might presumably have been ceremonial issues here as well. These include examples of extremely rare gold coins, octagonal 'star' larins and an unusual 3-lari coin from the Berlin Staatliche Münzkabinett. Also discussed here are some unusual issues dated AH 1319 and 1320, an AH1184 silver ½ larin and a brass 2-lari of AH1311.

The sections on metal contents and minting method follows next. There is a great deal of detail to explain the science behind methods used for metallic analysis of coins, most useful as many coin collectors will be unaware of how analyses of metal are achieved. Over 220 coins were subjected for metallic analysis by XRF. The section on minting methods discusses parts of the manufacturing process like making blanks, die alignment, die construction and design and the occurrence of arsenic in the alloy.

The next sections cover the typology of Maldivian coins through discussing coin inscriptions, the names and titles of the sultans and a discussion about the rulers' names and spellings. Discrepancies noted between the sultans' reigns and coin issues by earlier contributors are presented with an outline of what the author considers and constitutes a 'type'.

Then we come to the core of the monograph – a detailed and extensive catalogue of local Maldivian coins, arranged by reigns of 16 sultans who issued them within the time bracket indicated in the subtitle of the book. A rarity indicator is defined and provided for each type. Obverses are listed by numbers while reverses are indicated by letters, with obv / rev subtypes indicated by a lower case letter suffix. At the beginning of each reign, background historical information and a neat numismatic table is presented which includes information about denomination, date, rarity and a cross-reference to Krause-Mishler as well as the work by Tim Browder. The types are listed by well-illustrated colour photographs, a 'full die' representation of the Arabic legends, a transliteration and a translation of the inscription in the way it is arranged on the coin. All these aspects makes browsing through the catalogue a constructive and educative experience, which no doubt will be relished by the collectors of Maldivian coins. In case of some reigns, a detailed description of dies used and coupled is also presented.

Budgen's accomplishment is a rare, yet typical, example of years of labour in collecting and studying a little-researched coinage. There is, however, one point worth mentioning. While describing the extremely rare gold light-weight mohur issues of Sultan Hasan Nur al-Din al-Hajji (1778–98), Budgen refers to the 'New York Sale' catalogue XL of 2017 in which two specimens of this rare issue were offered as lots 1454 and 1455. In the same sale, offered as consecutive lots 1456 and 1457, are two gold strikes of the AH1319 bronze 2-lariat issue in the name of Sultan Muhammad 'Imad al-Din VI (1893–1903) listed as type 77. One of these coins was described by the auctioneers to be accompanied with a ticket that suggest they came from a certain 'C. T. S. collection' and dated 21 May 1934. The other was accompanied by a ticket, which had a reference 'Codr Ms p.42 – no. 201' and the initials 'H W C' which might suggest a connection with H. W. Codrington himself.

A search through the online database www.pro.coinarchives.com revealed that a few more specimens of this gold strike, described as an 'OMS', have been offered in the auction circuit. Indeed, the first instance was in 2016 and the coin came from the collection of Dr Lawrence 'Larry' Adams, which was sold by CNG at the Triton XIX sale on 5 January 2016. This piece has a very good pedigree – 'ex Sotheby's (14 April 1994), lot 454; Palace Collections of Egypt (King Farouk – Sotheby's, 24 February 1954), lot 897 (part of)'. Since 2017, a few more pieces of the same kind have been offered on the auction circuit, some of them graded and slabbed.

The reviewer notes that Budgen's monograph is silent on this issue. There is no mention of it, even though pieces struck in silver and 'German' silver alloy – which would presumably fit the description 'OMS' – with the same dies have been listed and discussed. Considering this is such an anomalous and rare issue it should have caught Budgen's eye given the attention to detail and thoroughness that is a hallmark of the book. But for some reason that does not appear to be the case. Perhaps Budgen would be encouraged to write a rejoinder in future issues of this journal so we would know his views about these supposed 'gold OMS' coins?

Shailendra Bhandare
Ashmolean Museum

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