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From the Editor

It gives me pleasure to present the wide range of research featured in this volume. The first paper is on Yaudheya copper coins, providing a new classification of this series of ancient India. We then take a look at the early Islamic period of Iran, and the role played by countermarked Arab-Sasanian coins. We also have a report on the first-ever hoard of Burmese coins to be found outside Myanmar (formerly Burma). Finally, this volume provides a detailed look at the transition to machine-made coinage in late-19th century Afghanistan.

We wish to thank Spink & Son for graciously sponsoring the editing of the journal for 2021. I look forward to receiving submissions from members interested in showcasing the numismatic research they have undertaken.

Karan Singh

LEGENDS ON THE KARTTIKEYA-DEVASENA COINS OF THE YAUDHEYAS: A NEW CLASSIFICATION

Karan Singh

The Yaudheyas of ancient India were a powerful clan or tribe in north India, famous for their martial skills (Handa 2007: 149-151). This tribe issued a long series of coinage over four centuries, from the 1st century BCE to the 3rd-4th centuries CE. These coins circulated in the northern Gangetic plain, in the modern Indian states of Punjab, Haryana, and western Uttar Pradesh. The territory of the Yaudheyas ebbed and flowed across the centuries, depending on their circumstances (Handa 2007: 160).

The biggest setback for the Yaudheyas was the arrival of the Kushans in the 2nd century CE, when we see their territory shrinking to the foothills of the Himalayas, judging by coin hoards (Handa 2007: 161). But once Kushan power weakened in the 3rd century, the Yaudheyas regained their territory in the plains and issued a copious copper coinage, modelled on the Kushan template of a standing king on obverse and a deity on reverse, with a weight standard and fabric similar to the coinage of the middle of Huvishka's reign (Mitchiner 1977: 590).

The Yaudheya coinage of this period is called the 'Karttikeya-Devasena' type, after the Hindu god of war, Karttikeya, depicted on the obverse and his consort, Devasena, on the reverse. It is listed by Devendra Handa (2007: 206) as Type VI, the last in their series. It is an attractive type, yet most scholars have not studied it in detail as it appears to be homogenous.

The aim of this paper is to show that there are in fact several varieties in this type, revealing a numismatic development that is linked to the political fortunes of the Yaudheyas as they spread out after the exit of the Kushans.

The key to this is the legend seen on these coins. We will first look at how this legend has been read till now, and then we will take a closer look at the legend in detail. Fig. 1 shows a specimen with a clear legend.

Fig. 1. Yaudheya copper coin, 10.56 g (Allan Class 6; Handa Type VI)

Obverse: Karttikeya standing facing, wearing a *dhoti*, with one hand holding a spear to left and the other on his hip; peacock/rooster at right; Brahmi legend around, starting at 1 o'clock and written clockwise:

yaudheya ganasya jaya

('Victory to the Yaudheya tribe')

all within a circular border

Reverse: Devasena standing 3/4th left, with one hand raised and the other on her hip; dotted border around

The identification of Karttikeya on obverse can be corroborated by his sculptural depictions from the same period. For example, in Fig. 2, a statue dating to 400-600 CE shows Karttikeya standing in very much the same pose, holding a spear with a peacock at his feet.

Fig. 2. Steatite statue of Karttikeya with peacock at bottom right, from Swat, 400-600 CE (Ashmolean Museum EA2013.64; photo courtesy author)

The presence of an additional letter has been noted at 11 o'clock on the obverse of some coins, between Karttikeya's head and his spear tip: *dvi* ('second') or *tri* ('third'). This was believed to indicate the second and third mints (Singh 1977: 11), or the different tribes in the Yaudheya confederation (Altekar 1954: 29-30), or even their second and third victories against the Kushans (Saraswati 1979: 96). According to Mitchiner (1977: 590), the variety with no extra letter, and those with *dvi* and *tri,* represent the three geographical divisions of the Yaudheya republic. Handa labels these as three politico-administrative units, with their headquarters at Sunet, Naurangabad and Agroha (2007: 205).

Yet there has been no detailed study of the legend till now. That is surprising, because if you look closely, this circular legend rotates clockwise. Fig. 3 shows the linear development of the legend through three stages, A, B and C.

In Indian numismatics, as in the rest of the world, coin legends get modified or corrupted over time. They change incrementally from the original design, either through the individualism of die-cutters or by design, and this change can be documented across a long series such as this, with the pattern providing markers for each stage in development.

A new classification

Where earlier scholars noticed, on the basis of the additional letters, just three varieties in the Yaudheya Type VI coins, I propose a new classification with 13 varieties, according to the placement of the legend and the presence of symbols on the reverse.

Fig. 3. The three stages in legend rotation

Catalogue of Coins

Variety no.	Legend to left of spear	Letter at 11 o'clock on obverse		Additional symbols on reverse	Wt. (g)	Rarity
A1	*jaya*				10.56	RR
A2	*jaya*	*dvi*		Vase and *nandipada*	10.71	Unique
B1	*sya jaya*				11.05	RRR
B2	*sya ja*	*ya*			10.71	RRR
B3	*sya jaya*	*dvi*		Vase and *nandipada*	11.01	C

B4	*sya jaya*	*dvi*		Conch and *srivatsa*	10.81	Unique
B5	*sya jaya*	*tri*		Conch and *srivatsa*	11.27	S
C1	*na sya jaya*	(variation: *ga* is under peacock/ rooster)			9.91	RR
C2.1	*na sya ja*	*ya*			10.78	C
C2.2	*na sya ja*	*ya* (variation: *ga* is under peacock/ rooster)			10.97	RR
C3	*na sya ja*	*ya*		Vase and *nandipada*	10.12	RRR
C4.1	*na sya jaya*	*dvi*		Vase and *nandipada*	11.05	C

C4.2	*na sya jaya*	*dvi*		Vase and *nandipada* (variation in design of vase)		R
C5	*na sya jaya*	*tri*		Vase and *nandipada*	8.95	RRR
C6	*na sya jaya*	*tri*		Conch and *srivatsa*	11.60	RRR

The numismatic sequence

Coin A1 is the earliest in this series. The legend is complete, well-written and spaced out, without any additional letters. The coin details are clear, with both Karttikeya and Devasena finely depicted. The mintage must have been small, because this earliest type is quite rare.

The legend is then rotated by one letter in B1, with the *sya* from the right of Karttikeya moved to the left of his spear. This is the start of Stage B, and was probably done by an innovative die-cutter, as there was limited space on the right margin for all six *aksharas* in *yaudheya ganasya*. This change must have been made quite early, judging from the realistic depiction of Karttikeya and the neat design on B-1. This variety is extremely rare.

From here, we see the positioning of a letter at 11 o'clock on the obverse: this begins with the *ya* from *jaya* placed at 11 o'clock (Coin B-2), then we see *dvi* (Coin B-3) and *tri* (Coin B-5). The latter two are accompanied by additional symbols flanking Devasena on reverse: a vase and *nandipada* in the case of *dvi*, and a conch and *srivatsa* in the case of *tri*.

This is when Coin A2 was issued, when a die-cutter mistakenly reverted to *jaya* on the left of the spear. This coin is an anomaly, and given its crude design, appears to be a later issue that was made inadvertently.

Coin B4 is a unique piece that is probably a mule, with the obverse of B3 and the reverse of B5.

In Stage C, the legend rotates clockwise once again, with another letter, *na*, pushed to the left margin. Here too, we have coins with no letter at 11 o'clock (C1), with *ya* (C2.1 and C2.2), with *dvi* (C4.1 and C4.2), and with *tri* (C5 and C6). We begin to see several minor variations in Stage C, with the letter *ga* placed under the peacock/ rooster in two varieties (C1 and C2.2) and a different vase design (C4.2). Coin C3 is probably a mule, with the obverse of C2.1 and the reverse of C4.1. Both Coins C5 and C6 are extremely rare.

Analysis

After this series was first issued (A1), we begin to see a differentiation, possibly between mints, that continues in parallel alongside the rotation of the legend. The letter at 11 o'clock is key to this differentiation. The coins with no letter at 11 o'clock form one parallel mini-series, while *ya*, *dvi* and *tri* also continue in parallel. These four mini-series are to be found in both Stages B and C. One can therefore assume that these four mini-series represent different mints or administrative units of the Yaudheyas (see Table A).

Table A. Distribution of varieties across mints

		Mint 1	**Mint 2**		**Mint 3**			**Mint 4**
Stage A	A1				A2			
Stage B		B1	B2		B3	B4		B5
Stage C		C1	C2.1, C2.2	C3	C4.1, C4.2		C5	C6

It is interesting to see that once the legend was rotated, this change was then implemented across all issuing mints, while keeping their characteristic letter in place at 11 o'clock. The four mints must have been closely connected, as the legend rotation was implemented by all of them in the coins they issued.

Table B. Characteristics of the four mints

	Letter at 11 o'clock on obverse	**Additional symbols on reverse**
Mint 1		
Mint 2	*ya*	
Mint 3	*dvi*	vase and *nandipada*
Mint 4	*tri*	conch and *srivatsa*

We do have two examples where the symbols in Table B are switched: Coin B4 has *dvi* but a conch and *srivatsa* on reverse, while Coin C5 has *tri* but a vase and *nandipada* on reverse. However, their extreme rarity indicates that these should be

considered as mules. Perhaps the wrong reverse was sent to a mint and a few coins were struck before the mistake was realised.

no letter (Mint 1)	*ya* (Mint 2)	*dvi* (Mint 3)	*tri* (Mint 4)

Fig. 4. Comparison of close-ups of the 11 o'clock position from the four mints

On the basis of the relative rarity seen in the new classification, we can make the following conclusions on the ebb and flow of Yaudheya control:

1. Mint 1 (with no letter) is quite rare in both Stages B and C. It either was lost to the Yaudheyas for most of this time, or it did not issue much coinage due to political or economic reasons.
2. Mint 2 (with *ya*) is very rare in Stage B, but common in Stage C. So the Yaudheyas lost control of this mint/territory quite early and then regained it later in Stage C.
3. Mint 3 (with *dvi*) is common in both Stages B and C. This then was the core territory of the Yaudheyas during the 3rd-4th centuries CE.
4. Mint 4 (with *tri*) is scarce in Stage B and extremely rare in Stage C. This was probably a peripheral mint that was lost by the Yaudheyas early in Stage C.

Local imitations and forgeries

Since Yaudheya Type VI coins were issued in large numbers (Shastri 1996: 96), and probably remained in circulation long after the Yaudheyas eventually lost to the growing power of Samudragupta and his expanding Gupta empire in the mid-4th century, it is inevitable perhaps that we see local imitations based on these coins.

Fig. 5. Local copper issue, 12.26 g

Fig. 5 shows a coin that appears to have the obverse of Coin C2.1 with the reverse of Coin C6, but the legend is very crude and the reverse design is retrograde, indicating that this was probably a late local issue. Allan (1936: pl. XL, no. 9) lists a similarly crude specimen with the obverse of Coin C2.1 and the normal reverse of Coin C4.1. Mitchiner (1977: no. 4706) lists a specimen with the obverse of Coin C4.1 and a retrograde reverse of Coin C2.1.

There is also the question of cast copper coins that were made as contemporary forgeries of this Yaudheya series. Thousands of terracotta moulds (see Fig. 6), used for casting, have been discovered in excavations at Sunet (Pieper 2013: 121), though scholars have so far been divided on the issue.

Fig. 6. Terrocotta moulds of obverse (L) and reverse (R)

Shastri has identified the moulds as ancient forger's tools to cast Yaudheya coins (1996: 99-102); Handa, on the other hand, has questioned why a copper coin would be forged for no apparent profit (2007: 170). Perhaps the specimen in Fig. 7 can now settle this issue.

Fig. 7. Contemporary cast forgery, 6.85 g, 23 mm

In Fig. 7, we see a cast coin that weighs just 6.85 g, indicating that casting it would have saved a forger around 4 g of copper per piece (based on the average weight of 11 g for this type). This would have made a handsome profit, especially when replicated in their thousands. Therefore, the reason why contemporary cast fakes of this plentiful coin type were made by forgers was that these used less metal than genuine coins, and would have earned the forgers a profit when these entered circulation.

Acknowledgments

This paper is based on my presentation at the ONS meeting held in Leiden on October 20, 2018. All the coin images are from my collection, except Coin A2 which is in a private collection.

Bibliography

Allan, J., 1936, *Catalogue of the Coins of Ancient India*, 1967 reprint, London.

Altekar, A.S., and Majumdar, R.C., (Ed.), 1954, *The Vakataka-Gupta Age*, 2nd edition, Varanasi.

Handa, D., 2007, *Tribal Coins of Ancient India*, New Delhi.

Mitchiner, M., 1978, *The Ancient & Classical World 600 B.C.-A.D. 650*, London.

Pieper, W., 2013, *Ancient Indian Coins Revisited*, Lancaster.

Saraswati, S.O., 1979, *Ancient Mints of Haryana*, Jhajjar.

Shastri, A.M., 1996, *Contemporary Forgeries of Yaudheya Coins*, Numismatic Studies, Vol. 4, New Delhi, pp. 95-110.

Singh, J.P., and Ahmad, N. (Ed.), 1977, *Seminar Papers on the Tribal Coins of Ancient India (c. 200 B.C. to 400 A.D.)*, Varanasi.

COUNTERMARKED ARAB-SASANIAN COPPER COINS OF JAHROM

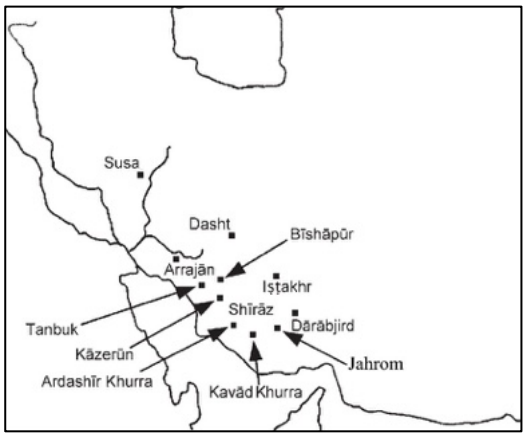
Seyed Omid Mohammadi and Saeed Soleimani

Arab-Sasanian copper coins bearing the 'Jahrom' countermark have been briefly introduced by multiple sources. However, the rarity of such specimens made it hard for researchers to study these countermarks properly. Recently, the authors had the opportunity to examine a collection of these coins thoroughly and identify multiple new countermarks for the first time. This research is dedicated to the introduction and classification of these new countermarks. We also hope to answer some questions along the way: What was the role and importance of Jahrom city in the pre-Islamic era of Iran? What evidence of pre-Islamic civilisations reside in the territory? What was the meaning and use of these countermarks? Who was possibly responsible, and what was the reason behind countermarking these coins?

City of Jahrom

Jahrom is the capital of Jahrom county in Fars province of modern-day Iran. Shiraz and Fasa surround this county from the north, Fasa and Zarrin-Dasht from the east, Lar and Firuzabad from the south, and Firuzabad from the west. Jahrom county consists of Jahrom, Khavaran, Bab Anar, and Qotbabad cities, and four administrative divisions (*bakhsh*): Central, Khafr, Simakan, and Kordian. The location of Jahrom is shown in the map in Fig. 1.

Fig. 1. Mints of Fars province in early Islamic Iran



Historical background

The county of Jahrom is historically and archaeologically rich, with numerous remains of ancient castles, buildings, and other historical sites. However, very few archaeological excavations have been undertaken in the region, leaving us with little to no information about this territory's history. Most of what we have is from written sources, the silence of which leads to a dark era after the Arab invasion of this part of Iran.

We know that Jahrom was a prosperous city even before Ardashir Papakan, and Jahrom, Fasa and Darabjird were thriving cities (*ma'mur*) before Shiraz (Hakim 1987: 536). Jahrom is also mentioned as the residence of princes (Ibn al-Balkhi, Le Strange and Nicholson 1984: 115). In this era, Fars was divided into five districts (*kura*): Istakhr, Shapur Khwarrah, Ardashir Khwarrah, Darabjird and Kavad Khwarrah. Jahrom, part of the Darabjird district (Taghavi 2008: 16), is mentioned in various sources (Ibn al-Balkhi 1984: 115; Le Strange 1905: 254) as an impregnable fortress with high military advantage and a strategic location to retreat to after possible failures in battles (Toofan 2002: 50).

Different origins and meanings are suggested for the word 'Jahrom' or 'Gahrom'. Kasravi suggests that it means 'a warm place' (1974: 273-283). This concept is in line with the city's hot climate and the intolerable heat in the summer (Athari 2012: 22). Furthermore, in the story of Bahram Gur (Bahram V) in Ferdowsi's *Shahnameh*, Jahrom is mentioned as a "waterless plain" (Ferdowsi and Davis and Nafisi 2016: 703).

There is no information about the exact location of the ancient city. In our research, we tried to locate the remains of castles and other historically significant sites, with the hope of obtaining a rough idea of the city's founding centre, by plotting all these sites in one map (Fig. 2). We should mention that the lack of archaeological excavations in the area makes it extremely difficult to date these historical remains and sites. Thus, unfortunately, when we talk about pre-Islamic sites and castles, we cannot determine the exact period.

Fig. 2 shows that the ancient city's central core may not be far from its current location. The Jahrom plain lies in the Zagros fold and thrust belt, and Alborz-Kuh (**'**high mountain'),[1] working as a natural fence to the south and southeast of the city, gave it a strategic and defensive advantage. The high density of historical sites and numerous remains of castles in the area confirms this, especially Castles 10 and 11, two great fortresses built specifically in impregnable mountainous areas. Written sources mention the distance between Fasa to Jahrom to be about ten leagues (60 km) (Istakhri 1963: 117), and from Shiraz to Jahrom to be about 30 leagues (180 km) (Jayhani 1989: 110), which is compatible with the current location of the city.

One of the first times we see the name of Jahrom in the written sources is in a book written in AH 232, which writes: "*Rasatigh* (villages) of Darabjird [:] Kurm (Karm?), Jahram (Jahrom), Neyriz, Al-Bastejan, Al-Abjard, Al-Andian, Juyom, Furj, Tarum, and Tamestan" (Ibn Khordadbeh: 46). *Mukhtasar al-Buldan*, written in AH 290, provides similar information (Ibn al-Faqih al-Hamadani: 16). Some sources of the AH 4th century mention Jahrom as *rostaq* (village) (Ibn Hawqal: 33), though later sources refer to it as *qasbah*,[2] with the emphasis on the fact that it was once a city (Shirvani: 754-855). At the end of the AH 4th century, Jahrom, turned from a village to a *qasbah*, again becomes a city, but never returns to its former glory.

The main question is: why are there no traces of Jahrom, once an important city in the Achaemenid and Sasanian periods, in written sources from the Islam conquest till the AH 4th century? Why is it merely mentioned as one of Darabjird's villages afterwards? We do not have a clear answer yet. Perhaps the destruction of the city during the Arab invasion (or consequent events) is the reason. Most sources mention the year AH 23 as the year of the Arab conquest of Fars (Tabari 1973: Vol. 5, 2006). We also know that Uthman ibn Abi al-As al-Thaqafi, ordered by Umar ibn al-Khaṭṭāb, established a base and garrison in Tawwaj and orchestrated attacks on other cities of Fars (Hinds: 43). The order in which cities fell to the Arabs is mentioned as "Shahpur (Bishapur), Jarrah,[3] Kazerun, Nobandejan (Nobandegan), Arrajan, Shiraz, Siniz,[4] Darabjird, Jahrom, and Fasa" (Al-Baladhuri: 259). Sources mention that Umar appointed Sariyah bin Zuneim to attack the Daragjird *kura*, including Darab, Fasa, and Jahrom. However, after multiple unsuccessful attacks on Jahrom, he failed to capture the city due to the rallying of Persian forces behind the city gates. Having captured Rewshahr (Bushehr) in the year AH 23, Uthman marched to Jahrom to confront the Persian defenders (*ibid*.: 260). Finally, he was able to besiege and seize the city. Some believe that the final battle took place somewhere to the east of Castle 7 and the west of Castle 8; which is why this area is called *Shohada* ('martyrs') to this day (Toofan: 54).

Fig. 2. Historical sites of Jahrom district from pre-Islamic and early Islamic eras (based on Google Maps)

In this map, the city of Jahrom (marked with), pre-Islamic remains, and historical sites, including fortresses and castles (called Ghale Gabri), Chahar Taqis ( ), ancient dams and water dykes ( ), pre-Islamic houses/ graves[5] (called Khane Gabri) and minars[6] ( ), are shown with exact locations (Athari 2012: 510-556)

1) Tabar castle (Khorsha)
2) Mok castle
3) Zuhair-Shir chahartaqi (Baba-Arab)
4) pre-Islamic castle of Khane Nahr
5) Band-o-Bast (Band-o-Bost) dam
6) pre-Islamic castle of Par, near Rudkhane Shur
7) pre-Islamic castle of Jovin or Par-e Hana
8) pre-Islamic castle of Dameshkaft mountain
9) Qadamgah
10) pre-Islamic castle of Ghalat
11) pre-Islamic castle of Alborz mountain (Mihrak castle)
12) Sohrun minaret
13) Nargesi castle
14) Tadevan Khane Gabri (pre-Islamic house)
15) Tadevan castle and Tal-e Naghare Khane
16) Khalu Khane Gabri
17) Haj Sharifi castle's Khane Gabri
18) Leh Janbaz (Leh Jamasp) castle
19) pre-Islamic castle of Badenjan
20) Tang-e Zafran Khane Gabri
21) historical remains of Borju
22) historical remains of Rasha mountain
23) Barat castle
24) Ismail castle
25) pre-Islamic castle of Sarbah

It is noteworthy that the sequence in which these cities fell – Bushehr, then Darab, and Jahrom – is consistent across the various sources. Ibn Balkhi mentions AH 20 as the year that Uthman departed to conquer Darabjird *kura* and then Fasa, Jahrom, and Fatisjan, and AH 23 as the year in which he succeeded. Ibn Balkhi also points out that some cities, including Darabjird and Fasa, surrendered with no bloodshed and agreed to pay *jizya* and taxes (Ibn al-Balkhi, Le Strange & Nicholson 1984: 115). However, Jahrom was not one of these and was conquered by war (Hinds: 46). So, by taking into account the resistance of the Persian army in Jahrom, the siege of the city, and the fact that it was one of the last cities to be conquered, it seems that AH 23 is the year that Muslims conquered Jahrom (Ibn al-Athir 2006: 1548).

Coins with countermarks

We recently had the chance to study a collection of Arab-Sasanian countermarked copper coins from the district of Jahrom. These specimens are rich in information due to the variety of countermarks and their rarity. The study of such coins can lead to a fresh perspective on this relatively undocumented period of history. In this research, we analyse 20 specimens,[7] thereby introducing multiple countermarks for the first time.

The discussed coins are Arab-Sasanian copper coins, classified as Gyselen Type 10 (Gyselen 2000: 125) and Treadwell Phase B coinage (Treadwell 2008: 338), all struck at Darabjird mint and bearing the mint-name and a date. The coins depict the royal bust of a Sasanian king on the obverse, with Pahlavi legends *GDH* "*xvarrah*" behind his head and *'pzwt'* "*abzud*" in front, meaning 'May xvarrah increase'. There is also بسم الله (*bismillah*) in Arabic in the second quarter of the margin, meaning 'In the Name of God'. On the reverse, there is a fire altar without attendants; to the right, *DA* in Pahlavi, an abbreviation of Darabjird mint, and to the left, we can see the date, also in Pahlavi. There is another *'pzwt'* "*abzud*" in the second quarter of the margin, and G10b specimens have an additional word بركة *(Barkat)* in Arabic, meaning 'benediction', in the third quarter.

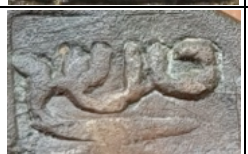
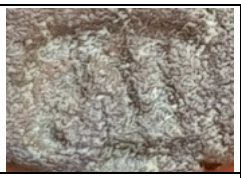
There are reports of these coins with different dates. Year 47 (probably Post-Yazdigird Era, AH 79),[8] 60, 67, and 68 Yazdigird Era (AH 72, 79, and 80) are known. Although other Darabjird copper coins exist bearing the year 72 YE (AH 84) and AH 94 (with Arabic date) (Gyselen 2000: 89), they are different types and out of the scope of this research. Coins bearing the year 47 were first presumed to use the YE calendar, coinciding with AH 58 (Album and Goodwin 2002: 57). However, new research conducted by Album (2011: 28) and Treadwell show

that it is more probable that this date uses the PYE calendar. If we accept this interpretation, it means that two coins with dates 47 and 67 are both struck in the same year (AH 79) in one mint, which is odd. Furthermore, accepting this hypothesis means that a sudden change of calendar happened in AH 79 in Darabjird, for which we do not have any explanation.

There are also small distinctive features on these two coin types. In the coins of year 47, the face is slimmer and a little longer. Furthermore, in the coins of year 47, unlike years 67 and 68, the crown is connected to the wings through two narrow lines. The word **برکة** '*Barkat*' is also written in the third quarter reverse margin of years 67 and 68, which we can be used distinctively to identify this type among coins with illegible dates. Although comparing the weights of these coins might not be precise due to copper coins' high corrosion, the average weights of these two dates are also different. Coins of year 47 (14 samples) weigh an average of 3.64 g, while coins of year 67 (13 samples) weigh about 2.87 g on average (Treadwell 2008: 344). In fact, both interpretations for the year 47 have some inconsistencies, and accepting either of them raises problems. This date seems to be an unsolved riddle.

Interestingly, all 20 specimens we analysed were in very worn condition with a smooth and sometimes glossy surface. The motifs were barely visible. On the other hand, the countermarks were sharp and in good condition, which points out that the coins' erosion is not only because of the passing of time and effects of soil or corrosion. These coins most probably were in circulation for a long time and were withdrawn from circulation due to their worn condition. They were used as ready metal planchets, countermarked to guarantee their validity, and returned to circulation again. In examples like Coin 7, no motif is visible, and only the planchet is left of the base coin. Countermarks found on these coins are listed in Table A. Only two of these eight countermarks have been recorded before.

Table A. List of countermarks

Type	Countermark	Legend	Meaning	No. of pieces in sample of 20
1		جهرم in Arabic	Jahrom, name of the city	20
2		*ghlwm* in Pahlavi	Jahrom, name of the city	7
3		جایز in Arabic	*Ja'iz* (legal, lawful, current)	1
4.1		*lwb'k* in Pahlavi	رواج، رایج *Ravāg* (current)	5
4.2		*lwb'k?* in Pahlavi	رواج، رایج *Ravāg* (current)	1
4.3		*lwb'k* in Pahlavi	رواج، رایج *Ravāg* (current)	1
5		الله in Arabic	*Lillah* (for God)	1
6		جیّد in Arabic	*Jayyid* (nice, good, valid)	1

Countermark 1

Countermark 1 is the name of the city of Jahrom: **جهرم** in Arabic. Walker was the first to report this countermark (1967: pl. cxlvi). He successfully read the legend, but had difficulty interpreting it. He thought that **جهرم** is a faulty form of **چهارم** ('the fourth'). After him, Gaube solved this puzzle (1973: 116), then Mochiri (1986) and Curiel (1984: 12) also wrote about this countermark. As mentioned above, these countermarks are struck on very worn coins, so the countermark's exact position may not be of importance. However, according to Table B, we can see that most of them were struck on the first half of the obverse, usually near the edges and away from the royal bust.

Table B. The location of Countermark 1 on the coins

	The quarter containing the countermark				
	First	Second	Third	Fourth	Unknown
Obverse	6	7	2	1	3
Reverse				1	

Countermark 1 seems to be the main countermark in this series, as all 20 specimens bear this countermark. There are also different types and multiple versions of calligraphy for this specific countermark. We identified at least six different dies for this countermark in our sample of 20, which shows that a significant number of coins were countermarked. Different types of Countermark 1 are shown in Table C.

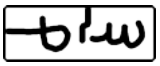
Table C. Different varieties of Countermark 1

Countermark	Variety	No. of pieces in 20
	1.a	3
	1.b	2
	1.c	9

	1.d	2
	1.e	2
	1.f	1

We can see that different varieties have distinctive features. Paying attention to the letter "ر" helps in most cases. Types 1.c and 1.d have different dimensions and sizes, which might not be evident in the illustrations. The countermark frame in Type 1.c is more oversized with an 8x6 mm dimension, while 1.d has a smaller frame of 6x4 mm. This smaller dimension has led to the compression of the text, and there is less space between letters, paying attention to which helps us identify these two types in pictures. Type 1.f is also noteworthy because it lacks delicacy, and the calligraphy looks crude and not as beautiful as the other varieties.

Countermark 2



Countermark 2 depicts the name of Jahrom city again, this time in Pahlavi. This form of "*ghlwm"* گهروم is consistent with what we see on other copper coins minted in Jahrom (Gyselen Types 54, 107 and 108). There is also a silver drachm of Qatari bin al-Fuja'a year AH 75 (Fig. 3a) with the same mint-name. However, there were no reports of this name used in a countermark until now. This countermark and other examples in Pahlavi remind us that although Arabs conquered the area, the people's primary language remained Pahlavi. So there was a need for these Pahlavi countermarks, beside Arabic versions, to communicate with local people and inform them about such coins' validity.

Countermark 2 helps us inspect the city's old name and its pronunciation. The group of Islamic historians who recorded names of cities with pronunciations, including Istakhri (1963: 107), Ibn Hawqal (1966: 33), Ibn Khordadbeh (1967: 46), Yaqut al-Hamawi (2004: 113), Ibn al-Faqih (1970: 203), and others, all recorded the city's name with short */a/ (fatha)* as جَهرَم (Jahram). With the arrival of European travellers to Iran, we see this word written with short */o/ (damma)* as *Jahrom* in their travel journals in the AH 11th century (Afshar [Sistani] 1999: 265).

Fig. 3a. Arab-Sasanian drachm of Qatari bin al-Fuja'a, Darabjird-Jahrom mint, AH 75, 3.99 g[9]

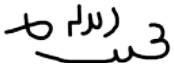


Fig. 3b. Line-drawing of Jahrom mint-name seen in Fig. 3a

Although we do not know the exact reason for this duality in pronunciation among the works of historians, with the help of this countermark (and of course, other coins mentioned earlier), we know that the standard pronunciation of this name in the AH 1st century was definitely جَهروم (Jahrum) or جهرُم (Jahrom), with both forms (with short or long */o/*) being correct and common. Interestingly, both these forms can be seen eight centuries later, on the coins of Uzun Hasan and Rustam of the Aq Qoyunlu dynasty (Figs. 4a and 5a). The countermark in Fig. 4a depicts the city's name the same way as the Arabic Countermark 1 in the form of جهرُم (Jahrom). However, Fig. 5a shows the name as جهروم (Jahrum). Both countermarks have clear dates and are applied only within a 30-year range.

Fig. 4a. 'Jahrom' countermark of Aq Qoyunlu, Uzun Hasan, AH 872 on a Timurid tanka of Abdullah, Samarqand, 4.81 g[10]

٨٧٢ عدل حسين بيک، جهرم،

(Adl Hasan Beik, Jahrom, 872)

Fig. 4b. Line drawing of countermark seen in Fig. 4a

Fig. 5a. Countermark of Aq Qoyunlu, Rustam, 'Jahrum', AH 899 on a Timurid tanka of AH 898, 5.05 g[11]

۸۹۹ عدل سلطان رستم، جهروم،
(Adl Sultan Rustam, Jahrum, 899)

Fig. 5b. Line drawing of countermark seen in Fig. 5a

Countermark 2 also has some crude versions. This countermark is the second most common among this group. The exact locations of this countermark on the specimens are shown in Table D. Although we do not have enough samples to reach a definitive conclusion, it seems that this countermark is mostly struck on the reverse of the coins, which is the opposite side of Countermark 1.

Table D. The location of Countermark 2 on the coins

	The quarter containing the countermark				
	First	**Second**	**Third**	**Fourth**	**Unknown**
Obverse		1			2
Reverse			2	2	

Countermark 3

Countermark 3 is the Arabic word **جایز** *Ja'iz* (lawful, legal, permitted, allowable). This word is used in the legends of some other copper coins of that era, including Gyselen Type 4 of Bishapur, numerous Arab-Byzantine AE coins (Mitchiner 1977: 55), and some Umayyad copper coins. The *Ja'iz* countermark also exists on various Arab-Sasanian silver drachms, mostly in the margin, but such a countermark with this calligraphy has never been reported on Arab-Sasanian copper coins. The calligraphy of this countermark is different and uncommon. It seems that the letter **"ز"** is located at the bottom of the letter **"ی"**, which is odd, but it might just be the style of the engraver. In any case, the countermark is so clear and sharp that it leaves no doubt about its reading.

Countermark 3 is only struck on one of the samples (Coin 7) and precisely in the middle of the coin, maybe due to the complete lack of motifs. This specific coin is so worn that only the copper planchet is left. That is why all the countermarks are struck together on one side only of the coin.

Countermark 4

Countermark 4, and its sub-categories, all seem to depict the word *lwb'k* in Pahlavi. This word *Raväg* ('current', **رواج, رایج**) shows the validity of the coin in monetary circulation. Thus, it also points out the coins' legitimacy, leading us to interpret 'legal' and 'lawful' meanings. This term is well-known and occurs on numerous Arab-Sasanian copper coins. Gyselen reports 18 coin types mentioning this word (2000: 95). However, such a term used as a countermark, with various calligraphy types, was unknown to us.

Countermark 4.3 is a clear and common form of this term that we see on numerous other coins. Countermark 4.1 is another form of this term also known to us, engraved beautifully and with precision. However, there is still doubt about Countermark 4.2. This countermark (on Coin 6) is similar to 4.1, but with fewer letters. They might be the same word, or it can merely be *l'yk?* **"رایج"**, a Pahlavi-Arabic hybrid form of the term. The final letter in this sample is also odd, which might be due to the countermark being double-struck. Can it be a mistake of the engraver, or is it a new countermark? We only have one sample of this countermark, and it is not enough to reach a conclusion.

Group countermarks of No. 4 are usually seen alongside **جهرم**, Countermark 1, sometimes beside it (Coins 4, 5, and 7) and other times on the opposite side (Coin 6). Due to the small number of these countermark samples, we did not analyse their exact location. Some were applied on the obverse. and the same number on the reverse.

Countermark 5

Countermark 5 is the word **لله** *lillah* in Arabic, meaning 'for the god', which was first reported by Walker (1967: pl. cxlvi) and then Curiel as a countermark on copper coins (1984: 12). This term is a part of the Kharijites' motto and was used as a countermark on the silver drachms of the Kirman area. Mochiri suggests that the Kharijites were responsible for both Countermarks 1 and 5. He believes that Kharajite probably had control over Jahrom city sometime after AH 68 (687 CE) (Mochiri 1986: 61). Although the calligraphy is very similar to that of Kharijites on silver drachms, there is a chance that it is merely a religious motto. This countermark occurs only once on our analysed samples (Coin 1, dated 47), on the reverse at eleven o'clock.

Countermark 6

Countermark 6 shows the Arabic word **"جيّد"** *jayyid*, meaning 'good', 'nice', or 'valid'. This term occurs in the second quarter of the margin on Arab-Sasanian drachms in the name of Yazdgird. However, it was never reported as a countermark on copper coins. Only one example of this countermark occurs in our samples (Coin 7), in the coin's margin. The ratio of Countermark 5 (*lillah*) specimens to the whole group is not enough to conclude that these countermarks belong to the Kharijite movement. However, it is not easy to reject this hypothesis either. Keeping the city's strategic location and

defensive advantage in mind, it is logical that Kharijites controlled the city for some time. We know that Qatari bin al-Fuja'a struck silver drachms at Jahrom mint in AH 75, and the mint name is so clear and full that it leaves no doubt. Although the time of these two incidents might seem close, it is worth bearing in mind that these countermarks were struck after AH 80, and judging from the worn condition of the specimens, probably years after this date.

Tabar castle (Castle 1 in Fig. 2) is also of importance. Built in the Umayyad era (Le Strange 1905: 254), the castle is located 40 km to the east of the city. This castle had offered refuge to rebel groups and fugitive leaders from the time it was built (AH 73) until Naser al-Din Shah (AH 1294) (Fasāʾī: 333). The unique geographic features of the castle are the reason. It is located on top of a high mountain with the same name, a mountain with loose rocks and a hazardous steep slope. Only one narrow route to the castle and the necessity of using rope, created a great hideout with strategic advantage. According to Ibn Balkhi's description, no one could conquer this castle even with arms. The castle was built by Khorsha (**خورشه**),[12] the sub-governor (*amil*) of Jahrom under Umayyad caliphs. He rebelled against the governor (*wali*) of Fars, Muhammad ibn Yusuf al-Thaqafi, brother of Al-Hajjaj ibn Yusuf, and took refuge in this castle (Ibn Al-Balkhi 1984: 157). This incident happened sometime in AH 75-95 (Gundelfinger and Verkinderen 2020: 320). It is hard to say whether these countermarks are related to this rebellion or not. However, the coincidence of these two incidents is worth considering.

The only thing we know for sure is that sometime after AH 80 in Jahrom, Arabs withdrew worn copper coins of Darabjird mint (which were probably current in the district) from circulation, countermarked these coins, and re-entered them into the monetary cycle. We support Gyselen's hypothesis that these countermarks were for local circulation. Although coins bearing Countermark 1 reported by Gyselen were very limited (2 samples out of 40), this countermark's abundance in the current study (20 out of the 20 specimens studied) shows that these marks were more probably used to legitimise the local circulation of such coins.

We add one small detail to complete this hypothesis. Gylesen believed that Arabic countermarks, specifically Countermark 1, were used because the mint name of the coins (*DA*) was in Pahlavi and unusual to Arabs. Seeing bilingual Arabic-Pahlavi forms of these countermarks (Countermarks 1 and 2) together, we now know that this might not be the whole truth. The purpose of these countermarks was to introduce these once worn coins to the people of Jahrom, both Arab and Iranian, which is why they needed to use both languages common in the region.

Conclusion

We have analysed and classified countermarks on Arab-Sasanian copper coins of Jahrom, and introduced four new countermarks not known to us on Arab-Sasanian *pashiz* coins before. We also classified different styles of Arabic countermark **جهرم** (Countermark 1) into at least six different types, and this great variety shows that a large number of coins were countermarked. Furthermore, these sharp countermarks on worn copper coins prove that these marks were probably applied to re-enter these worn coins into local circulation.

In our research, not only did we encounter countermarks with city names (Countermarks 1 and 2), which show the locality of such examples, but we also saw a different class of countermarks used for re-validating and re-entering coins into circulation (Countermarks 3, 4 and 6). Additionally, the Arabic-Pahlavi bilinguality of these countermarks is impressive and unique. Even so, our knowledge of Jahrom in the dark period of history after the Islamic conquest is minimal. We hope that archaeological excavations in the region, and possibly historical and numismatic discoveries, shine some light on this ancient region's history and solve some of these riddles in the future.

Coin images

Coin 1: Countermarks 1 and 5
Year 47, 3.53 g

Coin 2: Countermark 1
Year 68, 3.03 g

Coin 3: Countermarks 1 and 2
3.02 g

Coin 4: Countermarks 1, 2, and 4.1
3.34 g

Coin 5: Countermarks 1 and 4.3
3.60 g

Coin 6: Countermarks 1 and 4.2
Year 68, 3.91 g

Coin 7: Countermarks 1, 2, 3, 4.1, 6
and an incomplete countermark

References

1. Not to be confused with Alborz mountain.
2. Usually multiple structures behind a defensive wall.
3. Jareh is currently located 50 km to the southeast of Kazerun.
4. Senez, Si-Niz or Shiniz, is a port currently located in Deylam county of Bushehr province.
5. Due to their hard-to-reach locations in the mountains, some believe these are catacombs, while others suggest these were houses based on the water wells found nearby.
6. *Mils* or *minars* are tower-like structures used as observation towers, fire temples, or more likely as fire markers to guide travellers on the roads.
7. The illustrated coins are from the authors' collection.
8. Ilisch, Peus (Frankfurt) Auction 363, 26 April 2000, Lot 5556.
9. ANS 1956.137.80 American Numismatic Society, accessed January 4, 2021, http://numismatics.org/collection/1956.137.80.
10. Authors' collection.
11. Triskeles Auctions, Sale 20, Lot 784.
12. Known by many names, including Khurshah (خورشاه؟), Khurushah, Kharashah, and other variations.

Bibliography

Afshar (Sistani), I., AH 1378 (1999), *Pazhouhesh dar Nam-e Shahr-ha-ye Iran* [A Study of Iranian City names], Rozaneh Tehran.

Aghili, A., AH 1377 (1998), *Dar al-Zarb ha-ye Iran dar Dore-ye Eslami* [Iranian Mints of the Islamic Era], Bonyad Moghoufat Dr. Mahmoud Afshar, Tehran.

Al-Baladhuri, A. Y., AH 1346 (1967), *Futuh al-Buldan* [Book of the Conquests of Lands], first published AH 255, trans. Azartash Azarnoush, Bonyad Farhang Iran, Tehran.

Album, S., and Goodwin, T., 2002, *The Pre-Reform Coinage of the Early Islamic Period (SICA 1)*, Ashmolean Museum (through Spink), Oxford.

Album, S., 2011, *Checklist of Islamic Coins,* 3rd edition, Stephen Album, Santa Rosa.

Al-Hamawi, Y. A., AH 1383 (2004), *Mu'jam al-Buldān* [Dictionary of Countries], trans. A. N. Monzavi, Vol. 2, Tehran, Sazman Miras Farhangi Keshvar.

American Numismatic Society. n.d. ANS 1956.137.80. 04 01 2021, http://numismatics.org/collection/1956.137.80.

Athari, A., AH 1391 (2012), *Zibashahr-e Jahrom: Barrasi-ye Jazebe-ha-ye Gardeshgari Tabi'i va Tarikhi-ye Shahrestan-e Jahrom* [The Beautiful City of Jahrom: A Survey on Natural and Historical Tourist Attractions of Jahrom County], Boniz, Jahrom.

Curiel, R., and Gyselen, R., 1984, *Une Collection De Monnaies De Cuivre Arabo-Sasanides*, Association Pour L'Avancement des Etudes Iraniennes, Paris.

Diler, Ö., 2009, *Islamic mints*, 3 volumes, Istanbul.

Fasāʾī, H., *Fars-Nama-ye Naseri* [Naseri's Book on Fars], Vol. 2.

Ferdowsi, A., and Davis, D., and Nafisi, A., 2016, *Shahnameh: The Persian Book of Kings*. Penguin Publishing Group.

Gaube, H., 1973, *Arabosasanidische Numismatik, Handbuecher der mittelasiatischen Numismatic, Band II*, Klinkhardt & Biermann, Braunschweig.

Gundelfinger, S., and Verkinderen, P., 2020, 'The Governors of al-Shām and Fārs in the Early Islamic Empire – A Comparative Regional Perspective', *Transregional and Regional Elites – Connecting the Early Islamic Empire*, De Gruyter, Berlin and Boston.

Gyselen, R., 2000, *Arab-Sasanian Copper Coinage*, Austrian Academy of Sciences Press, Vienna.

Hakim, Md. T. K., AH 1366 (1987), *Ganj-e Danesh: Joghrafia-ye Tarikhi Shahr Ha-ye Iran* [Treasure of Knowledge: A Historical Geography of Iranian Cities], first published AH 1294 and AH 1305, ed. M.A. Soti and J. Kianfar, Zarrin, Tehran.

Hedayat, R. K., 1871, *Farhang-e Anjoman-Ara-ye Nāseri* [Anjoman-Ara Persian Dictionary], Ketāb Forushi-e Eslāmiye, Tehran.

Hinds, M., 1984, 'The First Arab Conquests in Fārs', *Iran*, Vol. 22, pp. 39-53.

Ibn al-Athir, A., AH 1385 (2006), *Tarikh-e Kamel* [The Complete History], trans. M. H. Rohani, Vol. 4, Asatir, Tehran.

Ibn al-Balkhi, Le Strange, G., and Nicholson, R.A., AH 1363 (1984), *Fārs-nāma* [The Book of Fars], Donyaye Ketab.

Ibn al-Faqih al-Hamadani, A., AH 1349 (1970), *Kitab Mukhtasar al-Buldan* [Concise Book of Lands], trans. H. Masoudi, Bonyad Farhang Iran, Tehran.

Ibn Hawqal, Md. A., AH 1345 (1966), *Sūrat al-Arz* [The face of the Earth], trans. Ja'far Shi'ār, Bonyad Farhang Iran, Tehran.

Ibn Khordadbeh, 1967, *Kitāb al-Masālik wa al-Mamālik* [Book of Roads and Kingdoms], Liden.

Istakhri, A. I., 1963, *Al-Masalik Wa'l-Mamalik* [The Book of Postal Routes and Kingdoms], ed. I. Afshar, Bongah Tarjome Va Nashr-e Ketab.

Jayhani, A. G. A., AH 1368 (1989), *Ashkal al-Alam* [Shapes of the World], ed. F. Mansouri, trans. A. A. S. Katebi, Beh Nashr, Tehran.

Kasravi, A., AH 1353 (1974), *Karvand*. ed. Y. Zoka, Ketab-ha-ye Jibi, Franklin, Tehran.

Le Strange, G., *The Lands of the Eastern Caliphate: Mesopotamia, Persia and Central Asia; from the Moslem Conquest to the time of Timur*. Cambridge: University Press, 1905.

Mitchiner, M., 1977, *Oriental Coins and their Values: The World of Islam*, Vol. 1, Hawkins, London.

Mochiri, M. I., 1986, *Arab-Sasanian Civil War Coinage: Manichaeans, Yazidiya and other Khawārij*, Brill, Paris.

Sedaghat, K. J., AH 1389 (2010), *Jahrom Dar Pooye Tarikh* [Jahrom Through History], Farhang Pars, Bonyad Fars Shenasi, Shiraz.

Shirvani, Z., *Bustan as-Sayahat* [The Flower Bed of Journeys], Sanayi, Bita, Tehran.

Shirvani, Z., 1339 (1960), *Riyadh as-Sayahat* [The Flower Garden of Journeys], ed. A. Hamed (Rabbani), Sa'di, Tehran.

Tabari, Md. J., 1973, *Tarikh al-Tabari* [The History of al-Tabari], first published 912, trans. Abolghasem Payandeh, Bonyad Farhang Iran, Tehran.

Taghavi, K. A., AH 1387 (2008), *Joghrafiya-ye Tarikhi-ye Karian* [Historical Geography of Karian], Hamsaye, Tehran.

Toofan, J., AH 1381 (2002), *Shahristan-e Jahrom* [Jahrom County], Koosha Mehr, Shiraz.

Treadwell, L., 2008, 'The copper coinage of Umayyad Iran', *The Numismatic Chronicle*, Vol. 168, pp. 331-381, London.

Unknown author, 1939, *Mojmal al-Tawarikh wa al-Qasas* [The Collection of histories and Tales], ed. Mohammad-Taqi Bahar, Kolale Khavar, Bita, Tehran.

Walker, J., 1967, *A Catalogue of the Arab-Sassanian Coins*, first published 1941, Trustees of the British Museum, London.

THE FIRST BURMESE COIN HOARD OUTSIDE BURMA

S. K. Bose and Nirupam Khanikar

A number of large coins, which, to the villagers who discovered them, appeared to be made of silver, was unearthed in Sundarpur village in Sibsagar, Assam, on 29th August 2020 (*Assam Tribune* 2020: 14). These are similar to those known to circulate in the Tenasserim region of Burma (now known as Myanmar) during the 19th and early 20th centuries, if not earlier (Robinson and Shaw 1980: 36-41). Their use was primarily in the areas that were well-connected to neighbouring kingdoms (Robinson and Shaw 1980: 42).

The discovery is important because this is the first time that such coins have been found outside Myanmar (Moore 2015: 168). The coin hoard was discovered in a paddy field owned by Jituprasad Dutta, an agriculturist. Hemanta Dutta, an agricultural labourer, was transplanting paddy when his feet struck one of these metallic pieces in the field. Initially it was thought to be a spare part from a power-tiller used in the area a few days earlier, but the theory was abandoned as more such pieces were found. They were distributed among his companions as curiosities. When the local police got wind of the discovery, they recovered the pieces, which were then examined by experts from the Sibsagar branch of the Archaeological Survey of India. They subsequently requested assistance from their colleagues at Guwahati. The local papers "identified" the pieces as Ahom coins bearing the Ahom script (*Asomiya Pratidin* 2020: 1, 13).

Nirupam Khanikar, one of the authors, promptly visited Sundarpur to gather information on the discovery. Upon examination, we are now convinced that these pieces are indeed coins, but from Tenasserim, a southern coastal region of Myanmar, bordered by Thailand and the Andaman Sea, with the Mon state to the north.

Historical background

Tenasserim was a colonial name, and it has since been changed to Tanintharyi Division, an administrative area of modern Myanmar. It incorporates many islands, with its capital at Dawei (formerly Tavoy). A considerable part of Tenasserim lay within the Ayudhya kingdom of Siam, which was ceded to the Burmese kingdom in 1793 (Moore 2015: 163-164). It is therefore natural that some Siamese influence remains on the cultural, political and economic life in the region.

In the early 19th century, Badan Barphukan, a high-ranking Ahom official, visited the court of the Burmese king Bodawpaya, seeking his support for the Ahom king Chandra Kanta Singha, who was feeling threatened by his own powerful prime minister, Purnanand Buragohain (Gait 1984: 224). Following this, the Burmese carried out several invasions of Assam between 1817 and 1824. However, all they did was to loot and suppress the Assamese populace and extend the Burmese kingdom (Gait 1926: 225-232; Barpujari 1992: 344-352). During this time, they experimented with an octagonal debased silver coin, known as *Gāharī Nrīpa*, which subsequently met with failure (Rhodes and Bose 2004: 34). So far, only a couple of such coins have been noted.

Many tin coins from Tenasserim now rest in different coin cabinets in European museums, since their collection and appropriation by European travellers and missionaries in the late 18th and early 19th centuries (Robinson and Shaw 1980: 41-42). Though Phayre initially identified these coins in 1882 as religious medals (Robinson and Shaw 1980: 36), subsequent records indicate that similar large tin or lead coins were used as mediums of exchange. A note with the coin in the Valetri Museum in Rome states that it was used for sundry purchases in Tavoy (Dawei) (Robinson and Shaw 1980: 36, 41-42).

Fig. 1. The Tenasserim region of Burma (image source: Roberts 1920: 478)

Similarly, many historical documents by 17th century French travellers referred to them as money. Coins made of lead were measured by the basket and accepted on the basis of weight, while individual tin coins were used as units of value (correspondence in Numismatic Chronicle 1844-1845: 27-34). Apart from Dawei, tin coins were also found in Kalein Aung and Mergui, both within the Tenasserim region. Elizabeth H. Moore has mentioned a wood merchant at Dawei, who had collected more than a hundred such coins from the sands of the Dawei river where timber was loaded on to vessels (Cruyce 2019: 25). While there was a variation in the design and sizes of these coins, their weights were reasonably similar.

The most important aspect of these coins is the legend, which is Pali by tradition, but written in Burmese script. On the reverse of the coin is a wheel in the centre, around which *Maha Sukhanga Nagaran* ('the great and comfortable city') is written. Robinson and Shaw read this legend as *MahāSukhan Ga Nagaran* and interpreted it to mean 'city (of) great rest or happiness' (Robinson and Shaw 1980: 37). However, in Pali, the word *ga* is derived from the root *gamana* and used as a suffix, such as *inanuga, atiga*, and so on.

Fig. 2. Tenasserim coin in the Manchester Museum collection, with arrows marking the point where metal was poured into the mould during casting

Fig. 2 shows a specimen in Manchester Museum that clearly indicates that casting methodology was used to produce it: the place where molten metal was poured through a channel in the mould is shown by arrows. A terracotta die was probably used to pour the molten metal into, which was then broken to extract the coin once it had cooled. The centre of the die was probably concave, which made more of the metal land there and make the coin centre-heavy, to try and get a better impression of the devices on the coins.

The Sundarpur Hoard

The coins in this hoard were found almost stacked on top of one another, though no container was found at the spot. They were therefore almost certainly stored in a perishable container, which also resulted in the pieces being partially or completely broken.

The average diameter of the coins from Sundarpur is 66.63 mm, similar to the specimen in Fig. 2 (64 mm). In Table A, we have provided information on the weights of the coins not totally broken. However, having done so, we would stress the limited help from this, given that not a single coin was found intact.

Table A. List of coins in the hoard

Coin no.	Weight (g)	Size (mm)	Remarks
1	39.73	64.91	Partially broken. The owner is not willing to be identified
2	37.81	69.45	Partially broken. With ASM*
3	32.62	66.98	Partially broken. With ASM*
4	35.67	71.07	Partially broken. With ASM*
5	36.52	65.31	Partially broken. With ASM*
6	35.86	65.98	Partially broken. With ASM*
7	42.78	69.06	Partially broken, uncleaned. With ASM*
8	39.60	65.21	Partially broken. With ASM*
9	42.01	65.95	Partially broken. With ASM*
10	40.49	65.86	Partially broken, uncleaned. With ASM*
11	39.58	64.97	
12	38.87	66.10	
13	35.94	67.98	
14	36.23	64.21	
15	44.49	66.63	
16	31.42	64.59	
17	33.49	65.78	
18	37.15	69.38	
19-30	-	-	Totally broken, in pieces
31	Not available	Not available	The owner is not willing to be identified

*ASM = Assam State Museum, Guwahati

Photos of coins

The photographs have been reduced in size, and are not to scale.

Coin 1

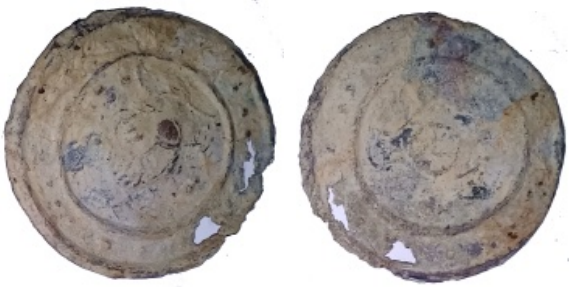
Coin 2

Coin 3

Coin 4

Coin 5

Coin 6



Coin 7

Coin 8

Coin 9

Coin 10

Coin 11

Coin 12

Coin 13

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Coin 16

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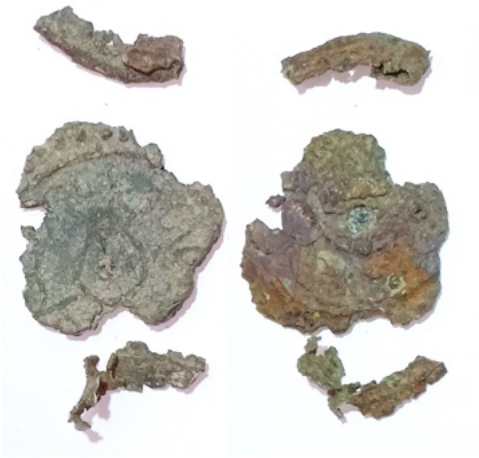
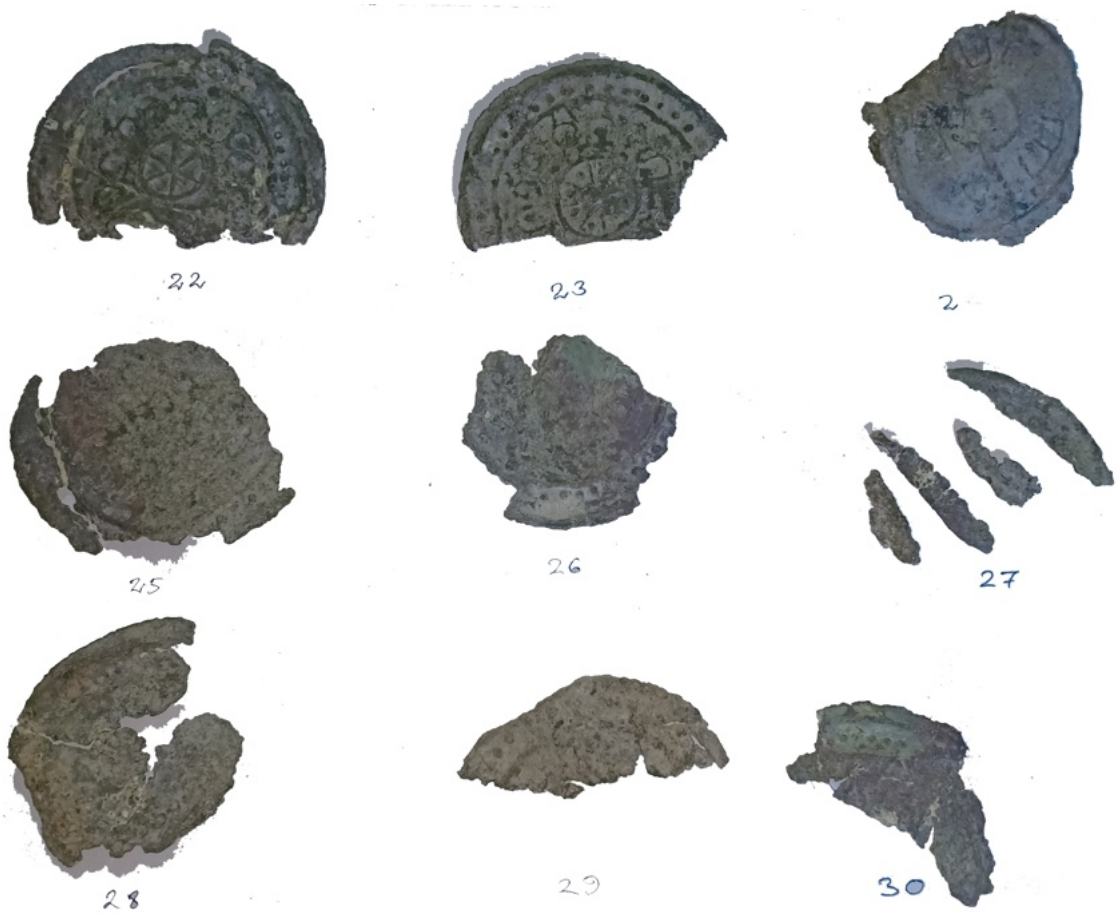
Coin 18



Coin 20

Coin 19

Coin 21



Coins 22-30

Coin 31

Metallic analysis of the coins

Analysis of the metallic composition was carried out by CIF Gauhati University, with a scanning electron micrograph (SEM-EDX) of the cast coins revealing the following information:

Tin (Sn)	96.82%
Calcium (Ca)	1.5%
Silver (Ag)	1.47%
Silicon (Si)	0.22%

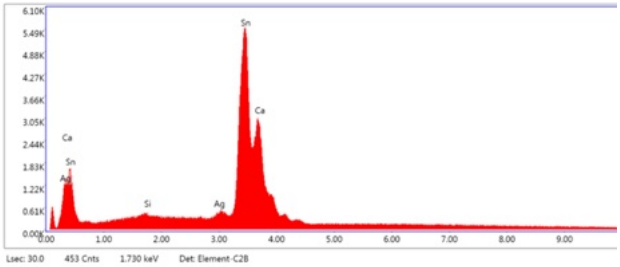


Fig. 3. Metallic analysis of the coins

We are aware of tin mines in the Tanintharyl area of southern Myanmar (Moore 2015: 167), but we are uncertain if silver was mixed intentionally or not. Tin was obviously used as the main component and silver may have been present as a natural alloy.

Circulation of the coins

A proverb connected with the Burmese was used in the villages of the Barak valley in Cachar, Assam:

Kolosbhorohreh mānoreperiāh
Dhāncāul kinoin tārā rupār korhī diyāh

('The Burmese (Mān) buy rice and paddy by paying silver coins. Extract them fully to fill up your coffer.')

This was a form of oral narrative that existed in Barak valley, whereby information or messages were conveyed from one person to another in verse form. This was also used to disseminate royal orders. It was known as *dāk* locally, meaning 'to call'. This name originated from the method adopted which, in local parlance, was *dekey dekey bolā* or 'to call and convey' (Bhattacharjee 1992: 7-10).

The above *dāk* was in Sylheti, a dialect of colloquial Bengali prevalent throughout the Barak-Surma valley in the Sylhet-Cachar region. It refers to a different situation to what has been previously described of the excesses of the Burmese army on the local populace. The question of buying rice from the locals using money did not arise during that period. However, the situation was different later on, when the Burmese army met more than its match in the forces of the East India Company. During their retreat, hungry Burmese soldiers started to actually buy food (*ibid.*). It is thought that they may have used tin coins for this purpose even though they had silver coins. Villagers may not have been able to differentiate tin from silver, as, during this time, no tin coins were used in northeast India.

The economic and numismatic history of the brief Burmese occupation of Assam has not yet been comprehensively discussed or analysed. It is hoped that this new discovery will impart impetus to the process. As an aside, the use of Pali legend on the coins once again convincingly reconfirms ancient India's cultural and religious influence on Myanmar in particular, and on southeast Asia in general.

Acknowledgements

We are thankful to Dr. Bandana Mukherjee, Dr. Anasuya Bhowmick, and Elizabeth Moore for providing useful information. We offer our heartfelt thanks to Bryan Sitch, Deputy Head of Collections and Curator of Archaeology, Manchester Museum, Y.S. Wunglengton, Director of Museums, Assam, and Abantika Parasar, in-charge, Jorhat District Museum, for providing us with photographs and details of the coins in their museum collections. We are also thankful to the CIF at Gauhati University for analysing the metallic composition of the coins in this hoard.

Bibliography

Assam Tribune, Guwahati, 8th September 2020, p. 14.

Asomiya Pratidin, Dibrugarh, 2nd September 2020, pp. 1 and 13.

Barpujari, H.K., 1992, Ed. *The Comprehensive History of Assam,* Vol. II, Publication Board Assam, Guwahati.

Bhattacharjee, J., 1992, 'Barak Upattakar Daak Sahitya', *Umiām*, Issue 2, Shillong.

Cruyce, K.V.D., 2019, lecture at the Oriental Numismatic Society meeting at Leiden in October 2019, *Journal of the Oriental Numismatic Society*, Vol. 237, London, p. 25.

Gait, E., 1926, *A History of Assam,* L. B. Publications, Guwahati.

Moore, E.M, 2015, 'The Inter-Regional Archaeology of Dawei, Lower Myanmar', *Advancing Southeast Asian Archaeology,* SEAMEO SPAFA, Chapter 16, Bangkok, pp. 162-169.

Phayre, A.P., 1882, 'The Coins of Arakan, of Pegu and of Burma', *Numismata Orientalia,* Vol. 3, Part 1, London.

Rhodes, N.G., and Bose, S.K., 2004, *The Coinage of Assam, Volume II (Ahom Period),* Library of Numismatic Studies, Kolkata.

Roberts, P.E., 1920, *A Historical Geography of the British Dependencies, Vol. VII, India, Part II*, Oxford University Press, London.

Robinson, M., and Shaw, L.A., 1980, *The Coins and Banknotes of Burma,* Manchester.

PYNE, MCDERMOTT AND THE EMIR: THE ADVENT OF MACHINE-MINTED COINAGE IN AFGHANISTAN

N. R. Jenzen-Jones with Jack Shanley

The first industrial mint in Afghanistan was established in Kabul c. 1889, during the reign of Emir Abdur Rahman Khan. Prior to this, hand-hammered coinage was produced at government mints at Kabul, Kandahar, and Herat (Hamidi 1967: 5). The term 'Kabul Mint' has been used to describe both the industrial establishment contained as part of Abdur Rahman's steam workshops, as well as one or more earlier production centres which produced hand-hammered coinage (Khan 1900: 31-32). It seems likely that coinage production in Kabul, prior to the founding of the industrialised mint, may have been at least partially distributed, as it was with other important, state-controlled outputs, such as firearms (Jenzen-Jones, Easley and Vining 2020: 87). Nonetheless, there was a distinct predecessor facility to that built at the Kabul Workshops known, at least in the West, as the 'Kabul Mint'.[1] This is described as comprising "rude sheds … running around [a] courtyard", where some 25,000 hand-hammered rupees could apparently be produced each day (*The New York Times* 1880: 2). The silver used in Afghan rupees immediately prior to the reign of Abdur Rahman was recovered from British Indian rupees via cupellation, although more Indian rupees were added back to the recovered silver so that the final Afghan product contained about half as much alloy. An 1880 letter to the *Times* of London (reproduced in the *New York Times*) gives a detailed description of the simple but "perfectly effective" process by which British Indian rupees were converted into Afghan rupees:

> "[There] are two rows of small, round clay hearths, elevated an inch or two above the floor, and depressed, like a plate, in the middle. A pile of rupees – generally 300 – having been counted and weighed, is placed upon one of those hearths in a carefully prepared bed of bone ashes, and covered over with charcoal and wood. The charcoal is then lighted, and when well aglow 4 pounds of lead for every 300 rupees is added to the furnace. The lead, in combination with the bone ashes, separates, as is well known, the alloy. This first process converts the rupees into a dull, unsightly mass of silver, free, or nearly so, from alloy. The pure silver thus extracted is then carried to another shed, carefully weighed, and an amount of English rupees equal to its weight added to it. Rupees and silver are then melted together in a clay crucible, and the melted mixture is ladled by hands into molds, which give it the shape of flattened bars about 12 inches long. These bars are then taken to a third shed, to be annealed by hammering, and given the form of slender, round rods. The next process is that of drawing these rods through a plate of iron, perforated with round holes, to give them a uniform circumference. This is done by means of a rude hand-wheel, after which the rods are cut by hammer and chisel into the lengths requisite to form the future rupee, each of which lengths is carefully weighed in a pair of scales. Any that are too heavy are handed to a workman whose business it is to slice off a fragment with his chisel; any that, on the contrary, are too light are handed to another workman, who notches the little cylinder by a blow on his chisel, and inserts the required fragment into the notch. The cylinders are next carried to a fifth shed, and, after gently heating, are hammered into small, round disks, which have a yellowish white color. To remove this color and give them brightness they are next plunged into a caldren [sic] of boiling water, in which they are boiled for some time along with apricot fruit and salt. This process imparts brightness to the dull disks of silver, and they are then ready for the last process they have to go through, that of stamping. This is, perhaps, the most interesting part of the operation. Two operators sit facing each other, half naked, on the ground, with a little iron anvil between them. Into the iron anvil is inserted a steel stamp, destined to give the impression which the underside of the roupee [sic] will bear. One operator places the little silver disks with great quickness and accuracy upon the stamp, and the other, who is armed with a heavy hammer in his right hand, and a steel stamp bearing the inscription destined for the upper side of the rupee in his left, with one heavy, well delivered blow, impresses the device on the soft lump of silver. Lastly, each rupee thus stamped is again weighed, and deficiencies in weight made up by the same rude process as noted at another stage of the work, the amended rupee passing once more under the hand of the stampers." (*ibid.*)

The resultant Afghan rupees are described as "rough and unfinished", "excellent in quality, if inartistic in shape and appearance" (*ibid*.). However, the process as described in the *Times* letter would result in Kabuli rupees of finer silver than their Indian counterparts (closer to Britannia silver than the .971 standard established by the British Raj). In his autobiography, the Emir writes that, immediately after he came to power (in May of 1880), he "established a mint of [his] own, where rupees were coined by means of hand dies" (Khan 1900: Vol. I, 202-203). According to the Emir's account, he received British Indian rupees coined at the mint in Calcutta, and ordered these to be melted down, with six per cent of additional copper added to the alloy before re-coining.[2] The Emir also ordered his officials to purchase silver from around the country,[3] debasing it with "a considerable quantity of copper" and coining rupees in order that the country's treasury might profit (*ibid*.).[4] A contemporary account describes the hand-hammered coinage of Abdur Rahman's reign as crude, and records a local resistance to the introduction of new issues, but notes the first coins to be turned out from the new, mechanised mint were of a high quality:

> "The coinage of the country was of the most crude description. The rupees and other coins were all hand-stamped, but the people seemed very loth to change them. However, Mr Pyne, at the instigation of the Ameer, initiated a mint, and very soon succeeded in putting into circulation a neatly coined rupee and other coins similarly well executed. When the mint had been fairly established Mr Pyne began a cartridge factory …" (*The Star* 1900: 1)

Prior to the establishment of the new mint, at least one issue of machine-minted Afghan silver rupees was produced under contract by Ralph Heaton & Sons of Birmingham. These are only recorded as having been produced in AH 1303-1304 (1885-1887 CE), likely sometime in 1886. The Heaton coins follow the same general arrangement of earlier hand-hammered rupees of the period, although they are readily distinguished by their obviously machine-stamped finish.[5] John Gray includes an illustration of a hand-made rupee from the same year (AH 1303) on the title page of his book, *At the Court of the Amîr* (1895), which documents his experiences working in Kabul (see Fig. 1). Gray had the following to say about the coinage of Afghanistan in the late 1880s and early 1890s:

> "The ordinary medium of exchange is the rupee. It is a smaller coin than the kaldar, or Indian rupee, being about the size of a shilling [Gray also gave the value of a "Kabuli rupee" as one shilling (1894: 264)]. Nominally, it is worth twelve annas, though there is no such coin as an anna in circulation. A half rupee is called a kran. The copper coins in circulation are called pice. Five pice go to the anna. There are sixty or more pice in a rupee, according to the exchange, which can always be found out by reference to the money-changers in the bazaars. Formerly the coins were struck by hand. … There is no gold Afghan coin in circulation, though the Bokhara 'Tilla', worth about twelve shillings, is current." (Gray 1895: 294)

Fig. 1. A hand-hammered rupee from the reign of Abdur Rahman (image source: Gray 1895)

The first minting machines in Afghanistan

The introduction of modern minting machinery into Afghanistan was only one amongst a broader panoply of modernisation reforms championed by the Emir. The lynchpin in his plan was the establishment of a steam-powered workshop in the Deh Mozang gorge, along the left bank of the Kabul River (Easley and Jenzen-Jones, forthcoming). In the official history of Afghanistan that covers the period in question, the *Sirāj al-tawārīkh*, the complex that housed the Kabul Mint is most often referred to as the *kārkhānah-i bukhārī* ('steam workshop') (Hazārah 2013: 790, n. 1).[6] The Kabul Workshops, including the mint, were known to locals simply as *mashīn-khānah* (ماشین خانه; literally 'machine house' in Dari) (Schinasi 2008: 82).[7] As with the Kabul Arsenal,[8] the Kabul Mint is best conceived of as a sub-unit or department of the Kabul Workshops more broadly (Jenzen-Jones, Easley and Vining 2020: 87-88).

The practical matters leading to the establishment of the modern, steam-powered Kabul Workshops in Afghanistan fell to Mr. (later Sir) Thomas Salter Pyne. In 1885, the Emir had taken the first steps towards modernising industry in Afghanistan. Abdur Rahman met with Lord Dufferin (then Viceroy of India) in Rawalpindi, India, and managed to secure British support in expanding his industrial base. He briefly engaged the services of a Frenchman, Jérôme Kirchgesner, shortly thereafter, sending him to Europe with 141,000 British Indian rupees to pay for lathes; drilling, shaping, punching, cutting, and cupping machines; a casting foundry; 3-, 6-, 8-, and 10-horsepower engines; and other smaller machines. Kirchgesner rather quickly moved on from the Emir's employ, and Abdur Rahman Khan hired Pyne in early 1887. Sometime thereabouts, the Emir selected a piece of land[9] on the outskirts of the city as the future site of his Workshops, and the foundation stone was laid on 7 April 1887. Pyne quickly set to work acquiring a large number of modern machines and tooling to realise the Emir's vision. He departed Afghanistan in September 1887, and travelled to England to arrange for the purchase of specialised plant and equipment. He returned in early 1889, and it was not long before "a minting machine" was in place, as well as a stationary engine, small steam-hammer, lathes, and a cartridge plant (Gray 1894: 264). It seems that the first minting machine(s) arrived around the time of Pyne's return, c. March 1889, and specimens of coinage were produced.[10] Gray visited the Workshops shortly after his arrival in Kabul in 1889, observing crates of machinery yet to be unpacked and describing the workshops – still under construction, with some structures yet to be roofed – as "extensive for such a country" (Gray 1894: 264; Gray 1895: 33). The abrupt arrival of complex machinery no doubt had quite an effect on the locals. "The people call the workshops *en-gin* (a 'gin' in Persian means a 'devil'); and they see these horrible-shaped things, which make cartridges and money, sometimes clutch hold of a man, and break his bones, or kill him", Gray wrote (1894: 268; 1895: 294). He treated a variety of injuries received by Afghan workers operating the machines (Gray 1895: 116).

Pyne continued to oversee the development of the workshop, before departing again in late 1889 or early 1890 on another assignment to England. When he returned in April of 1890, he brought with him a Mr. McDermott,[11] a British engineer originally from Birmingham or Liverpool,[12] who worked for the government of Calcutta and was sent on assignment to support the Emir's modernisation programme (Hamilton 1906: 283). He was made Superintendent of the Mint and served in this role until sometime in 1892 (Easley 2020). It appears that, under McDermott's oversight, the first legal tender coinage was produced using the new mint machinery. The first coins minted were silver one rupee and half-rupee (*qirān* or *krān*) denominations, struck in 1890 (AH 1308) (Schinasi 2008: 84; Hamidi 1967: 5, 11, 13). Copper paisa (also called *pice*) appear to have entered production the following year (King 1896: 342; Hamidi 1967: 15). Hamidi claims that three "large machines, designed to convert metal into coins," were purchased from the firm of "A. Slater Savill & Co." (Hamidi 1967: 5), although the authors have not been able to identify that company as a producer of minting machinery. Instead, it seems more likely that Savill & Co. was responsible for the shipping of the machines (and possibly other intermediary services).[13] It may be that the machinery was instead produced by Heaton & Sons, following the existing relationship they had with the Afghan government (Sweeney 1981). At least one source claims that the minting machinery acquired at the same time McDermott was in the Emir's employ was sourced from the United States (Hamilton 1909: 240). It is of course possible that multiple machines were acquired from different suppliers. In any event, "handsome" silver coins were soon produced at a rate of 50 per minute (*Imperial Gazetteer* 1908: 41), with the total output being given as 40,000 rupees per day (*Imperial Gazetteer* 1908: 60; *The Annual Register of World Events* 1891: 365).

Fig. 2. Abdur Rahman rupee, dated AH 1308, believed to be the first year in which such machine-minted coins were produced (image source: White 1896)

Fig. 3. Abdur Rahman copper, dated AH 1309, believed to be the first year in which machine-minted paisa coins were produced (image source: White 1896)

The date for the introduction of the first machine-struck coins is sometimes given as AH 1309 (1891) (see, for example, Campbell 1976: 341-352), though this claim is not borne out by the evidence (either in period sources or as seen on the numerous recorded specimens marked "1308"). Although several 20th-century sources give erroneous dates for the installation of machinery or the commencement of operations at the Mint, even an early (1896) numismatic source, examining the coinage of the Barakzai dynasty, features a rupee marked *1308* (1890-1891) and a paisa marked *1309* (1891-1892) (see Figs. 2 and 3) (King 1896: 342-343). Gray, writing sometime around March 1890, noted that the minting machine was installed "quite recently", and opined that the new rupee "is scarcely as artistic as the old: it is Europeanized, and it is said to be worth an anna less" (1895: 294). The new rupee was apparently introduced into general

circulation by way of the army, with the Emir electing to pay his soldiers using the new coins. Paisa (Æ), too, were apparently being produced at the new mint by the time of Gray's visit *(ibid.)*. The coins produced in the earliest years of the Kabul Mint (AH 1308-1309) comprise the following:

Table A. Kabul Mint issues of AH 1308

Denomination	Metal	Size	Wt.	KM #	Hamidi #
1 rupee	Silver	23.5 mm	9.2 g	KM806.1	H4a
½ rupee (*qirān*)	Silver	26 mm	4.6 g	KM804.1	H5a

Sources: Hamidi, 1967; Michael, Schmidt and Giedroyc, 2019; White, 1896

Table B. Kabul Mint issues of AH 1309

Denomination	Metal	Size	Wt.	KM #	Hamidi #
1 *tilla*	Gold	22 mm	4.6 g	KM807	H1d
2 *tilla* (20 rupees)	Gold		6.0 g	KM808	H2
Shahi (5 paisa)	Brass and bronze	31.5 mm	23.2 g	KM803	H9
1 paisa	Bronze	21.5 mm	4.6 g	KM802	H10a
1 paisa	Bronze	20 mm	4.6 g	KM802	H10b
1 paisa	Bronze	24 mm	4.4 g	KM800	H10c

Sources: Hamidi, 1967; Michael, Schmidt and Giedroyc, 2019; White, 1896

Once the new mint was operational, the Emir declared to his Kandahar governor that "for the future only new coins struck by the machinery lately erected at the headmint in Kabul will be allowed currency in Afghanistan" (Kakar 1979: 216). Despite this, hand-hammered, sometimes anonymous, coinage continued to be made sporadically throughout the reign of Abdur Rahman, predominantly in Herat. These mostly took the form of *qirān* or low-denomination copper coins, with production of the latter persisting until the 1920s.[14] Legacy coins remained in widespread circulation too. In 1908, a British Indian government report observed that "The old silver coinage of the country has been called in, and is being gradually replaced by the new issue" (*Imperial Gazetteer* 1908: 41), however, even as late as 1913, American engineer A.C. Jewett noted that, "Although Kabul has a plant for minting coins, many of the old ones are still in circulation, some of which are very crude and irregular" (Bell 1948: 305). Currency also remained regionalised, with the 1908 report claiming that "Very little Kābul coin is in circulation at Kandahār, the ratio between the Kābuli rupee and the Persian *krān*, which is there current, being as one to three" (*Imperial Gazetteer* 1908: 41).

Continued expansion of the Kabul Mint

During McDermott's time overseeing the production of coinage in Afghanistan, he taught his pupils how to cut dies, erect stamps, and strike coins (Baker 1915: 539). Eventually, these tasks were all taken over by native Afghans. Abdur Rahman writes that, following McDermott's departure in 1892, Kabuli workmen "carried on the work without any superintendence" (Khan 1900: 32). The Emir claims the mint had an output of 80,000 to 100,000 rupees per day, and observed that: "Not only do my workmen coin the rupees, but they also make the dies and stamps; and since the first set of tools and dies was brought from England we have never had to buy fresh ones, everything is made in Kabul itself" (*ibid.*).

It appears that additional minting machinery was acquired from the Leeds firm of Greenwood & Batley in 1894. The first of the new presses, said to be for minting "the new 39mm 5 rupee coin" was despatched from England on 19 October 1894 (Dix-Noonan-Webb 2016: Lot 926). Bronze, copper, and brass tokens, bearing the names "H.H. Abdul Rahman" (obverse) and "Sir T. Salter Pyne" (reverse), that are likely to date from this period, have been documented. Two different designs in various sizes and materials are known, and both of these have been attributed to Greenwood & Batley, although only one is marked as such (Fig. 4).[15] In fact, the other example appears to have been produced by the Patent Exhaust Steam Injector Co. (later Davies & Metcalfe) of Manchester (Fig. 5). A custom presentation case for specimens struck in silver and bronze (one gilt) bears the name of that firm (Rosenblum November 2005: Lot 390). These curious tokens are trial, or proving, pieces for "the new machinery at Kabul Mint" (Dix-Noonan-Webb 1998: 23; Bullmore 1979: 439). One of the Greenwood & Batley pieces has been described as being "almost certainly" made in 1894 (Dix-Noonan-Webb 2016: Lot 926).[16] As Pyne was not knighted until March 1894 (*The London Gazette* 1894: 1, 953), this date is more suitable than earlier dates proposed by some sources. One source claims the Patent Exhaust Steam Injector Co. examples date from the 1920s (*ibid.*), but as this name appears to have fallen out of use before that date, this seems unlikely. It is more likely that this design dates to an earlier period, possibly being concurrent with the Greenwood & Batley examples.

Fig. 4. Bronze token made for the Afghan government by Greenwood & Batley of Leeds, c. 1894 (image source: DNW 2016, Lot 926)

Fig. 5. Bronze token made for the Afghan government, most likely by the Patent Exhaust Steam Injector Co. of Manchester, c. 1894 (image source: DNW 2016, Lot 927)

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References

1. Three mints were traditionally recognised in the period of Abdur Rahman Khan's predecessor Sher Ali Khan's reign, at Kabul, Kandahar, and Herat. Earlier, minting was undertaken in Peshawar (King 1896: 322).
2. The Emir gives the value of a British Indian rupee as 16 pence, and the value of a Kabuli rupee as 12 pence. In his 1915 book, American Consul at Bombay Henry D. Baker gave the value of a Kabuli rupee as approximately half that of the Indian rupee, or some 15.7 U.S. cents (Baker 1915: 539).

3. Earlier accounts record the import of silver from neighbouring countries, including large boat-shaped ingots weighing 150 rupees, referred to as *yamu* (sometimes called *yambu* or *sycee*) and said to originate in "the frontier of China" (Lal 1846: 107).

4. Frank A. Martin, who succeeded Pyne in overseeing the Kabul Workshops, confirms this and notes that the Emir "made a considerable amount of profit". Martin also describes the politics and practicalities surrounding the exchange rate of Kabuli rupees for both Persian and Indian equivalents (Martin 1907: 251-253).

5. At least two variations are known.

6. Fayz Muhammad uses a wide variety of names for the workshops, including *kārkhānah-i* Kābul, *kārkhānajāt-i* Kābul, *fabrīkah-i* Kābul, *fabrīkah-i bukhār*, *kārkhānah-i bukhār,* and *māshīn-khānah*. *Kārkhānah-i bukhārī* is the most commonly used.

7. In modern sources, this is rendered with variant spellings, including *masheenkhana* (Hamidi 1967: 5).

8. Mints were associated with arsenals in other parts of the world during the same period, especially in the developing world, where the production of both arms and coinage was critical to the establishment and maintenance of a ruler's credibility and control. The Peiyang and Tientsin Arsenals in China provide a contemporary example (Wright 1974: 1-5).

9. This was known as the *alam ganj*, or 'The Treasury of Knowledge', and was located with a canal on one side to provide waterpower, and the Kabul River on the other (Khan 1900: 23).

10. *The Annual Register of World Events: A Review of the Year* 1891: 365-366; *Darling Downs Gazette* 1889: 7; British Indian Foreign Department October 1891.

11. Interestingly, Pyne and McDermott were not the first Westerners involved – at least in some way – with the production of Afghan coinage. American Josiah Harlan apparently obtained, amongst many other titles and dignities in Afghanistan, an appointment to oversee the Kabul mint in 1837, during the reign of Dost Mohammad Khan (Macintyre 2006: 195). This appears to have been a predominantly ceremonial role.

12. Two engineers arrived with Pyne at this time, one from Birmingham and the other from Liverpool. Only McDermott is named, although it is not made clear whence he hails (*New Zealand Times* 1889: 2).

13. Certain sources suggest that A. Slater Savill & Co. was primarily a shipping concern, though the authors have not yet found enough material to confirm their hypothesis (see, for example, British Indian Finance Department 1889).

14. For more on this topic, see, for example, Album 1999: 22; Cribb, Cook and Carradice 1990: 167. A variety of foreign currency was also in circulation; see Kakar 1979: 215-216.

15. See also: Roberts-Lewis 2006: 33-35.

16. In the period 1856-1900, the Leeds firm of Greenwood & Batley exported 37 machines to Afghanistan (Floud 1976: 146). One may assume that all, or at least most, of these were purchased after Abdur Rahman came to power in 1880, and likely date to after Pyne's appointment as the Emir's agent.

Bibliography

Album, S., 1999, 'The Anonymous Coinage of the Bārakzāys and their Rivals in Afghanistan', *Oriental Numismatic Society Newsletter*, no. 159, Suppl., pp. 1-28.

Baker, H.D., 1915, *British India with Notes on Ceylon, Afghanistan and Tibet*, Government Printing Office, Washington, D.C.

Bell, M.J., 1948, *An American Engineer in Afghanistan,* University of Minnesota Press, Minneapolis.

Bullmore, G.H.L., 1979, 'Proving Pieces of Greenwood & Batley', *Numismatics Circular*, Vol. LXXXVII, no. 10, pp. 438-440.

Campbell, I.C.G., 1976, 'Frontiers of Numismatics, No. 3, Part 1: Modern Islamic Coinage – Persia and Afghanistan', *Numismatics International Bulletin*, Vol. 10, no. 10, pp. 341-352.

Cribb, J., Cook, B., and Carradice, I., 1990, *The Coin Atlas*, McDonald & Co., New York.

Dix-Noonan-Webb, 1998, *British & World Coins, Tokens & Historical Medals*, 25 November 1998 [auction catalogue].

Dix-Noonan-Webb, 2016, *Coins, Tokens, Historical Medals, Cabinets and Books*, 21-23 September 2016 [auction catalogue].

Easley, V., 2020, Kabul Arsenal research files, *in litt*.

Easley, V., and Jenzen-Jones, N.R., forthcoming, *The Emir's New Rifles: A History of the Kabul Arsenal, 1885-1925,* Headstamp Publishing, Nashville.

Floud, R., 1976, *The British Machine Tool Industry, 1850-1914*, Cambridge University Press, Cambridge.

'Engineering at Cabul', *Darling Downs Gazette*, 15 June 1889, p. 7.

'Engineering at Cabul', *New Zealand Times*, 30 July 1889, p. 2.

'Exemption from Customs Duty of Machinery for Manufacture of Arms and Ammunition Imported for the Amir of Afghanistan' [Statistics & Commerce Branch report], British Indian Finance Department, February 1889.

Gray, J., 1894, 'Experiences at the Court of Afghanistan', *Journal of the Society of Arts*, Vol. 42, no. 2, pp. 260-274.

Gray, J., 1895, *At the Court of the Amîr*, Richard Bentley & Son, London.

Hamidi, H., 1967, *A Catalog of Modern Coins of Afghanistan*, Ministry of Finance, Kabul.

Hamilton, A., 1906, *Afghanistan*, William Heinemann, London.

Hamilton, A., 1909, *Problems of the Middle East*, Eveleigh Nash, London.

Hazārah, F. Md. K., 2013, *Sirāj al-tawārīkh* ['The History of Afghanistan'], ed. by R. McChesney and Md. M. Khorrami, Vol. 4, Brill, Leiden.

Imperial Gazetteer of India: Afghānistān and Nepāl, 1908, Superintendent of Government Printing, Calcutta.

Jenzen-Jones, N.R., Easley, V., and Vining, M., 2020, *Arms & Armour*, Vol. 17, no. 1.

Khan, A.R., 1900, *The Life of Abdur Rahman: Amir of Afghanistan*, two volumes, ed. by M. Khan, John Murray, London.

King, L.W., 1896, 'History and Coinage of the Bārakzai Dynasty of Afghānistān', *The Numismatic Chronicle and Journal of the Numismatic Society*, series III, vol. XVI, pp. 277-344.

Lal, M., 1846, *Travels in the Panjab, Afghanistan, & Turkistan to Balk, Bokhara, and Herat*, W.H. Allen & Co., London.

Macintyre, B., 2006, *The Man Who Would be King: The First American in Afghanistan*, Farrar, Straus & Giroux, New York.

Martin, F.A., 1907, *Under the Absolute Emir*, Harper & Brothers, London.

Michael, T., Schmidt, T.L., and Giedroyc, R., 2019, *Standard Catalog of World Coins, 1801-1900*, 9th edition, Krause Publications, Stevens Point.

Roberts-Lewis, J., 2006, 'Afghanistan and its British numismatic connections' [presentation], summarised in: *Journal of the London Numismatic Club*, Vol. VIII, no. 9, pp. 33-35.

Rosenblum, W.M, 2005, *Mailbid Sale #35D*, 10 November 2005 [auction catalogue].

Schinasi, M., 2008, *Kabul: A History 1773-1948*, trans. by R.D. McChesney, Brill, Leiden.

'Specimen Cartridges and Coins Manufactured in Kabul' [report on the value of coins], British Indian Foreign Department, October 1891.

Sweeney, J.O., 1981, *A Numismatic History of the Birmingham Mint*, The Mint, Birmingham.

The Annual Register of World Events: A Review of the Year, 1891, Vol. 133, Longman etc., London.

'The Kabul Mint: How Afghan Money is Made – English Rupees Recoined', *The New York Times*, 5 October 1880, p. 2.

The London Gazette, no. 26,501, 6 April 1894.

The Star, 1900, p. 1.

Wright, R., 1974, *China – The Peiyang Arsenal Mint*, Occasional Paper No. 7, Oriental Numismatic Society, London.

ONS NEWS

North America meeting (9 January, 2021)

With the world continuing to be hunkered down in the face of the COVID-19 pandemic, the annual New York International Numismatic Convention in January 2021 was cancelled. The North America section of the Society normally holds its annual meeting in conjunction with the Convention and so, of course, this was also cancelled. Nevertheless, we held the meeting virtually via Zoom on January 9, 2021 and featured four speakers. An advantage of holding the meeting via Zoom is that we could invite speakers from all over the world; our speakers this year participated live from India, the U.K., Canada, and the U.S.A. Our audience was also from all over the world, but we had already been achieving this by webcasting our meetings on Facebook Live.

There were four speakers at the virtual meeting. The first speaker was Prashant Kulkarni, speaking from India. His topic was: 'Vidarbha punch-marked coins: An estimate of the volume of currency'. The punch-marked coins of Vidarbha are early silver issues from the 4th century BCE and carry four punches. A major hoard of these coins was found in the vicinity of Makhala village in the Melghat region of Amravati district in Maharashtra. There may have been over 5,000 coins in the hoard, out of which 2,873 coins were included in this study. These provided 227 types of coins, with one type (Type 225) alone accounting for the maximum number of 1,194 coins.

Prashant has conducted a detailed study into the symbols, their sequence of punching, the weight standard, and the purity of the metal. He has classified the coins according to whether or not the symbols are repeated and, if they are, where the repeated marks are located on the coin. A coin is labelled an ABCB type, for example, if the punches at 3 o'clock and 9 o'clock are the same (see Fig. 1).

Fig. 1. Classification according to the position of punches

The study concluded that:

- Coins of the ABCD type were made in the beginning, with some ABCB types too. After a while, the ABCD types were discontinued, and only ABCB were made from Types 98 to 227.
- The punches were marked on cold flans, as handling hot blanks may have been too cumbersome.
- No two types share the same punches.
- The group of four punches were made as a set and they were used for only one type. When one punch-design was stopped, all four punches were discontinued.
- On average, nine groups of punch sets existed for each type for the top 10 types. For all coins, this average is about 3.

An estimate of the total volume of production was made, based on the results of an experiment to replicate the production process. Blanks were prepared to the desired purity of 93% silver and punches were made in both bronze and iron. Striking was tried on cold and hot flans, on both wooden and iron anvils. Two bronze punches broke after 20 and 31 strikes respectively. In contrast, the iron punch kept striking coins up to 2,262 times, when it broke at the design-end. Hot striking was impossible and so were wooden anvils. The most efficient way of punching was on an iron anvil using cold blanks. On average, the experiment showed that one could comfortably make 25 strikes in a minute. This means a one-man workshop could strike 6 coins per minute (25/4 strikes, one strike being an occasional repeated blow). This could potentially have been scaled up to 360 coins per hour, or 2,880 in an eight-hour day. Fig. 2 shows some of the tools used and some of the experimental coins struck.

Fig. 2. The tools used in the experiment and two of the experimental coins struck

Based on the total number of strikes per punch and the number of punches observed, the total volume of production was estimated at 1.03 million *karshapanas*, struck from 785 punch-groups. A unique punch with a star symbol (called star die I) was used on 1,174 coins, punched twice on each coin, so it was able to withstand 2,348 blows. This number comes very close to the life of the die in the experiment, which broke after 2,262 strikes.

The second speaker was Joe Cribb, speaking from the U.K. The title of his talk was 'Kushan gold coins using die studies to understand the function of reverse designs'. One of the enduring debates relating to the Kushan empire is the meaning of the deities who appear on their coins. The talk showed how a detailed study of the progression of the use of dies reveals that the deities depicted on the coins of the Kushan emperors Kanishka I and Huvishka represented the gods who gave them kingship, as well as to mark batches of production. The gods have often been described in literature as coming from a wide range of cultures and symbolising the tolerant attitude of the Kushan kings. However, the study of their dies and of contemporary inscriptions shows that these gods were all related to the cult by the Kushan king, of gods coming out of Iranian culture (in the broad sense of relating to the peoples of Central Asia who spoke languages closely related to Persian). According to Joe, the Kushan deities were sometimes given Greek and Indian names and were shown using iconography borrowed from other cultures, but their underlying identity was Iranian. The Kushan god Oesho, for example, was represented on Kushan coins using imagery drawn from the Greek god Heracles and the Indian god Shiva (see Fig. 3).

Fig. 3. Kanishka gold dinar with Oesho on reverse (Karan Singh Collection)

The third speaker was John Deyell, who spoke from Canada. His topic was 'How are we to interpret Medieval India's posthumous coins?' Using well-known examples of posthumous coinages, he highlighted two major reasons for issuing such coins. In the case of the '1780'-dated Maria Teresa talers, the major driver was 'consumer preference', i.e. the conservative bias of Arab and African markets for this familiar and trustworthy money form. In the case of the late 19th century Indian Princely State coins in the name of long-dead Mughal emperors, there was also an element of user preference. But the major issue, as pointed out by Sanjay Garg, was the stubborn defence of the 'right to coin' granted prior to British hegemony. This minting right conferred both prestige and profit on the rights-holders.

Turning to the seated-Lakshmi series of medieval gold coins, John noted that while it included many varieties of lifetime 'dynastic' issues, most surviving coins were in the names of only two kings, Gangeyadeva and Govindachandra (Fig. 4). By various measures such as comparative fabric, comparative metrology, and hoard analysis, John showed that, while both issues undoubtedly commenced in the reign of their namesakes, they continued to be produced long after the demise of the kings named on them. His tentative conclusion was that there are two main interpretive possibilities: mints continued to produce coins in the name of deceased sovereigns due to consumer preference for familiar coin forms, or they operated fairly independently and only occasionally felt the need to renew the 'right to coin', by reference to governing authority. The question was left open to suggestions.

Gangeyadeva, 3.82 g

Govindachandra, 3.86 g

Fig. 4. Two posthumous gold coins

The fourth and final speaker was Joe Billing, the only speaker who was actually in the United States. The title of his presentation was 'Counterfeit notes coming out of China.' These are not counterfeits made to circulate; they are counterfeits made long after the original notes were in use, meant to bilk collectors. The thrust of the talk was that you need a 20x magnification capability to identify most of these pieces—you have to be able to see what printing technology was used. Most of the 1948-1949 notes of the Peoples Republic of China were originally lithographed. They were demonetised in 1955 and began to be replicated for tourists soon thereafter. According to Joe, just because someone brought a few pieces home from Hong Kong in 1963 does not mean that they are original products. Today most of the genuine notes have three-figure dollar values in high grade, so reprints are lucrative.

Lithography is an easy technology to replicate. Serial numbers must be letterpress. Many fakes have lithographed serials (which means that all notes from the same position on a sheet before cutting will have the same serial number). Savvy counterfeiters using lithography will either number the notes on the sheet consecutively (and hand-stack them after cutting to create consecutive numbers when the notes are pulled from a strap), or they will use widely different numbers on each position, so that it is harder for specialists to learn the numbers and publicise them.

(a) Letterpress numbers *(b) Lithographed numbers*

Fig. 5. Comparison of letterpress and lithograph numbers

Fig. 5a shows the close-up of a letterpress serial number. Note the ridges around the edges of the numerals, created by ink pushed out to the edges of the numerals as the printhead contacts the paper. Fig. 5b is a lithographed serial number. In this case not only are the ridges missing, but the numerals are not even very regular. 20x magnification is not needed: a careful look with a lower power loupe will reveal the lack of authenticity. But most counterfeiters are not so sloppy. According to Joe, obtain and carry a 20x glass. Identification of a single bogus note will probably pay for the tool.

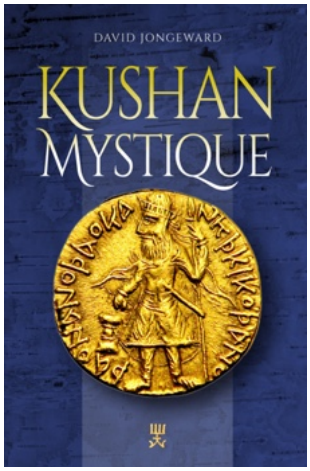
Video clips of all four talks are available for viewing on the Society's YouTube channel. Simply search for 'Oriental Numismatic Society' on YouTube, or go to https://www.youtube.com/channel/UC-kSpUYuNyGdS4qgYY131Dg.

We do hope to have the usual in-person meeting next year, to be followed by the traditional convivial dinner.

Pankaj Tandon

Book Review

***Kushan Mystique* by David Jongeward**
(London: Spink, 2020, hardcover, xii + 248 pages)



This delightful little book is a memoir of the author's adventures with things Kushan, notably coins and Gandharan sculptures. It is part travelogue, part introduction to Kushan coins and Gandharan sculpture, part meditation and spiritual diary, and part gossip column. In short, it is a potpourri of lots of different things, all of which kept this reviewer wanting to come back for more.

The story of how the author came to become interested in the Kushans is a tale of sheer serendipity. The author and his wife were looking during their 1977 West Coast "wander" for an inexpensive place to stay for the winter, and someone suggested looking for a cabin around Lake Almanor, north of Sacramento. They reached Chester, a small town on the shore of the lake and asked at the only grocery store if the clerk knew of any places to rent. She didn't, but suggested that they drive along the lakeshore road and look for a sign for Dr. Craig Burns, who might be able to fix them up. Readers familiar with Kushan numismatics will be wondering if this Craig Burns is *the* Craig Burns and, sure enough, it is. For those not familiar, let me mention that Craig Burns was a well-known collector of Kushan coins who wrote a series of articles about them and whose collection was ultimately catalogued and published by Robert Göbl,[1] the well-known Austrian numismatist, before being donated to the Bern Museum. Returning to the quest for a lakeside cottage, indeed Craig Burns was able to rent out a suitable one, next door to where he himself lived. The author and Burns became friends and the rest is history.

Jongeward's researches into Kushan matters brought him into contact with several of the stalwart names in the field and he regales us with stories about them. Besides the already mentioned Burns and Göbl, we meet Joe Cribb and Elizabeth Errington of the British Museum, Andrew Topsfield of Oxford, and the Afghan gentleman dealer Hakim Hamidi. I had never met either Burns or Göbl, so the stories about them were eye-opening. Especially interesting was the account of how Burns died; I had heard and had always believed a dramatic story that he died of ergot poisoning from using mouldy flour to bake bread. Not true, it was cancer. I had also always assumed that, being a doctor, Burns was very rich, but we discover here that this was not the case and that he had had to really stretch his finances in order to put together his collection. I have known Joe for years and have known that he never flies, but I never knew precisely why. I had put it down to a fear of flying. The real story is revealed in this book. Hakim was a mentor to me when I first started collecting coins in the 1990s and, as portrayed beautifully in Jongeward's account, he was a thorough gentleman who always gave me good advice and never took advantage of my ignorance. Jongeward paints wonderful portraits of all these individuals, fleshing out what we know of them from their writings.

As far as the travelogue component of the book goes, we of course spend some time in California as Jongeward is getting to know Burns and have his interest kindled in the Kushans. We travel to the U.K. to the British Museum to meet Cribb and then to Vienna to encounter Göbl. Particularly interesting is the travel to Pakistan and an immersion into a completely different milieu. Further stops are made in Toronto, New York and Oxford. The author must have kept contemporary notes, because his descriptions of places and people are highly specific over decades of travel.

The book contains very illuminating introductions to Kushan coins and Gandharan sculpture. Jongeward authored, jointly with Joe Cribb, a catalogue of the Kushan coins in the collection of the American Numismatic Society, an excellent volume reviewed by this reviewer in JONS 225.[2] Surprisingly, the book is not listed in the bibliography, although it is discussed at length in the book. The author's greatest expertise is in Gandharan sculpture, on which he has authored two catalogues, one of the collection at the Royal Ontario Museum, and the other of the collection at the Ashmolean Museum in Oxford.[3]

Finally, the book is in many ways a mediation on spiritual matters, which are weaved through the entire book, starting with insights the author gained spending time with Navajo weavers in Arizona (and about which he wrote his first book,[4] also mentioned but not listed in the bibliography). Particularly affecting is a moment of apparent transcendence the author experienced in the Pakistani town of Jaulian. One wonders if the book's title is in fact a play of words, given the frequent encounters with mystical thoughts and experiences.

In summary, I would recommend this book to a wide variety of individuals, those interested in the Kushans, of course, but also those who are interested in the intellectual life and how one might go about living one. I learned all kinds of random things. For example, I learned the difference between Mahayana and Hirayana Buddhism, the difference between a sylloge and a catalogue, and lots of similarly arcane subjects. Above all, I got a window into the mind of someone who seems able to extract meaning from all kinds of situations.

Pankaj Tandon

References

1. Göbl, R., 1993, *Donum Burns: Die Kušānmünzen im Münzkabinett Bern und die Chronologie*, Fassbaender, Vienna.
2. Tandon, P., 2015, 'Book Review: Kushan, Kushano-Sasanian, and Kidarite Coins: A Catalogue of Coins from the American Numismatic Society by David Jongeward and Joe Cribb with Peter Donovan,' *Journal of the Oriental Numismatic Society*, No. 225, Autumn 2015, pp. 10-11.
3. Jongeward, D., 2018, *Buddhist Art of Pakistan and Afghanistan: The Royal Ontario Museum Collection of Gandhara Sculpture*, Toronto: University of Toronto Centre for South Asian Studies, 1993, and *Buddhist Art of Gandhara in the Ashmolean Museum*, Ashmolean Museum, Oxford.
4. Jongeward, D., 1991, *Weaver of Worlds: From Navajo Apprenticeship to Sacred Geometry and Dreams*, Destiny Books.

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