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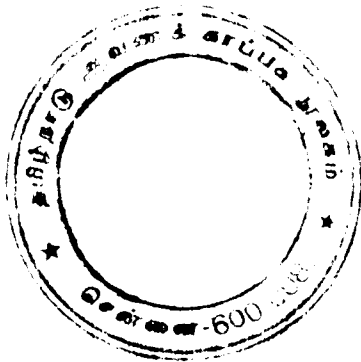
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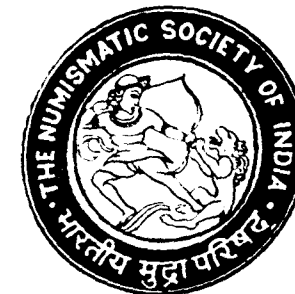
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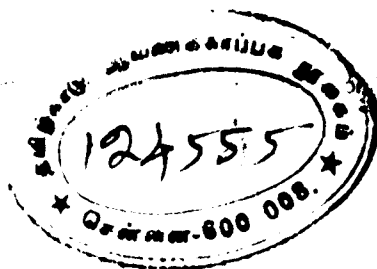
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CONTENTS

I. Articles	Page
1. The Indo-Greek Silver Standard and its Impact on Successive Indian Coins <i>A. N. Lahiri</i>	113
2. The Coin-Types of the Foreign Successors of the Great Kushāṇas <i>Bela Lahiri</i>	122
3. Greek Devices on Some Rajghat Sealings : A Review <i>K. K. Thaplyal</i>	135
4. A Sealing of Gondophares <i>S. N. Chaturvedi</i>	140
5. The Line of Dhanabhūti <i>T. P. Verma</i>	143
6. The Identity of the Sātavāhana King Śiva Śrī Pulamāvi <i>V. V. Mirashi</i>	151
7. The King and Queen Type of Skandagupta <i>Jai Prakash Singh</i>	155
8. Classification of the Repousse Gold Coins of Mahendrāditya <i>Nisar Ahmad</i>	160
9. Two Unique Chola Coins <i>S. Ramayya</i>	166
10. Ilakkāśu <i>C. R. Srinivasan</i>	170

THE INDO-GREEK SILVER STANDARD AND ITS IMPACT ON SUCCESSIVE INDIAN COINS

A. N. LAHIRI

We have already seen that Eucratides I Megasthenes was the pioneer Greek king to issue a silver bilingual currency in India.¹ His coins in silver did not conform to the Attic standard as believed by older scholars like Alexander Cunningham,² nor had they anything to do with a Persian standard as held by Percy Gardner.³ They were not again struck in any 'arbitrary' manner and in a hybrid standard.⁴ These coins, as we have recently seen, were struck according to the Indian weight system based on the *ratti* or the *rakṭtikā* seed, which has a theoretical weight of 1.80 grains (0.12 gram).⁵ In fact, the bilingual silver pieces of Eucratides I are but coins of the denomination of 20 *rattis*.⁶ That the Indo-Greek bilingual coins which conformed to the weight-standard introduced by Eucratides I, i. e. which weighed 20 *rattis* or roughly 36 grains (2.33 grams), were known as 'drachms' (of the Indian standard) is clear from the writing of the *Periplus of the Erythrean Sea*; for, the *Periplus* refers as 'drachmae'⁷ to the silver coins of Menander (I)⁸ and Apollo-

1. See *Corpus of Indo-Greek Coins*, p. 39.

2. Cf. R. B. Whitehead, *Num. Chron.*, 1923, p. 297.

3. Cf. *ibid.*

4. As believed by Whitehead, see *Num. Chron.*, 1923, p. 298.

5. See 'Metrology of the Indo-Greek Silver Coins' in *JAIH*, I, p. 57. For the weight of a *rakṭtikā* (*ratti*) seed see A. Cunningham, *Coins of Ancient India*, p. 44. H. N. Wright and H. R. Neville have shown that, even during the rule of the Sultans of Delhi, the *ratti* weighed 1.8 grains (0.18 gram): cf. E. H. C. Walsh, *Punch-Marked Coins from Taxila*, 1939, p. 17.

6. See *JAIH*, I, p. 57.

7. See W. H. Shoff, *The Periplus of the Erythrean Sea*, 1912, pp. 41-42.

8. The *Periplus* apparently speaks of the coins of the first Menander, not his ephemeral namesake whose coins are 'few and far between': cf. *CIGC*, p. 160.

dotus (II),¹ known in the 36-grain Indian standard,² and never in the 66-grain (drachm)³ denomination of the Attic weight system.

However, Apollodotus I Soter, who was evidently a contemporary⁴ of Eucratides I and who made some experiments with the weight, shape and arrangements of his coins, ultimately adopted for his abundant silver issues the 20-ratti standard that Eucratides I introduced.⁵ Demetrius III Aniketos, also a near contemporary of Eucratides I,⁶ adopted the new standard, but he seems to have confined his issues to the 80-ratti denomination,⁷ or in other words, he struck silver coins equivalent in weight and value to four silver coins of Eucratides I.

As is evident, the great merit and usefulness of the 20-ratti Indian drachm and the 80-ratti Indian tetradrachm, introduced respectively by Eucratides I and Demetrius III, were promptly

1. The Periplus here also refers possibly to the coins of Apollodotus II Soter Philopator, not of those of Apollodotus I Soter who flourished much earlier: cf. *CIGC*, pp. 90 ff.
2. Coins bearing the names and devices of Menander I and Apollodotus II and referred to as 'drachmae' by the Periplus must be the 20-ratti or 36-grain silver coins, since the heavier pieces weighing about 144 grains which those two kings also struck could not be called 'drachmae'.
3. Both Menander I and Apollodotus II issued bilingual silver coins of the Indian standard, some weighing 20 rattis (36 grains and others weighing 80 rattis (144 grains). Their monolingual and Attic silver 'drachms' are unknown. Hence the Periplus could not have referred to them.
4. See A. N. Lahiri, *PIHC*, 1966, pp. 143 ff.
5. As we know, Apollodotus I soter first issued a copious series of 'round' bilingual silver coins, evidently of the 33-grain denomination of the Attic standard (cf. Lahiri, *CIGC*, p. 92, Type 1), then struck a few experimental coins of the same standard but of 'square' shape (cf. *ibid*, pp. 92-93, Type 2), and finally adopted the 20-ratti standard introduced by Eucratides I for his extensive 'square' silver coinage (cf. *ibid*, pp. 93-94, Type 4). See also J. Allan, in Marshall's *Taxila*, II, p. 861.
6. See A. N. Lahiri, *CIGC*, p. 109, Type 6 along with pp. 264-265 for the coin of Demetrius III and *PIHC*, 1966, pp. 143 and 145-147 for his chronological position.
7. For the silver coins of these princes both of the 20-ratti and of the 80-ratti standards see bilingual issues described in *CIGC*.

recognised. For, all of the twenty-eight Greek princes who came after those two pioneers, struck the 20-ratti silver coins, while as many as twenty issued the 80-ratti tetradrachms.¹ It is therefore no wonder that the Indo-Scythian and Indo-Parthian kings who succeeded the Indo-Greeks imbibed the Indo-Greek customs in a slavish manner, should adopt the silver weight-standard, introduced and scrupulously maintained by the Greeks for more than a century.

In fact, both the 20-ratti and the 80-ratti silver denominations were continued by the Vonones group of rulers in the Drangiana-Arachosia region² on the one hand and Maues and his Śaka successors in North-Western India³ on the other. The Indo-Parthian kings also adopted the Indo-Greek silver standard not only for their debased silver (or billon) but also for their copper currency, but their numismatic issues were mainly of the weight of 80 rattis, i. e. of the denomination of 'tetradrachm'.⁴ Then, the two obscure princes Sapadana and Satavastha, probably ruling in the Arachosia area,⁵ and the two Northern satraps Zeionises and Rañjuvula, evidently having their sway over the Punjab-Mathura tract,⁶ respectively struck some silver and billon coins in the Indo-Greek fashion. The Scythian satraps of Western India, though they evolved their own characteristic type and fabric, issued for nearly three hundred years the 20-ratti 'Indian drachms' in close imitation of the Indo-Greek silver issues.⁷

1. His unique coin is of silver and of the 80-ratti tetradrachm of the Indian standard.
2. For silver coins of the respective denominations see *PMC*, I, pp. 141-144.
3. For 20-ratti and 80-ratti silver issue of the Maues group of kings see *PMC*, I, pp. 98-141.
4. For the debased silver or rather billon coins and copper pieces of the silver denominations of the Parthian kings of the house of Gondopharnes see *PMC*, I, pp. 146-156.
5. See J. Marshall, *Taxila*, II, pp. 2.
6. See *PMC*, I, p. 157, Pl. XVI. 82 for the silver Indian tetradrachm of Zeionises and *ibid*, p. 166, Pl. XVI. 131 for the billon Indian drachm of Rañjuvula.
7. For the 20-ratti silver coins of the Western Kshatrapas see E. J. Rapson, *BMC*, *AWK*, pp. xcvi-clvii and 61-194. "The silver coins (of Nahapāna)", says Rapson (*ibid*, p. cviii), "are apparently imitated, as regards size, weight, and fabric, from the hemi-drachms (sic) of the Graeco-Indian kings, and in these respects by the Western Kshatrapas for some two hundred and seventy years.....".

But the impact of the Indo-Greek standard over indigenous silver issues was tremendous and of far-reaching consequence. The traditional 32-ratti standard of the silver *Kārshāpaṇa* almost immediately went out of vogue,¹ and Indian princes in various regions of the vast Indian sub-continent continued to issue silver coins of the 20-ratti Indo-Greek standard for nearly one thousand years. Quite a few chiefs of as many as six Punjab tribes viz. Audumbara Dharaghosha, Kuṇḍa Amoghabhūti, Vemaki Rudravarman and Vrishṇi Jñāgana as well as some Yaudheya authorities struck some Indian drachms apparently in imitation of the silver issues of the Indo-Greeks.² But while imitating the 20-ratti Indo-Greek drachms the indigenous tribal chiefs did not always copy them in a slavish manner. Except the Vemaki chief who issued his coins in close imitation of the round Attic hemidrachms of Apollodotus I (CIGC, Pl. VII. 1), others introduced a good deal of originality in their respective issues by discarding typical Indo-Greek devices, such as the obverse royal bust, and by displaying instead various symbols characteristic of the early coins of India. Then, of Virayaśas, the Kulūta chief, we have a unique Indian-type silver coin which represents an otherwise unknown 40-ratti denomination (didrachm) of the Indian standard.³

In the south, again, at least three Sātavāhana kings, viz. Vāśiṣṭhīputra Pulumāvi (?), Vāśiṣṭhīputra Sātakarṇi and Gautamīputra Yajñaśrī Sātakarṇi, issued silver coins of the 20-ratti

1. This point may, of course, be disputed. But it is almost certain that *Kārshāpaṇas* or Punch-marked coins were not extensively issued in an organised way by any political authority, but might have been sparingly manufactured by some local authorities, imitators and forgers.
2. See for the respective issues J. Allan, *BMC, AI*, p. 24, No. 21, Pl. XIV. 14 (Dharaghosha); p. 159, No. 1, Pl. XXII. 1 (Amoghabhūti); p. 125, No. 23, Pl. XIV. 13 (Rudravarman) and p. 281, No. 17, XVI. 5 (*Jñāgana*). The influence of Indo-Greek coins on these tribal issues is quite apparent. These coins imitated the Indo-Greek silver drachms not only in their weight-standard, but also in their shape, size and fabric: cf. the reverse device of Lysias's drachms (CIGC, Pl. XXIII. 8) with that of Audumbara Dharaghosha (*BMC, AI*, Pl. XIV. 14).
3. See H. V. Trivedi, *JNSI*, XIV, pp. 1-2 (Vāśiṣṭhīputra Pulumāvi); D. C. Sircar, *Epigraphia Indica*, XXXV, pp. 247 ff. (Vāśiṣṭhīputra Sātakarṇi) and E. J. Rapson, *BMC, AWS*, p. 45, Pl. VII. EI, Pl. VII. 178 and Pl. VII. JB (Gautamīputra Yajñaśrī Sātakarṇi.)

denomination closely imitating similar coins of the Western Satraps.¹ But while copying the Western Satrap silver coins Sātavāhana mint-masters introduced a good deal of originality in them. Only the weight-standard, denomination and fabric were maintained. But a distinct deviation was effected in the matters of executing the obverse portrait and the reverse device and also of writing the legends. The king's head (not bust) was depicted in the Indian fashion: the characteristic Western Satrap head-dress (a flat cap) was discarded and the capless head of the Indian monarch was quite faithfully depicted as wearing a crest jewel and in the case of Gautamīputra Yajñaśrī Sātakarṇi with his ear-ornaments and the Brahmanical *śikhā*. The utterly corrupt and meaningless Greek-type obverse legend, which virtually served the purpose of a border decoration around the obverse portrait of the Western Satrap coins, was replaced by a clearly legible Northern Prakrit legend written in Northern Brāhmī characters. On the obverse, the characteristic device of the prototype, viz. the arrow and thunderbolt as seen on Nahapāna's coins, was replaced by the Sātavāhana device consisting of the crescent-topped Ujjain symbol and the six-peaked hill with a wavy line below; and the reverse device is surrounded by an interesting legend, which is but a faithful Dravidian Prakrit rendering of the obverse (Northern Prakrit) legend written in southern Brāhmī letters.

The interloper Īśvaradatta who probably belonged to the Ābhira family and somehow established his temporary sway over some Western Satrap territories in the Kathiawad region for about two years "struck silver coins of precisely the same style and types as those of the Western Kṣatrapas". In fact, the obverse portrait has a striking resemblance with those on the Śaka coins. Just like the Western Satrap chiefs he too calls himself *rājan* and *mahākshatrapa* but quite unlike them does not give his father's name, possibly because he was not a man of any consequence. The most important thing that marks Īśvaradatta's coin is the use of the regnal year instead of the years in the Śaka era. He was trying to oust the Śakas; naturally he did not like the idea of using their era.

Then we have the Kshatrapa-type Indian drachms of the Traikūṭaka chiefs Dahrasena and Vyāghrasena who ruled in South-

1. See J. Allan, *BMC, AI*, pp. 158, Pl. XVI. 4.

hern Gujarat and some adjoining territories. While they closely copy the coins of the Western Satrapas, they omit the meaningless traces of Greek legend and the date and change the legend formula. They call themselves *Mahārāja* instead of *Rājā*, and do not significantly use the foreign title *Kshatrapa* or *Mahākshatrapa*. Moreover, they call themselves *Paramavaishṇava*.¹

Chandragupta II Vikramāditya, the Gupta emperor of Magadha, struck Kshatrapa-type 20-ratti silver coins for his territories in Western India which he conquered after defeating the last Scythian satrap Svāmi Rudrasimha III.² The obverse device, i.e. the royal head, is faithfully copied from the Western Satrap prototypes, while the reverse device is changed from the three-peaked hill to the figure of the anthropoid kite Garuḍa, the *vāhana* of God Vishnu, and the legend formula is thoroughly reoriented. The years of the date on the obverse is not in the Śaka era but in the Gupta era. The next Gupta king Kumāragupta Mahendrāditya issued similar Garuḍa-type coins for western provinces, but introduced for the central provinces a peacock-type 20-ratti coinage of similar type and fabric.³ Kumāragupta's peacock-type coins are, however, distinct in character. Their obverse royal head is not conventionalized like that on the Kshatrapa-type issues. The head, though crude, is drawn in a quite original manner and is "probably intended as a portrait of the king" (Brown, *CI*, p. 47). Skandagupta continued both the Garuḍa- and the Peacock-type silver coins, and introduced two new series of Indian drachms—one showing on the reverse an 'Altar' and another a 'Bull'.⁴ Budhagupta was the fourth and last Gupta king to issue silver coins of 20 *rattis*, but his known coins are only of the Peacock type.⁵

1. See *ibid*, pp. 188-201. (Dahrasena) and pp. 202 f. (Vyāghrasena) and pp. clx-clxi for other details.

2. See J. Allan, *BMC, GD*, pp. 49; 51. Cf. E. J. Rapson, *BMC, AWK*, pp. cxlix-cl.

3. See *BMC, GD*, pp. 89-107 (Garuḍa type) and pp. 107-110 (Peacock type). Kumāragupta also struck a series of silver plated Garuḍa coins (*ibid*, pp. 111-112).

4. See for Skandagupta's coins *BMC, GD*, pp. 119-121 (Garuḍa-type), pp. 129-133 (Peacock type), pp. 121-122 (Bull type) and pp. 122-129 (Altar type).

5. See Allan, *BMC, GD*, p. 153.

20-ratti silver coins of the Gupta fabric were sporadically issued by various Indian rulers not only in Western but also in Central and Northern India.

The Western silver coinage of the Guptas were imitated by the Maitrakas of Valabhi¹ who rose to power at the end of the fifth century A. D. The Maitraka issues bear on the obverse a 'Trident' (in place of Garuḍa of the Gupta prototypes) and a fragmentary legend, practically unread—except the doubtful word *Bhaṭṭāraka*. The early Kalachuri king Kṛishṇarāja ruling in the sixth century in Northern Maharashtra and adjoining territories struck an abundant Bull-type silver coinage in imitation of the similar issues of Skandagupta. Interestingly enough, Kṛishṇarāja called himself *Paramabhāṭṭāraka* and *mahādevyoh pādānudhyāta*.

The South Kosala king Bhimasena who ruled in the Raipur-Bilaspur-Sambalpur region of Madhya Pradesh and Orissa in the very beginning of the seventh century imitated the silver issue of the Central Gupta style introduced by Kumāragupta. They bear on the obverse the conventionalized royal head and a date and on the reverse the 'fantailed peacock', but their doubtfully read dates appear to be of the same era as those on the silver issues of Toramāṇa.

The Maukhari chiefs Iśānavarman, Śarbavarman and Avantivarman with their sway over territories in Bihar and Uttar Pradesh issued silver coins also of the Central Peacock type. They follow the Gupta legend-formula but doubtfully read dates ranging from 64 to 67 of an unspecified era. The most striking peculiarities of the Maukhari coins are, however, the depiction of the obverse royal head as *facing left* and the occurrence of a *crescent* in the centre of the head. Evidently the Maukhari silver coins were copied from those of Toramāṇa whose head on coins is depicted as *facing left* and adorned with a *crescent*, copied from Sassanian coins.²

1. See E. J. Rapson, *Indian Coins*, p. 27, Pl. IV. 12.

2. See *ibid*, p. 27 and Pl. IV. 17 for the coins of Kṛishṇarāja and R. C. Majumdar, *The Classical Age*, p. 195 for other detail.

3. See E. J. Rapson, *Indian Coins*, p. 27 and Pl. IV. 14 for his coins, and *The Classical Age*, pp. 217-218 for other details.

4. See C. J. Brown, *Catalogue of the Coins of the Guptas, Maukharis, etc. in the Provincial Museum, Lucknow*, p. 39, Nos. 1-4 (Iśānavarman), Nos. 3-9 (Śarbavarman) and p. 40, Nos. 7-10 (Avantivarman).

5. See Rapson, *Indian Coins*, p. 29, Pl. IV. 16.

One Pratāpāṣila and another Śilāditya identified by Richard Burn (JRAS 1906, pp. 943 ff.) with the Pushyabhūti kings Prabhākaravardhana and his son Harshavardhana of Thanesvar closely copied the Peacock-type Maukhari silver coins so much so that the obverse royal head, like the prototypes, faces left and bears a crescent. But while the dates of coins of Pratāpāṣila-Prabhākaravardhana are practically unread, those on the issues of Śilāditya-Harshavardhana are apparently in the Harsha era.

But why is it that a foreign conqueror like Eucratides I should introduce a new standard for his rare silver coinage? He could easily strike his silver issues according to the weight-system of the traditional Attic standard with which he was so familiar and in which he had earlier struck his abundant coins in Bactria.¹ Had he had felt that the Attic weight system was foreign to India and that it would not consequently be accepted by his new Indian subjects, he could also strike silver coins of the vastly popular Kārshāpaṇa standard. Why instead did he strike his silver coins in the hitherto unknown standard of 20 rattis? The reason for the curious introduction of a new standard for silver coinage apparently had some bearing on the standards of weight for coins of other metals, viz. gold and copper.

As is well known, there was in the second century B.C. rather an anomalous position with regard to the weight standard of gold and copper coins on the one hand and that of silver on the other. The theoretical weight of both gold *suvarṇa*² and copper *paṇa* or *kārshāpaṇa* was 80 rattis or 144 grains (1.33 grams). But the weight for the silver *Dharaṇa*, *Purāṇa* or *Kāhāpaṇa*-*Kārshāpaṇa*³ was only 32

rattis or 57.6 grains (3.73 grams) not only in theory but also in practice. Law-givers like Manu and others speak of these 32-ratti *dharāṇas* and we have to-day thousands of their extant specimens in what James Prinsep termed for the first time 'Punch-marked coins'. Curiously enough, the heavy-weight *dharāṇa* which finds its place in the *Arthasāstra* of Kauṭilya⁴ had remained only in theory, there being no extant specimen of that coin. Evidently Kauṭilya's *dharāṇa* of about 80 rattis was not minted.

However, the discrepancy between the weight-standard of silver and that of other metals, specially of gold,² appeared to be rather irrational to the commercially mature mind of the Greek conqueror Eucratides I. He immediately resolved to do away with the some what arbitrary 32-ratti standard of the indigenous silver coins and introduced an eighty-ratti standard in its place. Of course, we do not get an actual 80-ratti silver coin of Eucratides I, his known silver coins being all of 20 rattis. But the silver issues of Eucratides virtually represented the 80-ratti standard since the weight and value of 'four of them would be equal to those of an eighty-ratti piece, which was as we have already seen, very soon struck by Demetrius III Aniketos. We do not know if by introducing the virtual 80-ratti silver standard Eucratides wanted to give a concrete shape to Kauṭilya's heavy-weight *dharāṇa*, but by raising the weight standard of the silver coin from 32 rattis to 80 rattis he brought the silver standard at par with that of gold and copper. And with the introduction of the 80-ratti 'Indian tetradrachm' or the heavy-weight *dharāṇa* of the sort referred to by Kauṭilya commercial transactions became very easy and calculations smooth. The 32-ratti silver coins, i. e. the *dharāṇa*² *purāṇa* or *Kārshāpaṇa* of later times (i. e. of Manu), were swept away and both foreign and indigenous authorities succeeding Eucratides I struck silver coins of the Indo-Greek standard for about a millenium.

1. See *ibid*, p. 41, Nos. 16 for coins bearing the epithet or name (?) *Pratāpāṣila* and pp. 41-44, Nos. 17-56 for coins bearing the epithet or name (?) *Śilāditya* and pp. v-vi for their respective identifications with Prabhākaravardhana and Harshavardhana.
2. See the *Arthasāstra* of Kauṭilya (Ch. XIX, 183), ed. by R. Shamasastri, 1967, and cf. D. C. Sircar, *Studies in Indian Coins*, p. 75.
3. See *SIC*, p. 74.
4. Evidently the silver *Dharaṇa* or *Purāṇa* of Manu was the same as *Kāhāpaṇa*-*Kārshāpaṇa* or early Buddhist and Brahmanical texts. Its weight is given by Manu (VIII, 133 ff.) as 32 rattis, i. e. 57.6 grains (3.73 grams). Ancient silver pieces now widely known as 'Punch-marked coins' are taken to have been originally of the same weight.

1. The *Dharaṇa* of Kauṭilya's *Arthasāstra* had a weight which is about 2 grains less than that of a *Suvarṇa* of 80 rattis or about 144 grains. The difference is practically negligible. Cf. D. C. Sircar, *SIC*, p. 76.
2. Cf. note 9 above.

THE COIN-TYPES OF THE FOREIGN SUCCESSORS OF THE GREAT KUSHĀNAS

BELA LAHIRI

The Oxus-Hindu Kush region, i. e. Bactria and the Kabul valley, had been the nursing ground of successive foreign adventures from the time of the Achaemenian rule. The Achaemenians were followed by the Greeks, Scythians, Parthians and the Great Kushānas. During the rule of the Later Kushānas two other powers contested for the occupation of this region. They were the Sassanians and the Ephthalites or White Hūnas. The effect of this contact amongst the Kushānas, Sassanians and Ephthalites is faithfully reflected on the contemporary coinage which bear the estampage of both the Sassanian and the Kushāna influence. The Ephthalites, having no original coin-types of their own, imitated or adopted either the Kushāna or the Sassanian types for their numismatic issues in the regions which were once in the occupation of either of these powers. It is therefore not always easy to determine from the coin-types of this period to which race the issuer belonged—Kushāna, Sassanian or Ephthalite.

We may, however, see how these foreign rulers of the post-Kushāna period imitated either the Kushāna or the Sassanian types in their gold, silver and copper coins.

TYPES IN GOLD (KUSHĀNA MODELS)

The successors of Vāsudeva or the Later Kushānas who, according to the Chinese sources, maintained their hold over the Punjab, North-Western India, Afghanistan and the Oxus valley at least up to the middle of the third century A. D.,¹ continued two main Kushāna types in gold.² Both the types have for the obverse the figure of the 'King standing and sacrificing at an altar.' The reverse has the figure of either 'Śiva standing with his bull' labelled as OKSHO,³ or the 'Seated goddess' named as ARDOKSHO. The king holds a trident on the Oksho type and a spear or sceptre on

the Ardoksho type. The Oksho type was struck by the Later Kushānas in the western districts of the Kushāna empire and was adopted by the Sassanian rulers for their Bactrian coinage. The Ardoksho type which was common in North-Western India, i. e. the eastern provinces of the Kushāna empire, was imitated by the Kidāra Kushānas and various allied Central Asian tribes and formed the prevailing type of the Kashmir coinage. It was also adopted by the Guptas for their initial currency.

The Greek legend on the obverse of the Oksho type struck by the Later Kushānas bears the name of either Vāsudeva or Kanishka, while that on the Ardoksho type maintains the name of the latter alone. All these Later Kushāna coins bear detached Brāhmi letters in several places and they are usually single characters excepting *Viru* (Virudpaka ?), *Mahi* (Mahidhara) and *Vāsu* (Vāsudeva) on some Ardoksho type coins. The Brāhmi letters occur in one, two or three different parts of the field, viz. (1) on the left near the King's right foot, (2) in the middle between the King's feet and (3) on the right outside the King's spear or trident. Cunningham suggests that the names outside the King's spear denote those of the Hinduised successors of the Great Kushānas or in some cases the governors or satraps of different provinces.¹

Type 1. Standing King : Standing Oksho

The Oksho type, originally struck by Vāsudeva, was continued by his successors and was adopted by the Later Kushānas for their coinage in the Kabul valley and the Punjab between c. 180 A. D. and 425 A. D.² These Later Kushāna coins exhibit the first stage in the imitation of the original type of Vāsudeva, and the nearness to, or remoteness from, the original determines to some extent the date of these imitation coins.³ On the earlier issues the Greek legend is *Shaonanoshao Bazodeo Koshano*, which is gradually corrupted into *Shoononoshoo Bozodeo Koshano*. But on all these

1. Cf. *AIU*, p. 152.

2. Cf. Cunningham, *NC*, 1893, pp. 115-20; Rapson, *IC*, pp. 18-19.

3. Now it is spelled as Oesho (*PMC*, I p. 211)—*Chief Editor*.

1. *NC*, 1893, p. 119.

2. *Ibid*, p. 115. The date 425 A. D. is that of the establishment of the power of the Little Kushānas in Gandhāra by their chief Kidāra.

3. Cf. Rapson, *IC*, p. 19. For gradual deterioration of the type. Cf. *ibid*, Pl. II. 12 (original type of Vāsudeva) and *NC*, 1893, Pl. I. 13-15 (Later Great Kushāna with the name of Vāsudeva) and Pl. I. 16-18 (with the name of Kanishka).

coins retaining the name of Vāsudeva, however corrupt it may be, the king's headdress is unchanged as a conical helmet.¹

To the next stage of the imitation of the Oksho type belongs another class of coins which is distinct from that of the Later Kushāna issues of the same type. Coins of this class are broader and thinner with slightly convex obverse and a more corrupt Greek legend, while the king's headdress assumes a decidedly Sassanian character. On obverse the Greek legend and the same titles *Shaonanoshao* and *Koshano* are retained, but the name *Bazodeo* is replaced by a new one. On the reverse also there appears a second longer legend besides the shorter legend which may be intended for *Oksho*. These coins were designated as Scytho-Sassanian by Cunningham,² but later on as Kushano-Sassanian by Herzfeld.³ They are most numerous in Badakshan and also found in Kunduz, i. e. the district on the Oxus to the north of the Hindu Kush.⁴

The earliest specimens of this type are very close copies of the first imitations of the coins of Vāsudeva by the Later Kushānas. Gradually the coins become larger and thinner and more convex and the Greek legend more corrupt; and while the main types on the obverse and the reverse remain the same, they are of ruder execution. Various changes appear in the king's headdress, the costume also approaches very closely the well-known costume of the Sassanians.⁵

According to Drouin, these were struck by the Later Kushānas themselves and betray Sassanian influence due to their contact with the Sassanians, and constitute the coinage of a different district under the Kushānas, comprising the extreme north of India, Arachosia and Bactriana.⁶ But Cunningham has shown that this cannot be the issues of the Great Kushāna kings of Kabul since they are not usually found in the Kabul valley. He has also pointed out that while the gold coins of the Kabul valley continue the costume of Vāsudeva, these coins have Sassanian costume and

1. *NC*, 1893, pp. 167-68.
2. *Ibid*, pp. 166 ff.
3. *MASI*, No. 38 (*Kushano-Sassanian Coins*).
4. *NC*, 1893, pp. 166-67; *IC*, p. 19.
5. Cf. *NC*, 1893, pp. 167-68 and Pl. IV. 12-15.
6. *Revue Numismatique*, 1896, p. 154; cf. *IC*, p. 19,

headdress. According to him, these were the issues of the Sassanian conquerors of the Yueh-ti to the north of the Hindu Kush.¹

The different headdresses borne by different kings on these coins are important in so far as they were the imitations of the headgears used by the contemporary Sassanian monarchs and thus afford us a clue as to the date of these coins, which ranges between c. 300 A. D. and 450 A. D.² The earliest date is determined by the helmet of Hormazd II (301-310 A. D.), which is surmounted by a lion's head with open mouth. On a few coins he is styled as *Kushan Malkan Malka*. He married the daughter of the Later Kushāna king of Kabul. Cunningham suggests that the Kushāna king entered into a subordinate alliance with the Sassanian king by giving him a daughter in marriage and ceding the province of Balkh where these coins were current.³ The obverse Greek legend may contain the name of the reigning Sassanian king. This region to the north-eastern frontier of Persia was acquired by Hormazd and retained up to 435 A. D. when the Sassanians were driven from the Oxus valley by the Ephthalites, who at that time suddenly crossed the Oxus and carried on incessant warfare with the Sassanians.⁴

Herzfeld classifies these coins into two groups according to their legends⁵ :—

- (1) Those written in cursive Greek or Sassanian-Kushāna script and
- (2) Those written in Sassanian Pahlavi of the third century A. D., named as the Parsik script, which is of Semitic origin.

These two groups of coins are linked together by a third group of bilingual coins having Parsik legend on the obverse and Greek legend on the reverse. The Sassanian *aurei* connected with Bactria represents the gold currency of the eastern dominion of the Sassanian empire.

1. *NC*, 1893, p. 174. Herzfeld also is of the opinion that these coins are the evidence of the Sassanian conquest of the Kushāna province of Balkh (*MASI*, No. 38, p. 1) under Ardeshir I who conquered, among others, Seistan, Khorasan, Merv and Balkh in the east (*ibid*, pp. 32 ff).
2. *NC*, 193, p. 169; *MASI*, No. 38, pp. 2-3.
3. *NC*, 1893, p. 171.
4. *Ibid*, p. 173.
5. *MASI*, No. 38, p. 1.

Type 2. Standing King : Seated Ardoksho

The Ardoksho type originally struck by the Later Kushāṇas, also continued to be imitated by various other rulers. On these imitation pieces although the types on the obverse as well as the reverse remain the same, and there are remnants of the Greek legend on the margin, the letters are illegible. Brāhmi letters appear on two or three different places, viz. (1) on the right outside the spear of the king as on the Later Kushāṇa coins, (2) under the king's arms, and (3) under his right hand near the altar.¹ E. Thomas takes the monograms outside the spear as giving the names of different Scythic tribes of Central Asia and the letters under the king's arm as giving the names of kings or military chiefs. He discerns the names of five different tribes from these legends, viz. (1) Shaka, (2) Kushāṇa, (3) Gadaha, (4) Shandhi, and (5) Mahi.² Cunningham, while holding that the names under the king's arm may denote those of the satraps of provinces under the Later Kushāṇas, does not accept Thomas' interpretation of the legends outside the spear. He corrects Gadaha into Gaḍahara or Gaḍakhara, and Shandhi into Pakanḍhi or Pushkalandhi or Pakalahadhi, and suggests that these names signify place names instead of tribes; thus, 'Shaka' stands for Sākala, 'Gaḍahara' for Nagarahāra (Jalalabad), and 'Pakanḍhi' for Pakhali (to the north of Rawalpindi). 'Mahi' is regarded as the name of a Later Kushāṇa ruler and not that of a tribe.³ All these coins are found in the northern Punjab.

To a still different class belongs the coinage of the Kidāra Kushāṇas. The types are the same but they bear the name *Kidāra* in Brāhmi beneath the left arm of the standing king on the obverse and that of the ruling king (also in Brāhmi) beside the seated goddess on the reverse. According to the Chinese sources, Ki-to-lo, identified with 'Kidāra' of these coins, the leader of the Great Yueh-ti, being hard-pressed by the Ephthalites, crossed the Hindu Kush and established the kingdom of Little Yueh-ti in Gandhāra (Kabul valley and the Punjab) about 425 A. D. The Kidāra or the Little Kushāṇas were again driven from this region about

475 A. D. by the conquest of Gandhāra by the Ephthalites under their leader Lac-līh. The Kidāra Kushāṇas then retired to the north to Chitral and Gilgit on the west of the Indus and to Kashmir on the east. The coinage of Kashmir reflects the establishment of the power of the Kidāra Kushāṇas in this region.¹

TYPES IN SILVER (SASSANIAN MODELS)

The Sassanian types formed the originals from which the silver issues of the period were derived. Their introduction into India is connected to some extent with the extension of the Sassanian power over parts of North-Western India and Sind to some extent with the invasion of the Ephthalites or White Hūṇas who adopted the Sassanian types for their silver coinage. The Muslim historian Firishta states that Ardeshir I Babagan (A. D. 226-241) conquered Balkh, Khorasan and Kabul and advanced as far as Sirhind beyond the Sutlej in the Eastern Punjab. But neither this statement nor the discovery of a coin Ardeshir I in the Jhelum District can be regarded as conclusive evidence of Sassanian occupation of those parts of India. The Paikuli inscription of about the close of the third century A. D., however, referring to several Indian rulers including the kings of Surāshtra, Avanti, the Kushāṇas, Śakas and Ābhiras, as subordinate allies of the Sassanians probably indicates the extension of Sassanian influence in Western India.² Moreover, certain coins discovered in North-Western India and the Sindhu valley with Sassanian types and fabric and with trilingual legends in Brāhmi, Sassanian-Pahlavi and a modified form of Greek used by the Scytho-Sassanians, bearing the names of Vāsudeva, Shāhi Tigin and others lend support to this view.

It is not always easy to determine to which nationality these foreign rulers of the Sindhu valley belonged. Cunningham takes the issuers of these coins to be Ephthalites and identifies them with the rulers of the Rai dynasty that preceded the Brahmin dynasty of Chach who ruled in the Lower Indus valley (assuming thereby that the members of the Rai dynasty were White Hūṇas).³ Rapson,

1. NC, 1893, p. 120.

2. *Indian Antiquary*, Vol. XII (1883), pp. 6-11; cf. NC, 1893, p. 121 and Pl. II. 1-13. For the original type of the Later Kushāṇas see Pl. I. 1-12.

3. NC, 1893, pp. 121-23.

1. Ibid, pp. 184 ff; IC, pp. 19-20. For the coinage of the Kidāra Kushāṇas see NC, 1893, Pl. VI. 1-15 and for Kashmir coinage see Cunningham, *Coins of Medieval India*, Pls. III-V.

2. Cf. *AIU*, p. 152.

3. NC, 1894, pp. 267-75.

on the other hand, takes the issuers of these coins to have belonged to some Sassanian dynasty or dynasties ruling over Sind and Multan during the seventh century.¹ Any way, whatever may be the nationality of these foreign rulers of the Sindhu valley—Ephthalite, Sassanian or Kushāna—the use of the Sassanian types by them may suggest some sort of Sassanian influence in this region.

The Ephthalites or White Hūnas were, however, primarily responsible for the introduction into India of the Sassanian type of "king's bust and fire-altar," which became firmly established in parts of Northern India and formed the pattern for the silver currency of the Indian rulers of the early medieval period. The Ephthalites who belonged to the Turko-Tartar branch of the Turanian family originally dwelt to the north of the Great Wall of China in subjugation to the Avars or the Juan-Juan tribe. They were known as *Ye-ti-i-li-to* or *Ye-tha*, after the name of their ruling family from which originated the name Ephthalite. Gradually they became more and more powerful and set up a vast empire extending from the Chinese Turkistan to the confines of Persia including more than thirty kingdoms. The territories on the Oxus were wrested from the Sassanians by the Ephthalites about 450 A. D. From that time until the destruction of their power by the Turks about 556 A. D., they carried on an incessant warfare with the contemporary Sassanian kings. The capital of their kingdom to the north of the Hindu Kush was Gorgo or Gurgaon in Hyrkania.²

Soon they established an extensive empire to the south of the Indian Caucasus. Their advance towards India was made following the defeats of the Sassanian monarchs Yezdegerd II (438-457 A. D.) and Firuz (457-484 A. D.), as a result of which some of the Sassanian provinces on the Indian borderland passed into the hands of the Ephthalites.³ Cunningham thinks that on their occupation of northern Afghanistan, it was called *zabulistān* after *Jabula*, the title or name of the tribe to which Toramāṇa belonged.⁴ *Ki-pin* (Upper Kabul valley) was wrested from the Kidarites about

475 A. D. under their leader *Lae-lih* identified with the father of Toramāṇa by Cunningham, but with Toramāṇa himself by others.¹

As pointed out by Rapson, the most striking characteristic of the Hūna coinage is their want of originality. They are, almost without exception, either adaptations or imitations of Sassanian, Kushāna, or Gupta coins.² The Ephthalites imitated the coinage of the countries which they overran. They struck no gold coins. Many of the Ephthalite coins are anonymous but marked with a characteristic symbol known as the Ephthalite symbol.³ Some of the Sassanian-type coins with corrupt Greek legends are the earliest and are attributed to the Ephthalites before their invasion of India. The early White Hūnas often restruck the Sassanian pieces only on the obverse with the head of their leader so that the reverse type 'the Sassanian fire-altar' became almost obliterated. These pieces formed the pattern from which the later coins bearing Brāhmī legends were struck in the North-Western parts of India. Specimens of the first imitations of the current coins of Firuz, found in great numbers in Marwara and attributed to Toramāṇa testify to the conquest of that region by the White Hūnas. The Sassanian type thus introduced, became the predominant coinage of Gujarat, Rajasthan and the Gangetic Doab for the following three or four centuries. Toramāṇa's silver coins of the Gupta type with "king's head" on the obverse and 'fantail peacock' on the reverse are evidence of the Hūna conquest of Eastern Malwa.⁴

Type 1. King's Bust : Fire-altar

There are three main Sassanian types in silver with Sassanian fabric and issued by either the Sassanian governors or the white Hūnas. The most common of these types is that which bears on the obverse a Sassanian-looking king's bust and on the reverse the Sassanian fire-altar flanked by an attendant on either side. There are numerous varieties in it according to the headdress borne by the issuer in imitation of the head-gear used by the contemporary Sassanian king.

1. *IC*, pp. 30-31, Sec. 109.

2. For the history of the Ephthalites see A. Stein, *Ind. Ant.*, 1905, pp. 73 ff.; Cunningham, *NC*, 1894, pp. 243 ff.; and Mc Govern, *EECA*, pp. 404 ff.

3. Cunningham, *NC*, 1894, p. 245.

4. *Ibid*, pp. 259-61.

1. For Cunningham, see *ibid*, p. 246; for a different view see U. N. Thakur, *The Hūnas in India*, pp. 106-107.

2. *IC*, p. 28, Sec. 104.

3. Cunningham, *NC*, 1894, p. 262.

4. *IC*, pp. 28-29, Sec. 104-105.

(a) The most common of the headdresses has a crescent in front of it. This headdress was used by Shahi Jabuvla¹ (probably to be identified with Toramāṇa). Mihirakula,² Rāja Lakhana Udayāditya,³ Purvāditya,⁴ Bugo or Buto,⁵ Triloka,⁶ 'Deva Shāhi', 'Shāhi' or 'Shāhi.....Shāhi',⁷ Bayār Khotalan,⁸ Raku..... Sri⁹ and some other unknown rulers. Some coins with crescent on headdress have a diminutive figure in front of the king's face. These bear legends *prati*¹⁰ or only *Saha.....Shāhi*.¹¹ In a rare variety of 'King wearing headdress with crescent in front' chowries are springing from the shoulders of the king. Only the corrupt Greek legend *shoho* (i. e. Shāhi) is legible.¹² In addition to the crescent in front sometimes the king's bust is placed on a large crescent behind. This is found on the coins of Shāhi Jabula¹³ (Toramāṇa), Deva Shāhi Khinggila¹⁴ and some unknown king with the title *Shāhi* repeated twice.¹⁵

(b) Another variety of the headdress has a pair of large wings on it. Only a corrupt Greek legend probably 'intended to represent Shoono Zobol' can be deciphered.¹⁶ Of the bilingual or trilingual coins some with the name of Napki Malik¹⁷ have the winged headdress surmounted by a buffalo's head, while those with the name of Vasudeva or Vakhudeva¹⁸ bear a crescent in the middle of the wings. A coin with the fragmentary legend in two

1. NC, 1894, p. 278, Pl. VII. 10.

2. Ibid, p. 281, Pl. VIII. 3-4.

3. Ibid, p. 279, Pl. VII. 12.

4. Ibid, p. 285, Pl. IX. 7.

5. Ibid, p. 283, Pl. VIII. 17.

6. Ibid, pp. 284-85, Pl. IX. 6.

7. Ibid, p. 285, Pl. IX. 9-11.

8. Ibid, p. 287, Pl. IX. 16.

9. Ibid, p. 284, Pl. IX. 4.

10. Princep's *Essays*, Vol. I, p. 410, Pl. XXXIII. 4. (Fig. 1).

11. NC, 1894, p. 284, Pl. IX. 5.

12. Ibid, p. 279, Pl. VII. 14-15.

13. Ibid, p. 278, Pl. VII. 13.

14. Ibid, p. 278, Pl. VII. 11.

15. Ibid, p. 283, Pl. VIII. 15 and 16.

16. Ibid, p. 276, Pl. VII. 2.

17. *IMC*, Vol. I, p. 235, Pl. XXV. 2-3.

18. NC, 1894, p. 290, Pl. X. 7.

lines, *Sri Yādevi* and *māna Sri*¹ has two *trīsūlas* within the pair of wings.

(c) On some coins with the name Bhāraṇa or Jāraṇa² there is *trīsūla* in front of the headdress, while on some pieces with the legend *Sri Shāhi*³ the *trīsūla* appears in the middle of the crescent on the headgear.

There are other varieties of helmet. One coin with legend in unread characters has a helmet like that of the Sassanian king Sapor II.⁴ The coin of 'Maboma Shāhi'⁵ has a high helmet. Another coin with the legend *Shao Zobol* in corrupt Greek characters bear a king's head turned to the left, with a tall helmet and a *trīsūla* before face.⁶ The coin of 'Vaiga' or 'Vanga' bears another type of helmet and shows the king with small ear-rings⁷ whereas other coins usually show the king wearing large ear-rings.

Type 2. Horseman : Fire altar

The second type used by these foreign rulers for their silver money shows the king on horseback with crescent on helmet on the obverse while the reverse is the same Sassanian fire-altar. This type was used by some chief or chiefs with the title *Zobol* or *Shāhi Jabūla*⁸ (Toramāṇa ?)

Type 3. King's bust : Male-head (Sun-god?)

A third type is that which shows the king's bust to front on the obverse and 'a male head to front, with rayed flames ascending to a point', identified by Cunningham with the sun-god of Multan.⁹ The type was borrowed from that of Khusru Parvez, and the king's bust on Vāsudeva's coin with a pair of large wings on headdress is

1. Ibid, p. 289, Pl. X. 6.

2. Ibid, p. 284, Pl. IX. 2-3.

3. Ibid, p. 287, Pl. IX. 21-22.

4. Ibid, p. 276, Pl. VII. 1.

5. Ibid, pp. 286-87, Pl. IX. 15.

6. Ibid, p. 276, Pl. VII. 3.

7. Ibid, p. 284, Pl. IX. 1.

8. Ibid, pp. 277-78, Pl. VII. 7-9.

9. Ibid, p. 268.

a close copy of that of Khusru Parvez.¹ On the trilingual coins of Shāhi Tigin the king's bust is seen three-quarters facing and his tiara is surmounted by a tiger's head and two *triśūlas*.²

TYPES IN COPPER

The copper coins of the period were borrowed either from the Sassanian or from the Kushāna types, although certain rulers used some personal devices for the reverse with the Sassanian type head on the obverse.

A. SASSANIAN MODELS

Type 1. King's head : Fire-altar

The Sassanian type of silver coins with king's head on the obverse and fire-altar on the reverse has a corresponding type in copper as well, and there are also varieties in it according to the headgear borne by the king. On a coin with corrupt Greek legend *Sio Shono* or *Shoho* (i. e., Sri Shāhi) there is a *triśūla* in the middle of the crescent on forehead.³ On a similar coin with the legend *Sri Shāhi* there is a flag in front of the king's face,⁴ while another coin with the same legend shows two crescents and two *triśūlas* on the headdress.⁵ Some coins of Napki Malka has triple-crescent and triple-*triśūla* headdress.⁶ The coin of 'Sri Narendra' has a winged headgear with a crescent between.⁷ The coin with the legend in two lines *Sri Yādevi—māna Sri* shows two wings and two *triśūlas* on the headdress.⁸ Some coins of Napki Malik also bear a helmet surmounted by a buffalo's head and wings,⁹ while the coin of an unknown ruler has a winged headgear surmounted by lion's head with the mouth open.¹⁰ A coin of Shāhi shows the king with tall helmet and two drops of ear-rings.¹¹

1. Ibid, pp. 270-71, and 292, Pl. X. 10 (Vasu-deva).

2. Ibid, p. 291, Pl. X. 9.

3. Ibid, p. 287, Pl. IX. 18-19.

4. Ibid, p. 287, Pl. IX. 20.

5. Ibid, p. 288, Pl. IX. 23.

6. Ibid, p. 288, Pl. IX. 24 and Pl. X. 1-2.

7. Ibid, p. 286, Pl. IX. 12.

8. Ibid, p. 289, Pl. X. 5.

9. Ibid, pp. 288-89, Pl. X. 3-4.

10. Ibid, p. 290, Pl. X. 8.

11. Ibid, p. 286, Pl. IX. 14.

Type 2. King's bust : Sun-god (?)

A rare copper type corresponding to the Sassanian silver type of the so-called 'Sun-god of Multan' shows the king three-quarters facing with a pair of small wings and two crescents on headdress and a small human figure lying on his back in the right field. The legend is only *Sapardalakshān* to the left and *Zābulistān* to the right.¹

B. KUSHĀNA MODELS

The main copper types are however derived from Kushāna originals. The reverse of all the four Kushāna types of copper coins bears the figure of a seated goddess in imitation of the Ardoksho of the Later Kushāna coins. The obverse device varies according to the attitude of the king.

Type 3. Standing King : Seated Goddess

The commonest of these coins show the king standing sacrificing at altar as on the Kushāna coins. This type was struck by Sri Toramāna,² Shāhi Mihiragula,³ Shāhi Hiranyakula⁴ and Shāhi Jari.⁵

Type 4. King on horseback : Seated Goddess

Another type with the 'Seated Goddess' reverse shows the king on horseback as on some Sassanian coins and was used by Mihirakula on some of his copper pieces.⁶

Type 5. Half-length figure of the King : Seated Goddess

This type shows the half-length figure of the king with right hand placed on his waist and was issued by Shāhi Jara.⁷

1. Ibid, pp. 271 and 293, Pl. X. 11.

2. Princep's *Essays*, I, p. 389, Pl. XXXI. 13-14; *JNSI*, XI, p. 57, Pl. II. 1-3.

3. *NC*, 1894, p. 281, Pl. VIII. 5-6.

4. Ibid, p. 282, Pl. VIII. 9-10.

5. Ibid, Pl. VIII. 12.

6. Ibid, Pl. VIII. 7.

7. Ibid, Pl. VIII. 11.

Type 6. Seated King : Seated Goddess

On a remarkable coin of Shāhi Jara the king is seated on a 'Lion-throne' (*Sinhāsana*).¹ A coin of Sri Narendra has the king seated to front with the right hand on hip and holding a sceptre in the left hand.²

C. PERSONAL TYPES**Type 7. King's head : Solar symbol**

The characteristic type of Toramāṇa's copper coins is the Sassanian-type head of king to right on the obverse and a solar symbol with the legend *Tora* in large letters below on the reverse.³ Another coin of a similar type has the legend *Sri Vala*.⁴ A variety of the Solar symbol type has an archer standing with bow in his left hand on the obverse. This type was struck by Toramāṇa and Shuta.⁵ A third variety of the Solar symbol type shows a very degraded standing figure of the king.⁶ Although these coins bear the inscription *Tora*, the barbarous execution shows that they cannot be attributed to Toramāṇa himself, but might have been later imitations of his coins. The Solar symbol is also found on some of Mihirakula's coins.⁷

Type 8. King's head : Humped Bull

Mihirakula's commonest copper type bears the king's head to the right on the obverse and humped bull to the left on the reverse. There are two main varieties—one with the Brāhmī legend *Sri Mihirakula* on the obverse and *Jayatu Vṛisha* on the reverse,⁸ and the other without legend⁹—both having many sub-varieties.

The copper coins of both Toramāṇa and Mihirakula are found chiefly in Eastern Punjab and Rajasthan, while those of Mihirakula come in large number from Rawalpindi and Kashmir also.¹⁰

1. Ibid, Pl. VIII. 13.

2. Ibid, p. 286, Pl. IX. 13.

3. Ibid, p. 280, Pl. VII. 15.

4. Ibid, Pl. VII. 18.

5. Ibid, Pl. VII. 17 (*Tora*); Prinsep's *Essays*, Vol. I, Pl. XXXIV. 17 (*Shuta*).

6. *PASB*, 1885, p. 5, No. 10, Pl. I. 14; *JRAS*, 1907, p. 96, Pl. Fig. 2.

7. *NC*, 1894, p. 280, No. 17, note; Fleet, *IA*, 1886, p. 250.

8. *NC*, 1894, p. 280, Pl. VIII. 1-2.

9. *IMC*, I, p. 237, Nos. 1-10, No. 3, Pl. XXV. 7.

10. *IC*, p. 29.

GREEK DEVICES ON SOME RAJGHAT SEALINGS : A REVIEW

K. K. THAPLYAL

Several sealings bearing Greco-Roman devices have been unearthed at Rajghat (Varanasi).¹ These include figures of Nike, Pallas, Apollo and Heracles besides busts of kings. Many were unearthed in stratified levels ascribed to second-third centuries A. D.² Their find at Rajghat has caused some surprise to historians.³

Similar devices also occur on the coins of Indo-Greek kings and, recently, in an important publication of 1962⁴ a suggestion has been put forth that these sealings belonged to the period of Indo-Greek invasion in second century B. C. referred to in the *Yuga-Purāṇa*⁵ and the *Mahābhāṣya* of Patañjali.⁶ It has also been suggested that the Indo-Greeks encamped at Vārāṇasi during their march and hence their provenance there.⁷ Their presence in a later strata at Rajghat has been explained away as due to removal of earth from earlier strata (second century B. C.) used for filling subsequent constructions in the second or third century A. D.⁸ It has further been argued that, had their presence been a result of

1. Deva, K., 'Excavations at Rajghat' *ABHI*, III, 1940, pp. xli-li; 'Coin Devices on Rajghat Seals', *JNSI*, III, pp. 73 ff.

2. *ABHI*, pp. xli ff.

3. Cf. *JNSI*, XXIII, (1960) p. 43; 'One is surprised to find popular Greek deities of Indo-Euctrian coins occurring on private seals of Banaras nearly five hundred years after the disappearance of the Greek rule.'

4. Motichandra, *Kāśī kā Itihāsa*, p. 56.

5. *Yuga Purāṇa* (*JBORS*, XIV, p. 402. II. 22-23), *tataḥ Sāketamākramya Pañchālān Mathurān tathā, Yavanā dushjavikrāntā (h) prāpsyanti Kusumadhvajam*.

6. *Mahābhāṣya*, III, 2. III.

7. Motichandra, *op. cit.*, p. 56.

8. Ibid.

trade-relations between India and the Greco-Roman world, they would also have been found at other sites like Kauśāmbi, Bhītā, Srāvastī etc.¹

Apparently the aforesaid arguments seem to be valid; yet there are certain points which need satisfactory explanation. Firstly, the Indo-Greek invasion of Middle and Eastern India was just a hurried one² and there is no direct or indirect evidence that the Indo-Greek army ever encamped at Varanasi during the expedition. Even if it is accepted, then we are forced to assume that they would have also encamped at other places on their way during the expeditions from North-Western India to Pāṭaliputra. And in that case, similar objects should also be found at those places, particularly Sāketa, Mathura and Pāṭaliputra, which are specifically mentioned in this connection in the *Yuga Purāṇa*³ and also at Madhyamikā mentioned in the *Mahābhāṣya* of Patañjali. But they are conspicuously absent there.⁴ Secondly, the sealings found at Rajghat also bear string-marks on their back indicating that they were used for sealing the documents,⁵ whereas army marches calling for temporary halts could scarcely have envisaged such use.

In view of these considerations, these sealings could not be the result of the encampment of Greek forces at Rajghat; they could only be an outcome of trade-relation.⁶

Indo-Greek contacts date back to a very early period.⁷ Special officers were appointed exclusively for the care of the foreigners of which Greeks would have formed a considerable part.⁸ One of the municipal committees at Pāṭaliputra was

1 Ibid.

2 *Yuga Purāṇa*, JBORS, XIV, p. 402, I. 42. *Madhyadeśe na sthāsyanti yavanā yuddhadurmada*.

3 Ibid., p. 402, (II. 22-23).

4 *Mahābhāṣya*, III, 2, III.

5 Motichandra, *op. cit.*, p. 57.

6 Cf. also JNSI, III, p. 77.

7 Narain, A. K. *Indo-Greeks*, pp. 1 ff; also the evidence of Pāṇini (vide Agrawala, V. S., *India As Known To Pāṇini*, pp. 465-66).

8 Vide, *Ancient India as Described by Megasthenes and Arrian*, 2nd ed., p. 42.

exclusively entrusted with the care of the foreigners¹ and one can expect considerable foreign population in other cities as well.²

Varanasi was a great centre of trade in ancient times.³ One of the main items of such trade was fine Kāśī cloth which has been referred to in the *Jātakas* as 'worth thousand pieces.'⁴ It has been suggested that the Gangetic muslin, so highly priced and admired in the *Periplus*, refers to Varanasi cloth.⁵ Reference to an exclusive street of ivory-workers at Varanasi is met with in a *Jātaka*⁶ and the industry, which continues to flourish even to-day, would also have supplied products for export to the Greek-Roman world. Archaeological evidence of Indian ivory work has been brought to light at certain Roman sites,⁷ and Varanasi might have been the source of some of them.⁸

The possibility of direct trade-relations between Varanasi and the Roman world is fraught with some practical difficulties, as pointed out by some.⁹ But the sealings need not be taken as

1. Vide, Mookerji, R. K., *Chandragupta Maurya and His Times*, pp. 234-35. In the royal palaces of India young maidens, mostly Greek, were kept for their qualities of dancing and music; many of them formed a part of female militia which guarded the harem.

2. B. C. Law (in his *HG*, p. 95) says that according to *Vividhatīr'hakalpa* one of the four quarters at Varanasi was named 'Madana Vārāṇasī' and inhabited by the *Yavanas*. P. L. Gupta has, however, suggested to us that the reference pertains to the Mohammedan population.

3. Motichandra (*op. cit.*, pp. 47 ff. 60-61, 81-82) has cited the testimony of various ancient texts, viz. the *Arthaśāstra*, the *Mahābhāṣya*, the *Jātakas*, the *Mahāparinirvāṇasūttanta*, the *Divyavadāna* etc. to this extent.

4. For praise of Kāśī cloth see eg. *Jātaka* nos. 302, 542 etc. Patañjali on Pāṇini 5. 3. 55 says that people had to pay different prices for pieces of cloth of the same size as one belonged to Kāśī and another to Mathura.

5. Vide Motichandra, *op. cit.*, p. 81.

6. *Jātaka* No. 72.

7. Vogel, J. Ph., 'Note on an ivory statue from Pompei', *ABIA*, vol. XIII, 1938, pp. 1-5. Pl. I, 1-4; Basham, A. L., *The Wonder that was India*, New York, 1953, p. 229, Pl. LXXXVII b.

8. It has been suggested that sandal and sandal works (of which we have the testimony of the *Jātakas*, see eg. *Jātaka* No. 75).

9. Vide *Kāśī kā Itihāsa*, p. 56.

proof of direct trade relations.¹ For centuries Taxila was marked for the cosmopolitan character of her population² and Hellenic impact as evidenced by the architectural remains and other antiquities at that ancient site. It was a meeting place of three highways, viz. from eastern India, Central Asia and from Bactria and beyond. Even students from Varanasi—itsself a famed centre of culture and learning—repaired to Taxila for specialised studies.³ The Greco-Roman population at Taxila could easily have acted as middle-men in the trade between Varanasi and the West.⁴

The emphasis on Taxila is not merely because of its strategic geographical location but also for the fact that the site has also provided a clue to the solution of the present problem. Excavations have yielded a sealing bearing the figure of Nike⁵ and intaglios with the Indo-Greek coin devices—the figures of Athena⁶ and Nike⁷, other Greco-Roman figures⁸ and royal busts.⁹ The resemblance between these figures and those of Rajghat is indeed very close. It would here be worthwhile to quote Marshall about the date of these objects: "All the intaglios except *a* and *f* are of such workmanship, that on the grounds of style they might well be attributed to the third-fourth centuries A. D."¹⁰ Associated finds, in his opinion, suggest *circa* first century A. D. as their date.¹¹ Marshall, however, is undecided about the place of manufacture of these intaglios, which in his opinion, could either be Greece or India itself.¹² In any case, these objects were in use in the early centuries of the Christian era.

1. *Jātaka*, nos. 384, 439 etc. however, speak of merchants taking voyages in deep sea. (cf. also *Mahāvastu* III, 286).
2. Marshall, J., *Taxila*, I, p. 43.
3. *Dhammapada* Commentary I, p. 251 ff; also Marshall, op. cit., I, p. 43.
4. *Dhammapada* Commentary I, 123; III, 429.
5. *Ibid*, II, p. 682; III, Pl. 207, no. 29.
6. *Ibid*, p. 560 under no. 71, Pl. 207, no. 10 f.
7. *Ibid*, p. 650, Pl. 207, no. 10 b and g.
8. *Ibid*, p. 650, Pl. 207, no. 10 c-d and e.
9. *Ibid*, p. 650, no. 72, Pl. 207.
10. *Ibid*, II, p. 650.
11. *Ibid*.
12. *Ibid*, p. 676.

Sealings bearing similar Greco-Roman devices have been found by Aurel Stein at Niya in Central Asia,¹ in level ascribable to second-third centuries A. D.² These bear figures of Athena, Herakles, Eros etc.

The find of intaglios bearing Greek devices at Taxila and sealing with similar devices at Varanasi and Niya suggest close contact between these sites. There seem to have existed colonies of Greco-Roman merchants at such places³ in the early centuries of the Christian era which maintained relation with each other. Sealings which bear string marks on backs were used for sealing correspondence, etc. between the merchant-traders, while others were mere tokens proving the bonafides of the intermediaries. Archaeological evidence dates such types of intaglios and sealings at ancient sites of Rajghat, Taxila and Niya in the early centuries of the Christian era. Trade and commerce in the early centuries of the Christian era⁴ rather than invasion in the second century B. C. would explain their presence at Rajghat and other sites.

1. *JRAS*, 1901, p. 571; *Ancient Khotan*, I, Oxford, 1907, p. 354, Pls. LXXI-LXXII.
2. *Ancient Khotan*, p. 357. Motichandra, however, quotes V. S. Agrawal's opinion to the effect that these Niya sealings may be earlier in date and their impressions might have lasted till a few centuries later. He takes these also to be the result of an invasion and in this connection refers to Strabo's (II. 516) quotation from Apollodorus that the frontiers of Balkh were extended during the time of Demetrius and Menander (Motichandra, op. cit., p. 58).
3. [Altekar also suggests, "It is not impossible that there may have been a foreign colony at holy Banaras, or these sealings may have sealed letters received from Rome by Banaras silk merchants," *JNSI*, Pt. II, p. 119, n. 4]—*N.A.*
4. In these centuries archaeological and other evidences point out brisk commercial contacts between India and the West (Wheeler, R. E. M., 'Arikamedu : an Indo-Roman Trading-station on the East coast of India,' *AI*, No. 2, pp. 17 ff. : Rawlinson, H. G., *Intercourse Between India and the Western World*; Warmington, E. H., *Commerce Between the Roman Empire and India*).

A SEALING OF GONDOPHARES

S. N. CHATURVEDI

[Pl. I]

A clay sealing of the Indo-Parthian ruler Gondophares has been discovered from Sanghol in Punjab by Shri G. B. Sharma. This sealing is grey in colour and composed of fine-grained backed clay. It is round in shape (diameter 2.2 cm., thickness .5 cm) and flat on both sides with the device stamped on one side only.

The central place on the sealing is occupied by a crude figure of Pallas who holds a shield in her out-stretched right hand and a thunderbolt in the left. The circular kharoshthi legend runs as *rajadirajasa tratarasa Gudupharasa*. The seal device (Pl. I. 1) is the same as the reverse of the 'head of king and Pallas' type of his coins.¹

Sharma informs that few more similar sealings were discovered from Sanghol but they were completely worn or were broken by the villagers. The find-spot of the present sealing may indicate that the region round Sanghol was included in the dominions of the Parthian ruler.

The occurrence of Pallas on the sealing is also significant. Pallas holding shield and thunderbolt is the commonest type on the coins of Menander.² After Menander she is represented in the same manner on the coins of Epander.³ Among the later Indo-Greeks, the deity occurs on the coins of Strato I, Apollodotus, Zoilus II, Dionysius, Apollophanes and Strato II.⁴ This continued portrayal of Pallas must have resulted in her association with a particular region included in their kingdom. Narain, who has divided the Indo-Greek kingdom after Menander into seven principalities associates Strato I, Apollodotus, Zoilus, Dionysius,

Apollophanes and Strato II—precisely those who adopted Pallas as one of their coin-types—with Sialkot and Jammu region⁵. It may, therefore, be safely concluded that since the time of Menander Pallas became the representative type of Jammu-Sialkot region, broadly speaking eastern Punjab. The conclusion is further fortified by a comparative study of Indo-Scythian coins. Pallas does not appear on the coins of the first Indo-Scythian monarch Maues, who held sway on both sides of Indus, "from Pushkalāvati on the west to Takshasilā on the east."⁶ On the other hand, his successor Azes I adopted most of the coin-types of Maues and also introduced a number of new devices which were formerly current on the coins of the Indo-Greeks. Among his devices, Pallas, who does not figure on the coins of Maues, needs particular attention. She appears on a large number of coins of Azes I, which probably 'proves the extension of his sway into the eastern Punjab, a region probably not included in the empire of Maues.....'. It is thus a positive evidence of Pallas' association with eastern Punjab, including the region around Sialkot. The device was continued by Azes II from whom the eastern Punjab was wrested by the Parthian king Gondophares, who again adopted Pallas for his coins, obviously a proof of his control over eastern Punjab. The present sealing and the coins from Sanghol which bear the effigy of Pallas apparently belong to that phase of the career of Gondophares when he had succeeded to the vast domains of Azes II in eastern Punjab.

The figure of Pallas on the present sealing is extremely crude in comparison to her graceful form on the Indo-Greek coins. We, however, cannot expect the same sharpness of features as is possible on metal. It is interesting to note that Pallas ultimately appears to have found her way into the pantheon of Indian divinities. She has been referred to as Apalā in the *Aṅgavijjā*.⁴ The *Mahābhārata*⁵ mentions one of the Mothers as Palālā, which may be a variant of Pallas or Apalā.

1. *Catalogue of Coins in the Panjab Museum*, I, p. 151, Pl. XV. 39.
2. Prior to Menander, Pallas is depicted on the coins of Diodotus II and Demetrius II.
3. *PMC*, Pl. IV, 516.
4. *IG*, p. 102.

1. *IG*, pp. 103 and 104.
2. *CHI*, Vol. II, p. 199.
3. *Ibid*, p. 208.
4. *Buddha Prakash*, *Political and Social Movements in Ancient Punjab*, p. 236.
5. *Vanaparva*, 228, 14326.

The palaeography of the legend shows some interesting features. Dani has classified the Kharoshthi script of the Scytho-Parthian period into two categories, early and late.¹ The late category is represented by the Takht-i-Bahi inscription of Gondophares, placed in about the middle of the first century A. D. It is significant to note that at least two of the key letters on the present sealing do not tally with those of the above inscription. The open left end of the top curve of *ga* (*gu*) shows a hook whereas in the Takht-i-Bahi record it assumes the form of a *U*-like curve. Further, the vertical stroke of *sa* on the sealing does not touch the top of the curve whereby a gap is created. On the other hand, the mouth of its head is wide open in the Takht-i-Bahi inscription. These features indicate a date earlier than the Takht-i-Bahi record.

The third letter of the name of the king also shows some peculiarity. Sircar² and Dani prefer to read the third letter of his name in the inscription as *vha* whereas Rapson read it as *pha*. Dani argues '...the phonetic difference from *pha* would normally be shown by adding an oblique stroke on the right at the lower end of the vertical. This clear departure, in which we find a combination of *va* with an angular hook, argues for a conjunct.'³ The statement of Dani is justified since the hook has its mouth upwards in the Takht-i-Bahi inscription and on the coins.⁴ But on our sealing, the angular hook on the right has its mouth downward. Obviously, the letter on the sealing is not the same as in the inscription or on the coins of Gondophares. Indeed, it resembles *pha* as found on the coins of the Indo-Greeks. Therefore, the name on the sealing should be read as *Gudupharasa*.

1. *IP*, pp. 265-66.
2. *SI*, p. 121.
3. *IP*, p. 267.
4. *PMC*, I, Pl. XV. 1.

THE LINE OF DHANBHŪTI

T. P. VERMA

[Pl. I]

Early Investigations

Cunningham reconstructs the genealogy of the line of king Dhanabhūti¹ on the basis of two inscriptions from Bharhut and Mathura respectively. This genealogy runs as follows :

KINGS FROM BHARHUT INSCR.²

————— = Gārgi

Viśvadeva = Gaup̄ti

Agarāja = Vātsi KINGS FROM MATHURA INSCR.³

Dhanabhūti I = (Dhana)bhūti I

Vadhapāla

Dhanabhūti II

However, Agarāja and Vadhapāla of this genealogy find mention in some other inscriptions from Bharhut⁴ also. The latter is said to be a prince, the son of King Dhanabhūti.⁵

1. Cunningham, A., *The Stupa of Bharhut*, pp. 16 & 129.
2. *Ibid*, p. 128, pl. LIII, Gateways, No. 1.
 - L. 1. Suganam raje rājno Gāgi-putasa Visadevasa
 2. pautēṇa Gotiputasa Agarajasa putēṇa
 3. Vāchhi putēṇa Dhanahutina kārītam toranam
 4. Sila karmata cha upaṇṇa.
3. *Ibid*, p. 130, pl. LIII, Gateways, No. 4.
 - L. 1. Kala.....[DHANA]
 2. BHŪTISA.....Vātsi
 3. putrasa [VĀDHA-PĀ] LASA
 4. DHANABHŪTISA dānam-Vedikā
 5. Toranānām cha Ratnagriha sa-
 6. va Buddha puṇḍriya saha Mātu-pi-
 7. ta haisāhara chata...pariāhi.
- For a variant reading cf. Ludes, *Mathura Inscriptions*, pp. 212, 187.
4. *Ibid*, p. 128, pl. LIII, Gateways, No. 2.
5. *Ibid*, p. 142, pl. LVI, No. 54; Dhanabhūtiśa rājano putasa kumāras Vādhapālasa.

The chronology of these kings of Kausambi has not been satisfactorily worked out by scholars who made their contributions to the kings of this line. In this regard the coins and recently discovered seals and sealing belonging to these kings are proved to be of great importance. These specimens have come to light from Kausambi and Varanasi; of course long after Cunningham wrote about Dhanabhūti. The solitary evidence from Varanasi is a find from an archaeological excavation and is of definite help to settle the chronological uncertainty. A careful study of the palaeography of the legends on these coins and seals also provide us with a good basis for the chronological considerations. Here we propose to discuss the evidences of coins and seals first and then the chronology.

Coins of Agarāja

Some coins and seals have come to light which can be assigned to Agarāja, the father of Dhanabhūti I. Cunningham mentions two coins of this king and one of them was found from the 'famous city of Kausambi'.¹ Then K. P. Jayaswal² and Altekar³ published two coins of this king but then they read the legend as *Su(ñ)garāja*. However, Altekar revised his own reading after the discovery of two more coins which made 'it clear that the legend is to be read as *Agarājasa* and not *Sugarājasa*'.⁴ The Ujjayani symbol and taurine or Tree-in-railing are the devices found on the obverse of these coins and on the reverse there is a bull. The find spot of these coins is Kausambi. Altekar observes that 'Agarāja may be Prakrit form of the *Aṅgarāja* or *Agarāja*, but neither of these is so far known to be the name of any king.' He further notes that 'these symbols along with the find spot of the coins show that Agarāja was a ruler of Kausambi'.⁵ Recently K. D. Bajpai has published a better specimen of these coins which also comes from Kausambi.⁶

1. Op. cit., p. 17.

2. *JBORS*, XX, pp. 294-95 as quoted in *JNSI*, IV, p. 14.

3. *JNSI*, IV, p. 14.

4. *Ibid*, IV, p. 137.

5. *Ibid*, p. 138.

6. *Ibid*, XXVII, 131-132.

A Clay Sealing of Dhanabhūti I

Bajpai published a clay sealing of Dhanabhūti found from Kausambi.¹ This sealing bears a swastika symbol and a combination of *Indradhwaja* and *taurine* symbols. The central legend reads *Dhanabhūtisa*. Bajpai rightly attributes 'this seal to the king Dhanabhūti, son of Agarāju (*Aṅgarāja*) of Kausambi'.²

A Seal of Vadhapāla

We know from an inscription from Bharhut that 'prince *Vadhapāla* was the son of king Dhanabhūti.' We have a seal of this king again coming from Kausambi. Bajpai, who published this seal³ reads the legend on it as *Hathipalaśa*. But this seal should be read as *Vadhapalaśa*. Actually there is a defect in the engraving of this seal, that is to say the letter *la* was engraved on the seal in correct way, unlike the other letters, to give a reverse impression on sealing. Bajpai also noticed this discrepancy⁴ but he makes an error in its decipherment. He takes the letter *dha* to be the two strokes of long *i* and the lower portion of *va* to be *tha* and probably he restores (?) *ha* from somewhere in the seal. But once the letter *dha* is recognised there can be no difficulty in reading the legend correctly as *Vadhapalaśa*. On this seal we find a swastika, a taurine, and a *nandipada* with three additional prongs pointing downwards, and an *Indradhwaja* symbol. On the basis of the devices this seal of *Vadhapāla* and the sealing of Dhanabhūti I, discussed above, may be correlated and substantiate the genealogy found in the Bharhut inscriptions. Both these may be regarded as the rulers of Kausambi, on the basis of the provenance of their seals.

A Sealing of Dhanabhūti II

A sealing, bearing the legend *Dhanabhūtisa*, has come out from Pd. III (C. 0-300 A.D.) of Rajghat excavations. For description it will be convenient to quote from R. S. Mishra's press copy of the Report on Seals and Sealings:—

1. *Ibid*, XXVII, p. 188 and plate III. 6.

2. *Ibid*.

3. *Ibid*, XXVIII, p. 4a, plate II. 11.

4. *Ibid*.

"Type 15. III baked, fawn colour, round on plan, and (almost) rectangular (in cross-section). A perfect circular seal impression with dotted border divided into three segments by two horizontal dotted lines. The middle segment bears the legend *Dhanabh(u)tisa*. The upper and lower segments are again divided by vertical dotted lines in four; with symbols swastika in upper left, nandipada in upper right, Indradhwaja (triangle on staff) in lower left and, tree in railing in lower right segments respectively. RGT. (490), XC₁, II, .70 × 2.50 – 8.40 mts. (3)".

A comparison of the characters of this seal with others discussed above will show that they are more advanced. The symbols on it also indicate its association with the house of Dhanabhūti of Bharhut Torapa inscription. On the basis of the advanced form of the characters of this seal I am inclined to attribute it to Dhanabhūti II.

King Hathipāla

The site of Kausambi has yielded a coin and a seal of a certain king Hathipāla. On the basis of the devices and the similarity of the name Vadhapāla it is tempting to associate this king with the house of Dhanabhūti. However this association is not based on any unquestionable evidence but certainly it is worth considering.

R. R. Tripathi has published in this Journal a copper coin bearing the legend, which he reads *Hathiparasa*.¹ He describes it as follows :—

"Obv. A pole inside a railing with a fish fixed at the top, Ujjain symbol on the left, legend on the right and a two ranged ladder below the railing.

Rev. Blank."

According to his interpretation the legend is a "corrupt form of or हस्तिनापुरस्य " .

Bajpai revised the reading of Tripathi and pointed out that it should be *Hathipalasa* and that the coin should belong to

1. XXIV, p. 20-21.

Hathipāla.¹ Obviously the assertion of Tripathi that this is a city coin and belongs to Hastinapur or Hathiaparasa in Gorakhpur district² is not correct. What he thinks to be 'a pole inside a railing with a fish fixed at the top' is actually a tree-in-railing; a device found on the coins and the seal of Agarāja and Dhanabhūti II respectively.

An ivory seal of Hathipāla has also come to light. S. C. Kala, who introduced it,³ wrongly reads the legend on it as *Va(n)gapalasa*. Bajpai also confirmed this reading of Kala.⁴ Both these scholars attribute this antiquity to the Pañchāla king Vaṅgapāla also known through inscriptions and coins etc. I pointed out that the correct reading of the seal should be *Hathipalasa* and not *Vangapalasa*.⁵ The obvious fault lies in reading the seal as such. Actually it should have been read after taking its impression to get the correct reading (Pl. I. 2). Then I also pointed out that Hathipāla of this seal may be identified with Hathipala of the coin published by Kala. Thus this king Hathipala must have been the local ruler of Kausambi and probably belonged to the house of Dhanabhūti. Bajpai's theory that this seal belonged to Vaṅgapāla who was a local ruler of Kausambi does not stand.

Chronology

The chronology of the post Mauryan India upto the end of 1st century A. D. is most confusing. In this connection we can rely to a certain degree on the evidences produced from archaeological excavations. We also take the help of palaeography to date the inscribed antiquities, i. e. coins and seals etc. But palaeography is a very difficult subject though it seems one of the most common and popular one among the Indologists. For many the word Brāhmī and especially the Aśokan Brāhmī is one of the most flexible and vague word which can be applied to any writing between the 3rd century B. C. to 2nd century A. D. without any effort to descrimi-

1. JNSI, XXV, p. 100.

2. Ibid, XXV, p. 100.

3. Ibid, XIV, p. 136.

4. Ibid, pp. 9-19. Especially his footnote No. 1 on p. 16; however he revised his opinion in JNSI, XXV, p. 101 and opines that Vaṅgapāla was a local ruler of Kausambi.

5. Verma, T. P., *Mem. of the Dept. of A. I. H. C. & Archaeology*, B. H. U., No. 2, pp. 142-43.

rate. This state of things is most confusing and bewildering. Here we need not go into details but we must emphasise the necessity of discriminate use of palaeography for the purpose of chronology to avoid enormous errors.

Cunningham's opinion that Dhanabhūti I belonged to 'about 240-220 B. C. or during the lifetime of Aśoka'¹ is now no more honoured. Dani assigns the Bharhut gateway inscription in the early 1st century A. D.² We agree with Dani considering the long flourish of *i* and *i* medials in the word *Gāgi* etc.³ which is a feature of late 1st century B. C. started by the Śaka Kshatrapas of Mathura. As regards the seal of Hathipāla, wrongly read as Vaṅgapāla we pointed out that the characters of this seal indicate the features of 1st century A. D.⁴

While considering the palaeography of an inscription for the dating purposes we must keep in mind certain things. The art of writing is a matter of habit and an object of culture. It changes from region to region and from person to person in the same span of time. The teacher and taught tradition also plays important role to determine the trends of writing. It is always possible that a certain innovation in the field of writing introduced in certain area reaches the remote places after some time and that too not in its original form. The new pen style of the Śaka Kshatrapas took some time to reach Kausambi, Bharhut, Bodh Gaya and Orissa etc. in various degree of perfection. The skill to handle this new tool of writing also varied from person to person. Therefore during this span of time baffling varieties of writing can be found in different regions and hence this always should be considered while dating an inscription of this period. Furthermore the writing of a remote place may have more archaic letters but their dating should be done on the basis of the new trends traceable in that record. This conception remedies the differences in the writings of the Nanāghāt and Hāthigumphā inscriptions on one hand and the records of the Śaka Kshatrapas of Mathura on the other, which all belong to the same

period. With this background the attribution of the seal of Hathipāla to the 1st century A. D. is not unjustifiable. When we consider the occurrence of the sealing of Dhanabhūti II in stratum 3 of Period III, i. e. late 1st century A. D. or early 2nd century A. D., our attribution of Dhanabhūti I of Bharhut Torāṇa inscription to the 1st century A. D. is confirmed.

Bajpai regards the house of Dhanabhūti a branch of the Śuṅgas. He observes, "I take that Viśvadeva, Aṅgarāja (sic.) and Dhanabhūti belonged to the Śuṅga house of Kausambi. They were probably the descendants of king Śuṅgavarmā referred to above. The ruling house of Kausambi lent its patronage to the stupa at Bharhut which was located in their territory"¹ Here Bajpai entirely ignores the mention of the words 'in the kingdom of the Śuṅgas' (*Suganāṁ raje*). This expression itself shows that the house of Dhanabhūti did not belong to the Śuṅgas.

The existence of the Śuṅgas in the 1st century A. D. is attested by the Ayodhya inscription of Dhana (deva)² who was the 'sixth descendant from Pushyamitra probably from the side of the mother. This interpretation is supported by the palaeography of the record.'³ Perhaps the Śuṅgas were not entirely eliminated from the political scene of north India by the Kāṇvas is attested by the testimony of the Purāṇas who say that 'the Āndhra Śimuka with his fellow tribesmen, the servants of Suśarman, will assail the Kāṇvāyanas and him (Suśarman), and destroy the remains of the Śuṅgas' power and will obtain this earth.'⁴ This shows that the Śuṅgas did not extinct with the coming of the Kāṇvāyanas. Perhaps they continued in Ayodhya even after the establishment of the Sātvāhana power in the Deccan. The suggestion of Sircar that Dhana (deva) was the sixth descendant from Pushyamitra from the mother side is unwarranted if we keep in mind the Bharhut Torāṇa inscription mentioning the 'kingdom of the Śuṅgas' and the testimony of the Purāṇas about their survival even after their destructions by the Kāṇvāyanas. Dhana (deva) may not fall in the direct line of the

1. *SB*, p. 130.

2. *IP*, p. 58.

3. Cf. Cunningham, op. cit., Pl. LIII. No. 1.

4. Verma, T. P., op. cit., p. 143.

1. *JNSI*, XXVI, p. 4.

2. Sircar, D. C., *SI*, p. 95, and also his f.n. i, and Pl. XII.

3. Ibid, f. n. 3.

4. Pargiter, *DKA*, p. 71.

Śuṅgas but probably he was related with them from the father's side to claim himself of the Śuṅga house. It is also not unlikely that Bharhut was in the domain of these Śuṅgas of Ayodhyā.

One more argument can be put forward to suggest a late date for Dhanabhūti of Bharhut inscriptions. The tradition to name the child after the name of the grandfather was not prevalent in India up to the end of main Śuṅga line. This Yavana-Śaka tradition was probably accepted in Indian culture only after a considerably long cultural and political contacts and in later dynasties it became almost a fashion. The name of Dhanabhūti's grandson suggests some cultural contacts and acceptance of their tradition by the Indian princes.

This period of Indian history was probably one of the most troubled one during which after, a strongly centralised government of the Mauryas, centrifugal elements started functioning and many small kingdoms arose with their boundaries shifting very frequently. The Yavanas and the Śaka-Pahlavas also participated in this race of supremacy very often loosing one territory and establishing themselves in another. Under this state of affairs none of these dynasties held one place (e. g. Mathura to take one instance) for a long time. Even Kushānas had to leave the eastern portion of their empire after the death of Kanishka. Therefore a seal of Dhanabhūti II from Varanasi or an inscription from Mathura may indicate the expansion of the power of this dynasty of Kausambi to these places and Dhanabhūti II be regarded as the most powerful king of the line of Dhanabhūti.

THE IDENTITY OF THE SĀTAVĀHANA KING

ŚIVASRĪ PULUMĀVI

V. V. MIRASHI

It is well known that the list of the Sātavāhanas given in Purāṇas contains many discrepancies. No two Purāṇas agree in regard to the number, names and reign - periods of the kings of the family. The Purāṇas are, however, in most cases our only source of information about the names, succession and reign-periods of these kings. We must, therefore, try to reconcile the available evidence as far as possible. It is proposed to state the conflicting evidence in regard to one of the kings and to suggest a way of reconciling it.

Pargiter has critically edited this portion of the Purāṇas and given the various readings in each case. He gives the following text regarding the well-known king Gautamiputra Sātakarṇi and his two successors¹ :—

*rājā cha Gautamiputra eka-vimśat tato nripaḥ
ashta-vimśaḥ sutas tasya Pulomā vai bhaviṣyati
Śivaśrī vai Pulomā tu saptaiva bhavitā nripaḥ.*

These lines state that Gautamiputra was succeeded by his son Pulomā and the latter by Śivaśrī Pulomā. In the list of Sātavāhana kings, Pargiter² gives the name of the third king as Śivaśrī only, omitting Pulomā given in the constituted text. Again, Pargiter found in a manuscript of the *Vāyūpurāṇa* (e Vā) a king named Sātakarṇi in the following line³ :—

ekona-trimśatiḥ bhāvyah Sātakarṇi tato nripaḥ.

He was puzzled as to the position of this Sātakarṇi in the list. His name was mentioned only in one manuscript of a

1. Pargiter, *DKI*, P. 42.

2. *Ibid*, p. 26.

3. *Loc. cit.*

Handwritten notes and signatures at the bottom right of the page, including "V2" and "1/67".

Purāṇa (viz. e Vā), but Pargiter was not inclined to omit him altogether; for 'a line found in only one MS should not be rejected straight way'.¹ But as no other Purāṇa mentioned his name, he gave the line and also the name of the king in brackets. He was confronted with another difficulty. If this Sātakarṇi is included, the total number of kings in the list becomes thirty-one, but many Purāṇas say that there were only thirty kings of the Andhra (i. e. Sātavāhana) family.

Pargiter tried to solve this difficulty in the following manner. In a manuscript of the *Vishṇupurāṇa* (viz. l Vsh) he found the line stating the successors of Pulomā as follows : *tasy-āpi Sātakarṇiḥ tataḥ Śivaśrīḥ*.² This line showed Pulomā was succeeded by Sātakarṇi and the latter by Śivaśrī. Pargiter identified this Śivaśrī with Śivaśrī Pulomā of his constituted text given above. The admission of these kings made the total number of the Andhra (i. e. Sātavāhana) kings thirty-one, which was against the consensus of the Purāṇas, but Pargiter supposed that 'the total 30 is a round number'.³

The evidence of the finds of coins seems to support the view of Pargiter. In the hoard of Sātavāhana coins found at Chanda in Vidarbha there were some coins the legend on which Hoernle conjecturally read as (Si) va-Siri-Pulumāvisa, but he admitted that the first akshara Si of Siva was uncertain.⁴ He thought it not improbable that the intended word was *raño*, not *Siva*. Rapson suggested that the traces read as *Siva* might only be the traces of some symbol, perhaps a conch-shell.⁵ But such a symbol is not known to occur in that place on any Sātavāhana coin. Again, M. F. C. Martin has stated that among the coins which he purchased from P. Thoburn, there was one from the Chanda hoard which has the legend *Siva-Siri-Pulumāvisa* quite clear.⁶ Besides, in the Tarhala hoard,⁷ there were as many as 32 coins

with the legend (incomplete in many cases) *Raṇa Siva-Siri-Pulamā-visa*.¹ So Altekar's conjecture that the coins of Śiva-Śrī may be of Vāsishṭhiputra Śiva-Śrī-Sātakarṇi cannot be accepted. We have indeed silver coins of Vāsishṭhiputra Sātakarṇi.² Again, he is named in a Kanheri cave inscription from which we learn that he was a son-in-law of the Śaka Satrap Rudradāman I. So there is no doubt that he reigned and was different from Pulumāvi. I have ascribed some potin coins from the Tarhala hoard with the legend *Sātakaṇiṣa* to him.

Should we then accept the reading in the *Vishṇupurāṇa* and hold that Pulumāvi was succeeded by this Sātakarṇi and the latter by Śivaśrī, who is identical with Śivaśrī Pulomā of Pargiter's constituted text? This can also be supported by the conjecture that this Śivaśrī Pulomā was perhaps the grandson of Pulumāvi, the successor of Gautamiputra Sātakarṇi; for in India a grandson is often named after his grandfather.

This reconciliation of the available evidence does not, however, appear convincing. In the first place the admission of these two kings viz. Vāsishṭhiputra Sātakarṇi and Śivaśrī Pulumāvi would increase the total number of Sātavāhana kings to thirty-one, which would conflict with the consensus of the Purāṇas. Secondly, this Śivaśrī Pulumāvi, if he was a son of Vāsishṭhiputra Sātakarṇi, would be only a nephew of Vāsishṭhiputra Pulumāvi, and not his grandson. Besides, the mere addition of Śivaśrī would not make him different from Vāsishṭhiputra Pulumāvi; for we know that Śivaśrī was prefixed to the names of some other kings also. We have a coin of the Sātavāhana king Āpilaka with the legend *Raño Siva-siris-Āpilakasa*.³ We have also the name Śiva-Skanda⁴ in the list of the Andhra (i. e. Sātavāhana) kings given in the Purāṇas.⁵ So it would seem that Pulumāvi prefixed *Sivasiri* to his name in the legend of some of his coins, though he issued also other coins without that epithet.

1. Ibid, p. 37.

2. Ibid, p. 42, n. 1.

3. Ibid, p. 37.

4. *PASB*, for 1903, p. 117.

5. *JRASB*, for 1903, p. 306.

6. *JASB*, for 1934, Num. Suppl., Art. 418.

7. *JNSI*, II, pp 3 f.

1. *JNSI*, Vol. II, pp. 46 f; *Studies in Indology*, Vol. III, p. 40.

2. *JNSI*, Vol. XI, pp. 59 f.

3. *JRASB*, Vol. III, Num. Suppl., pp. 93 f.

4. Pargiter gives the reading *Skandha*, but it is evidently a mistake for *Skanda*.

5. *DKA*, p. 42.

So we should accept the reading in another manuscript of the *Vishṇupurāṇa* viz. *Sātakarṇi Śivaśrī*¹ (not *tasy-āpi Sātakarṇiḥ tataḥ Śivaśrī* in the MS. / Vish. given above). This would show that like Āpilaka, Pulumāvi and Śiva-Skanda, Sātakarṇi also prefixed *Śivaśrī* to his name. As a matter of fact we have his coins with such a legend viz. *Siva-sirisa Sātakaṇisa*.² This would keep the total number of the Sātavāhana kings to 30 as stated in several Purāṇas.

But then the question arises, How do you explain the line in the constituted text—

Śivaśrī vai Pulomā tu sapt-aiva bhavitā nripaḥ? The answer is not difficult to give. A MS. of the *Matsyapurāṇa* (viz. j Matsya.) gives the reading *Śivaśrī vai Pulomāt tu sapt-aiva bhavitā nripaḥ*.³ This reading would show that Śivaśrī (i. e. Sivaśrī Sātakarṇi or Vāsishṭhiputra Sātakarṇi) would reign for seven years after Pulomā. The ablative form *Pulomāt* from *Pulomā* is not unlikely; for, as Pargiter has shown,⁴ the text of these dynastic lists in the Purāṇas was originally in Prakrit and was later rendered into Sanskrit.

The foregoing discussion has shown that—

- (1) *Śivaśrī* was prefixed to the names of several Sātavāhana kings.
- (2) Some of these kings issued some coins with this prefix to their names and other coins without it.
- (3) Pulumāvi, the son and successor of Gautamīputra Sātakarṇi, was succeeded by his brother Vāsishṭhiputra Sātakarṇi.
- (4) This Vāsishṭhiputra Sātakarṇi was succeeded not by Śivaśrī Pulumāvi as stated in the constituted text of Pargiter,⁵ but by Śiva-Skanda. The coins of this Śiva-Skanda have been found in the Tarhālā hoard with the legend *Siri-Khada Sātakaṇisa*.
- (5) The total number of the Āndhra (i. e. Sātavāhana king was thirty, not thirty-one.

1. Ibid, p. 42, n. 1.

2. Rapson, *BMC, AWK*, etc., p. 29.

3. *DKA*, p. 42, n. 1.

4. Ibid, Introd., p. x.

5. If we adopt the reading *Śivaśrī vai Pulomāt tu*, it may be objected that *Śivaśrī* was only an epithet and would not necessarily denote *Śivaśrī Sātakarṇi*. This is true. It would have been better to read *Sātakaṇi Pulomāt tu*, but we have no manuscript evidence for such a reading.

THE KING AND QUEEN TYPE OF SKANDAGUPTA

JAI PRAKASH SINGH

Coin-types with the figures of the King and Queen among the Guptas were issued by Chandragupta I, Chandragupta II, Kumāragupta I and Skandagupta. There is practically no controversy with regard to the names of the King and Queen types of first three kings. This type of Skandagupta was styled by Smith¹ as King and Queen type on the basis of the Chandragupta (I) Kumaradevi type known to him. Allan² later changed this name and called these coins as King and Lakshmi type. Allan drew support to call the type by this name from the Junagarh inscription of Skandagupta referring to the selection of the King as her husband by Lakshmi, possibly the goddess of fortune.³ Later, however, Jagannath⁴ criticised Allan and supported Smith.

But Altekar favouring Allan says that "it is difficult to decide definitely in favour of one of these views in preference to the other. But it appears more probable that the lady is intended to stand for Lakshmi rather than the Queen. It is true she is not nimbate, but Lakshmi appears without a halo on several Gupta coins."⁵ Besides, he states that if this type may have been intended to portray Skandagupta with his Queen their names would have necessarily been inscribed on these coins like on the similar type of Chandragupta I.⁶ This argument carries no weight. For Chandragupta II's King and Queen on Couch type also fails to give the name of his Queen.⁷ Similarly the King and Queen type of

1. *JRAS*, 1889, p. 110; *JASB*, 1884, i, p. 199.

2. *BMC, GD*, pp. xcvi-c.

3. Ibid.

4. *JNSI*, VIII, pp. 48-51.

5. *CGE*, p. 245.

6. Ibid.

7. *CGE*, pp. 138-40, Pl. IX. 6.

Kumāragupta I also is without the names of its obverse figures. But referring to this type of Kumāragupta I Altekār says that it probably "had the names of the royal couple; they may not have come on the flan."¹ The basis of this statement, if any, is not clear. These coins of Kumāragupta are of a smaller size and may not have been meant to contain the names of the illustrated figures. It seems more probable that the discontinuation of the type during Samudragupta's reign, and the increase in the absolute authority of the King induced Chandragupta II to drop the name of his Queen from the type of his coins depicting them both. Kumāragupta I and Skandagupta seem to have followed this practice. But their King and Queen types were copied from the Chandragupta I Kumaradevi type, at least in the manner of their standing figures. These coins of Kumāragupta I may not have been intended to contain the names of them both. The traces of indistinct legend² on its obverse may thus be either part of the circular legend or the name Kumāragupta. These coins of Skandagupta unlike those of his father are of a bigger size and contain parts of a circular legend but no names. It thus seems more probable to say that the practice of labelling the obverse figures was discontinued by Chandragupta II, and his successors followed it. The occurrence of the name of Kumaradevi on the only type of her husband may be indicative of some sort of special circumstances behind the issue of that type and may be his Kingship.³

Kumaradevi is shown on some coins of the type as nimbate⁴ and on others without a halo around her head.⁵ The King and Queen on couch type of Chandragupta II like most coins of his grandfather shows both the figures as nimbate.⁶ Kumāragupta I's Queen is 'definitely nimbate' but the halo round her head is not clear in the photograph.⁷ Figures on Skandagupta's King and

Queen type are not nimbate. This may indicate that the Gupta's were not very particular about depicting halo's around their and their consorts heads. The Queen's on the reverse of the *Asvamedha* type too are depicted without a halo.¹ Thus it can only be said that the Queens of the Guptas were provided with a halo only occasionally and that the practice was not followed strictly. This is probably the main reason of the failure of a halo round the head of the obverse female figure on Skandagupta's King and Queen type.

Further, there is nothing on the obverse of this type that may show Skandagupta as inferior compared to the female figure. Altekār's suggestion "that this type is intended to illustrate graphically the poetic idea of Skandagupta being chosen as her lord by the goddess Lakshmi" seems unconvincing, as it is based on the poetic description of *Junagadh inscription* and the supposition that the obverse of the coin shows the scene of a *Svayamvara*. Possibly this is supposing too much on the basis of this obverse motif. We are not sure as to what could have been the purpose of the *Garudadhvaja* between the two figures, if the scene was really one of a *svayamvara*. Besides, we feel that an explanation of the nature of this type must not be based on the inscriptions that come from the regions outside the circulation area of these coins.

It has also been suggested that the coins of this type show Skandagupta standing with his mother.² Altekār expressed a view against this theory. We also feel that there is nothing on the coins of this type that is in favour of the Lady's being the King's mother. The Guptas portrayed either their queen's or Lakshmi on their coins. And the lady in question is Skandagupta's Queen is beyond any doubt.

That the obverse figures on this type of Skandagupta are those of the King and Queen becomes clear on the basis of the coins of his predecessors. That the coins of Chandragupta I and Kumāragupta I are closest to those of Skandagupta is indicated by the standing posture of their figures. The identity of Skandagupta's queen with Lakshmi is based only on the lotus she is holding in her upraised hand. Otherwise there is no divine association with

1. Ibid, p. 245, f. n. 4.

2. CGE, p. 213.

3. Ibid, Pl. I, 9-13.

4. Ibid, Pl. I, 8.

5. Cf, CGE, pp. 30-81.

6. CGE, Pl. IX, 6.

7. Ibid, Pl. XIV, 4; cf. BH, Pl. XXXI, 14. The Bayana Hoard illustration shows clearly the halo round the king's head but it is not distinct in case of the Queen.

1. CGE, pp. 67 ff., and 200 ff.

2. JNSI, XXII, pp. 263-65.

her. The lotus flower seems to be given to the lady merely to occupy some space for artistic requirements and may well be meant as a *lilākamala*.¹ The Queen was possibly not provided with a halo round her head to differentiate her from the goddess Lakshmi depicted on the reverse of the coin. The goddess on the reverse is nimbate, seated on lotus and holding a noose in r. and lotus in her l. hand. Besides the depiction of the same goddess on both faces of the coin would be an unnecessary duplication and therefore a mistake. Under these conditions the female figure on the obverse of this type of Skandagupta can only be identified with that of his Queen.

The depiction of the *garuḍadhvaja* between the King and the Queen is very significant. It symbolises the firm establishment of the falling family fortunes—*Vichalita* and *viplutāṃ vaṃśa-lakshmi*, by the King, who proudly calls himself as *sudhanvī* on these pieces. The *lakshmi* that is said to have selected Skandagupta as her lord after deep meditation is identical with the *vichalita* and *vipluta* Lakshmi or family fortune. These poetic references regarding lakshmi in the inscriptions of Skandagupta contain an echo of the political threats—family or otherwise—to the Gupta kingship but their identification² with the female figure on the coins under discussion is uncalled for.

The King Skandagupta on the obverse of these coins is shown carrying a bow and an arrow. This led Altekar to think "that the scene is one of the battlefield."³ But the Gupta Kings are

shown carrying arms on many of their types and all of them cannot be connected with the battlefield.

What seems most probable to us is that the King and Queen are depicted on this coin-type and that these coins cannot be isolated from other coins of this type¹ issued by the earlier Kings of the Dynasty. Skandagupta, however, seems to have added certain features of the Archer type to these of his coins as can be held from the weapons he is holding and *sudhanvī* as part of the legend.

1. Jagannath, *JNSI*, VIII, pp. 48 ff.

2. The main basis of this identification is presented by the statement in the Junagadh inscription. Incidentally there is another statement in the same inscription referring to Skandagupta's breast "embraced by the Goddess of wealth and splendour" in *Śrī parikshipta-vakshāḥ* long before the mention of his selection as her lord. I don't think that there is much of a chronological order in these statements but if there is, the later mention of the selection is discredited by the simple but significant earlier one. However, the coin-motif has no connection with it and can be best explained with other King and Queen types of the dynasty.

3. *CGE*, p. 246. His identification of the obverse female figure with Jay-Lakshmi is based on this supposition but there is nothing unusual in the King's carrying arms on his person. And the scene has nothing to do with the battlefield.

CLASSIFICATION OF THE REPOUSSE GOLD COINS OF MAHENDRĀDITYA

NISAR AHMAD

[PL. III]

So far 104 repousse gold coins bearing the legend *Śrī Mahendrāditya*¹ are known from various places² but the coins of Khairtal and Pitaiband hoards only are classified by Rode³ and Jain,⁴ respectively. Rode classifies the coins into two varieties on the differences of the device-patterns⁵ and further divides the specimens of the second variety into two groups on the palaeographical basis⁶ but

Altekar does not harmonize with all⁷ and specially the palaeographical criterion.⁸ Jain groups the finds into five varieties on the basis of symbols and additional letters occurring below the legend of the coins⁹ but he altogether neglects the variations and degenerations of the device-models executed in the upper half of the coins. Hence, an attempt to classify all the known coins for the first time considering the features of the entire coin-devices occurring on them is made here.

These coins struck in repousse process have the characters and designs on one side only. This side is divided into two parts by a horizontal line. The upper half contains an effigy of Garuḍa with the human face in its centre and other symbols on its either side. On some coins, a dot is clearly depicted over the head of the Garuḍa which probably represents the crown. It is diffused with the encircling dotted border on the degenerated specimens. The lower half is formed by two lined matters; the first line is composed of the legend and the second line contains a solitary letter on all

Rode ascribes the first variety to Kumāragupta I of the Imperial Gupta dynasty and thinks that the coins of the first group of the second variety "must have been current along with the coins of Prasannamātra" and the specimens of second variety "may be taken as currency of Tivara-deva and his successors." He also holds that Prasannamātra imitated the type introduced by Kumāragupta I (Ibid, pp. 138-2). But these pieces do not appear to have been issued by the Gupta monarch (*JNSI*, XXVI, pt. II, pp. 32 ff.). Further, all the coins published by Rode belong to the series II (*Infra*, pp. 162 ff.) and only the coin of series I (*Infra*, p. 162) is found along with the coins of Prasannamātra (*JNSI*, XVI, pt. II, pp. 216-7). Therefore none of the coins of series II can be regarded to "have been current along with the coins of Prasannamātra".

1. Altekar accepts two varieties only on the basis of Śaṅkha opening to right and Śaṅkha opening to left. But he does not endorse "that the Garuḍa on the first variety looks like a winged lion."

He also observes, "There is not sufficient evidence to show why the coins of Mahendrāditya should have been blindly copied by a number of kings of Kośala, without even a change of name," (*JNSI*, X, pt. II, p. 142).

2. Altekar says that the palaeographical difference between varieties first and second "is not so striking as to justify their ascription to a period about 100 years later." Again, "palaeography in the case of coins is rather an inconclusive argument, when the difference is only of about a hundred years" (loc. cit.).
3. *JNSI*, XXII, pp. 184-5.

1. Satyanarayan Rajaguru deciphers *Śrī Mahendrādityasya* on the stampage of the coin handed over by Sri Jogendra Chandra Sinha Deo which was discovered from the old fort of Madanpur-Rampur in Kalhandi district of Orissa (*OHRJ*, I, p. 137). But the coin is not illustrated and therefore the suffix *syā* attached with the name of Mahendrāditya may not be verified,
2. *NS*, XLIV, N11 (1 coin); *NNM*, No. 5, p. 12; & *JNSI*, X, p. 137 (54 coins); *OHRJ*, I, p. 137 (1 coin); *JNSI*, XVI, pt. II, pp. 216-7 (1 coin); *JNSI*, XXII, pp. 184 ff. (46 coins); One coin collected somewhere from Shahabad district of Bihar was produced by Shri Ram Govind Prasad, a member of our Society, from Bhabua in the same district, in July 1964 to Shri J. P. Singh in the Deptt. of A. I. H. C. & Arch., B. H. U., who gave me this information. But this coin seems to have travelled there.
3. *JNSI*, X, pt. II, pp. 137-8.
4. *JNSI*, XVI, pt. II, pp. 184-5.
5. The marked features of the first variety are that "it has the figure of Garuḍa which may be mistaken for that of winged lion. The Chakra looks like a lotus-flower with a short stalk. The Śaṅkha has the opening on the left. The legend on these coins is in the box-headed characters which resemble those of the Pipardulā grant of King Narendra of Śarabhapur family." The catagorized features of the second variety are that the Garuḍa is represented crudely and the Śaṅkha "has the opening on the right." (*JNSI*, X, pt. II, pp. 137-8.)
6. "The characters of the legend on the coins of the first group resemble those of the copper plates of Narendra, Mahā-Jayarāja, Mahā-Sudeva and Mahā-Pravara-rāja and those of the coins of Prasannamātra. The coins of the second group bear the legend in the characters which resemble those of the Rājim and Balodā plates of Tivara-deva (c. 530-550 A.D.)." *JNSI*, X, pt. II, pp. 137-8.

the coins. It occurs sometimes along with one and sometimes with two symbols on either side and sometimes alone.

These pieces may be grouped into two series on the basis of the portrayal of the principal device, Garuḍa, into two distinct patterns : with body¹ and without body.²

SERIES FIRST

Garuḍa stands on a horizontal line with human head, rounded body and short legs of the bird and widespread wings. On its right are a crescent with a dot above, probably representing a star and a *chakra* encircled by dots. To the left of the Garuḍa are a sun and a *saṅkha* opening to left.³ Below the letters *ma* and *he* of the legend are the solitary letter *śa* and a cluster of seven dots respectively Pl. III. 1.

Only one specimen of this Series weighing 17.3 grains and measuring .74 inches in size is known.⁴

SERIES SECOND

The head of the Garuḍa, which is shown here without body, is flanked on either side by a dotted line. The legs of the Garuḍa are represented unproportionately as they are equal to its head in size. The dot above the crescent is also removed. But the coins of this series have to be grouped into two classes as one of them is embossed with the sun to the right of the Garuḍa instead of left.

CLASS I

Only one coin occurs here⁵ and this has the Garuḍa with the well executed legs on a horizontal line. To its right are a crescent, a sun⁶ and a *Chakra*.⁷ On its left is a *Saṅkha* opening to

1. *JNSI*, XVI, pt. II, pp. 216-7.

2. *NS*, XLIV, p. 11; *JNSI*, X, pt. II, pp. 137 ff. *JNSI*, XXII, p. 184 ff.

3. Jain thinks that it opens to right, *JNSI*, XVI, pt. II, p. 216.

4. *JNSI*, XVI, pt. II, pp. 216-7.

5. *NS*, XLIV, 11-12 N. fig. 1.

6. The sun is shown in between crescent and Chakra. It is not noticed by Prayag Dayal.

7. Prayag Dayal writes that it stands for the sun (*Ibid*).

right. Below the legend are a cluster of seven dots and an additional letter *ru* (Pl. III. 2). It weighs 19 grains and measures .8 inches in size.

CLASS II

Here the portrait of the Garuḍa is highly degenerated and least realistic since the components of the figure are altered or eliminated; the body of the Garuḍa is omitted and the tops of the legs are shown oval or roundish and in unproportionate size from the lower part of the legs which may represent the deformed shape of the body. To its right are a crescent and a *Chakra* and to its left are a sun and a *Saṅkha*. The coins of this class weigh from 19¹ to 21.32² grains and measure from .69³ to .87⁴ inches in diameter.

These coins may be divided into two groups in view of the opening of *Saṅkha* sometimes to left and sometimes to right.

Group 1

[*Saṅkha* opening to left]⁵

The coins of this group may again be classified into two varieties since two types of symbols and additional letters are found below the legend.

Variety 1

The Garuḍa with a human head is shown standing on a horizontal line. The leg-tops are shaped oval. The wings are spread out. On its right are a crescent and a *chakra* encircled by dots. To the left of the bird are a sun and a *Saṅkha* opening to left. Below the letters *ma* and *he* of the legend are cluster of seven dots and the solitary letter *ru*⁶ respectively (Pl. III. 3).

1. The coins of Khairtal hoard 'weigh from 19 to 20.2 rains each', *JNSI*, X, p. 137.
2. The coins of Pitaiban I hoard weigh from 1.250 to 1.380 grms. each, *JNSI*, XXII, p. 184.
3. The coins of Pitaiband hoard 'measure from 1.7 to 1.9 cms. in diameter', *JNSI*, XXII, p. 184.
4. The coins of Khairtal hoard 'measure from .78 to .87 inches in diameter', *JNSI*, X, p. 137.
5. *JNSI*, X, pt. II, Pl. IXB, no. 1; *JNSI*, XXII, Pl. IX, nos. 12-13.
6. *JNSI*, X, pt. II, Pl. IXB, no. 1; Mirashi deciphers *da* (*JNSI*, XI, p. 108) but its shape is very near to the letter *ru*.

Variety b

As above, but the additional letter *da* below the letter *he* of the legend and a *Kalāṣa* and a dot on the left and the right of it and below the letters *ma* and *ndra* of the legend, respectively¹ (Pl. III. 4).

Group 2

[*Saṅkha* opening to right]²

The specimens of this group may also be divided into two sub-groups because some of them have the cluster of dots in between the *Garuḍa* and the *Saṅkha*.

Sub-Group A

The figure of *Garuḍa* has straight legs. There is no cluster of dots in between the *Garuḍa* and the *Saṅkha*.³

The coins of this sub-group may again be classified into varieties since two types of bottom-symbols, cluster of seven dots and 'single dot', are known and on one coin no bottom-symbol is shown.

Variety a

The *Garuḍa* is depicted standing with human head, straight leg with rounded top and spread out wings. It is flanked on either side by the symbols as on the group I of this class but the *Saṅkha* has its opening to right. The cluster of seven dots occurs below the letter *ma* of the legend.⁴

The specimens of this variety may further be divided into three sub-varieties on the basis of the solitary letter occurring below the letter *he* of the legend.

Sub-variety i

Letter *da*.⁵ (Pl. III. 5).

Sub-variety ii

Letter *ha* (?)⁶ (Pl. III. 6).

1. *JNSI*, XXII, Pl. IX, nos. 12.13. Jain on these coins notices *Saṅkha* to right, *Ibid*, p. 185.
2. *JNSI*, X, Pl. IXB, nos. 2-9; *JNSI*, XXII, Pl. IX, nos. 10-11 and 14-18.
3. *JNSI*, X, pt. II, Pl. IXB, nos. 2-9; *JNSI*, XXII, Pl. IX, nos. 10-11, 18.
4. *JNSI*, X, pt. II, Pl. IXB, nos. 2-9; *JNSI*, XXII, Pl. IX, no. 10.
5. *JNSI*, X, pt. II, Pl. IXB, no. 5.
6. *JNSI*, X, Pl. IXB, no. 4. Mirashi doubtfully reads *pa*, (*JNSI*, XI, p. 108).

Sub-variety iii

Letter *ru*¹ (Pl. III. 7) and some ~~degenerate~~ representation of *Saṅkha*.² (Pl. III. 8).

Variety b

As above, but single dot below the letter *ma* of the legend and additional letter *da* below the letter *he* of the legend³ (Pl. III. 9).

Variety c

As above, but without any symbol and the solitary letter *ru*⁴ (Pl. III. 10).

Sub-Group B

The figure of *Garuḍa* is shown standing with the human head and rounded top legs but it is highly conventionalized; the wing on either side is represented by two or three strokes, the legs are made tapeing and dots in most of the cases also run round the neck. The *Chakra* is encircled completely by dots. The *Saṅkha* opening to right is represented in degenerated form as on some of the coins of sub-variety III. On all the coins a cluster of dots is added in between the legs of the *Garuḍa* and the *Saṅkha*. The crescent and the sun are depicted as on other coin of this class⁵ i.e. at the right and left of the *Garuḍa* device. There is no symbol below the legend and the additional letter is *bha* which 'looks like *sa* or *ga* in some cases'⁶ (Pl. III. 11).⁷

1. *JNSI*, X, Pl. IXB, nos. 2, 3, 6-9. Mirashi, on coin nos. 2, 3, 7-9, deciphered the letter *sa* (*JNSI*, XI, p. 108) but Jain rightly points out that "none of these have that letter", (*JNSI*, XVI, pt. II, p. 217, fn. 1.). On coin no. 6 Mirashi also identifies the letter *da* (*JNSI*, XI, p. 108) but actually it does not occur. *JNSI*, XXI, Pl. IX, no. 10.
2. *JNSI*, X, Pl. IXB, no. 7; *JNSI*, XXII, pl. IX, 10.
3. *JNSI*, XXII, p. 185, Pl. IX, no. 11.
4. *Ibid*, no. 18.
5. *Ibid*, nos. 14-17.
6. *Ibid*, p. 185.
7. I am thankful to Shri J. P. Singh and Shri Deena Bandhu Pandey for their help in the preparation of this paper.

TWO UNIQUE CHOLA COINS

S. RAMAYYA

[Pl. II]

I

Some time ago I published an inscribed silver coin and I read the reverse legend on it as 'Sri Raja' and attributed it to a Vishnukundin king. But I also mentioned an alternative reading as 'Ari' with 'Jaya' or some such word missing.¹ P. L. Gupta in his comments preferred to read it as 'Ari-Jaya' with a plausible 'Jaya' in the lower truncated half.² He also suggested that it looks like a 9th century or 10th century coin and not that of the Vishnukundins. On reconsideration and further analysis I entirely agree with Gupta. Now I attribute it to the Chola Emperor Arinjaya (956-957 A. D.) or Arinjika.

Here I again describe the coin as follows :

Obv. A figure of a stylised lion, facing right with open mouth and looped tail. It reminds one of the bigger Vishnukundin lion symbols. There is a dot on the top probably representing the Sun.

Rev. There is a legend of four letters in the Nāgari script of the South of the 10th century. The first line clearly reads 'Ari'. The second line is truncated but the last letter can be read as 'ya'. The first letter is probably a 'ja', the full legend reading as 'Ari Jaya' (Pl. II. 1).

Arinjaya, who was the third son of Parāntaka I, was apparently a warlike prince and was constantly fighting the Rāshtrakūtas in the Deccan. He died in a battlefield at 'Arrur', near 'Melpadi' on the back of an elephant. 'Melpadi' is on the bank of a small river called 'Neeva' near the town of Chittor, the headquarters of a district of that name of Andhra Pradesh, about 100 miles west of Madras.³ It is situated on the main highway to the

1. *JNSI*, XXIX, II, pp. 81-83, Pl. IV. 2.

2. *Ibid*, p. 83n.

3. Cf. *SII*, III, nos. 15 to 19 and *SII*, IV, nos. 312 to 321.

[969]

TWO UNIQUE CHOLA COINS

167

Rāshtrakūta country and was the northern frontier of the Cholas at that time. The Karhad copper plate of Krishna III also mentions 'Melpadi' saying that he encamped there and distributed the forfeited Chola fiefs to his captains and others about 958 A. D. There are two small Śiva temples at Melpadi. The first is an usual Chola shrine repaired in Rāja Rāja's time. The second one is called 'Arinji Kai Iswaram'. This is slightly to the South of the first one. About his 29th year Rāja Rāja built this temple over the burial, the relics bones of his grandfather Arinjaya or Arinjikai; these and other facts are known from an inscription of the temple. These temples in honour of the dead were called 'Pallipadai'.

Nāgari legends in the South are few and far between. The script in this period was influenced by the earlier Pallava and the later Rāshtrakūta Nāgari scripts. The script of a 9th century copper plate of Varaguna Pāṇḍya with a portion in Nāgari¹ and

the legend in our coin shows a good deal of affinity. The ॐ in the copper plate with the full top horizontal line and the left slant stroke at the tip of the vertical line is like that on the coin. The 'Ri' with the slight slant of the medial looks like the Rāshtrakūta type of the 10th century.² The truncated second line is difficult to read but I agree with Gupta that a 'Ya' can be read at the end. Supplying the other letter we may read the legend as 'Arijaya' or 'Arinjaya.' We may be almost sure it is a 10th century Southern Nāgari script and belongs to a king by name Arijaya or Arinjaya.

It is curious to find a stylised rampant lion symbol on the obverse of this coin because the tiger is the usual crest of the Cholas. They have, however, used a variety of symbols on their coins as explained by Biddulph³. In the northern areas, the lion symbol was prevalent for long. The Vishnukundins used it earlier on their coins and copper plate seals. The Renadu Cholas of the Cuddapah and the Kurnool districts of the 7th and 8th centuries had the lion crest. The Eastern Chālukyas of Vengi used lion symbol on some of their coins. This coin, as is procured in Hyderabad, seems to have been issued when Arinjaya operated in these areas.

1. Sivaramamurti, *Indian Epigraphy*, p. 186.

2. *Ibid*, p. 190.

3. *Coins of the Cholas*.

Till now the earliest known Imperial Chola coins is the gold coin of Uttama Chola (970-985)¹. But the present coin is the earliest known Imperial Chola coin. It weighs 30 grains like some of the later Chola silver coins which are the half *Kasu*. Arinjaya, an earlier king apparently introduced this type in his days in the Deccan and Rajadhiraja followed it. As Biddulph explains they look like some special issue after some victory over the enemy.

II

Here I also describe below a new coin of Uttam Chola from my collection :

Metal : Copper with a little mixture of silver.

Weight : Slightly less than 3 grammes; about 46 grains.

Size : 1.7 cm. × 1.24 cm.

Shape : Somewhat oval.

Obv. : A standing elephant facing left kneeling before what may be a royal standard; some lines below and above not easily recognisable as they are eroded. The whole device is within a circle and beyond it there is a beaded circle.

Rev. : There are two lines of Nāgarī inscription :—

Top line उत्तम Uttama

Lower line चोला Cholaha

Above the inscription there are some symbols probably indicating sun and moon.

(Pl. II. 2)

There is nothing special about the elephant on the obverse. The Cholas had the tiger as their emblem but they used a variety of devices on their coins such as a stylised standing king, the bull, the tiger, the elephant and a galloping horse.

This King used the grantha script in his gold coin but on this coin, in using the Nāgarī inscription, he seems to have followed

1. Elliot, *CSI*, p. 152; Biddulph, *Coins of the Cholas*, Pl. I. 7.

Arinjaya. It is strange that while the later Pāṇḍyas used only Tamil language and script on their coins, the Cholas did not use that language or script on their issues though they used it liberally in their stone and copper plate inscriptions. The shape of conjunct consonant 'tata' seems an advance over the earlier subscript stage, and has not reached the later ligature technique. 'Ma' has a big left loop. The letters are typical of contemporary Rāshtrakūṭa inscriptions.² The last letter is the most interesting. This 'la', a retroflex consonant is peculiar to the Tamil and other Dravidian languages. There is nothing equivalent to it in Sanskrit or Prakrit. The symbol is also unique in Tamil, practically unchanged from the days of the Bhattiprolu inscription.³ The scribe has a peculiar sanskritised phoneme of Tamil with the Visarga. This may be taken to indicate an early date for the coin. On another Uttama Chola silver coin⁴ the last two letters are written as ल with the Nagari ल stand-

ing for the Tamil ல. This coin because of the two fish symbols, which are found on his other coins, is assigned to Rājendra I (1012-1044) who assumed that title.

Uttama Chola who ruled from 970 to 985 A. D. consolidated his empire and because of this consolidation and peace the emperor apparently issued a good deal of coinage for which we have some good evidence. The enormous amount of temple building activity also might have required cash disbursements. In this context I think we can safely attribute the present coin to Uttama Chola.

1. Sivaramamurty, *Indian Epigraphy*, p. 190.

2. Ibid, pp. 150-51.

3. *Coins of the Cholas*, Pl. III, 26.

ILAKKĀṢU

C. R. SRINIVASAN

The study of South Indian coins is a very interesting one. Epigraphy helps in a way to understand it better. The scientific study of coins is hampered by the non-availability of materials. Most of the ancient coins of the Cholas were not at all preserved, perhaps they might have gone to the goldsmith's brazier. It is difficult to arrive at a definite conclusion about the nature of these coins. Therefore it becomes inevitable to postulate definite hypothesis or presume its nature with the aid of a few inscriptional evidences. The aim of the present article is to study the ancient Ilakkāṣu and its historical aspect.

Literary evidences of *Mahāvamsa* of Ceylon and Sangam literature of the Tamils amply bear testimony to the fact that there was conspicuous intercourse of the Cholas with Ceylon from second century to the advent of the Cholas of Vijayalaya line on the political map of South India. The later Chola *prāśastis* corroborate the relationship of the Cholas with this island. These ties were bridged well during the period of Parāntaka and his successors. The etymological meaning of *Ilakkāṣu* can be derived as a coin of Ceylon or Ceylon coin, on the words *Ilam* meaning Ceylon and *kāṣu* meaning money or coin.

When the Cholas came to power in the 9th century A.D., they would have adopted this coin. Regarding *Ilakkāṣu*, which was "more ancient than the Cholas", K. A. N. Sastry¹ doubts about its other meaning viz., gold coin, as the word *Ilam* stands also for gold. It is not irrelevant to note the two inscriptions² of Ko-ch-chiri-Sanga bodi-mārayar from Anūrādapura, Ceylon, dated in the 5th and 7th years respectively that a deposit of 30 *Ilakkāṣu* was made for food-offerings and for a perpetual lamp by Kumāragan-

attupērūr. This inscription is palaeographically assignable to 7-8 century.¹ Codrington rightly believes that it was a coin of Ceylon only,² and opines that the old Tamil *kāṣu* was of gold. It is probable that the *Ilakkāṣu* was Kahavanuva or its half. It is to be noted in this regard that there was both commercial and political relationship with Ceylon during the 9th century.

PARĀNTAKA (907-45 A. D.): We hear for the first time about this coin in an inscription dated in the 24th year of Parāntaka I (931 A. D.). This record from Tiruppūndurutti³ mentions that prince (*pillaiyār*) Arikulakēśariyār, son of the Chola king (*Solaperumāṇḍigal*) gifted 40 *Ilakkāṣu* for a lamp in the Pushpavanēśvara temple. The same prince granted 30 *Ilakkāṣu* in the same year in another place (*Tillaisthānam*) as a deposit with which the *mahasabhai*, of that place agreed to maintain a perpetual lamp. This prince is referred to as *magaṇār* (son)⁴ in this inscription,⁵ and he has been identified as Ariṇjaya, the brother of Gaṇḍarāditya.⁶ In another inscription⁷ dated in the 30th year (937 A. D.) of the same king 100 *Ilakkāṣu* was donated by Virāśola Anukkaṇ kāḍaṇ Mēlvāyil for maintaining a night lamp (*irā vilakku*) in the hall built by Kadamba-bhattar of Tirumaṇaiikkāḍu (*Vēdāraṇyam*). The Āṇaimalai inscription⁸ of Parāntaka dated in his 33rd year (940 A. D.) states that Arunidi Kaliyan, an officer of Solaperumāṇḍigal (Parāntaka I) agreed to defray the expenses probably from the proceeds of the temple tank for feeding five brahmins and five lamps with a stipulation that the temple had to pay 18 *Ilakkāṣu*. We also learn from this inscription that one *Ilakkāṣu* fetched monthly interest of $\frac{1}{4}$ *pudukkam* and that each *Ilakkāṣu* was equal to $7\frac{1}{4}$ *pudukkam*. From the above records it is evident that Parāntaka I might have introduced this coin in his country soon after his conquest of Ceylon, also attested to by the *Tiruvīśaippa* hymns of Gaṇḍarāditya in which a reference to the conquest of Parāntaka was made.

1. *Ceylon Coins and Currency*, Codrington, p. 52.

2. *Ibid*, p. 73.

3. *ARE*, 1931, No. 106.

4. Compare : the same prince is called *pillaiyār* in *ARE*, 1931, No. 106.

5. *ARE*, 1895, No. 25.

6. *SII*, Vol. xii, Introduction, p. iv.

7. *SII*, Vol. xvii, No. 466.

8. *SII*, Vol. III, pt. iii, No. 106, p. 239.

1. *Colas*, p. 617.

2. *ARE*, 1912, Nos. 607-08.

SUNDARA CHOLA (957-73 A. D.): After Parāntaka we get the reference to this coin only in the records of Sundara Chola (Parāntaka II). These records are from Tiruviśālūr, Tiruppalātturai, Tirumeyjñanam, Tiruviḍaimarudūr and Tirukkalittattai. In an inscription from Tiruviśālūr¹ dated in the 4th year (961 A. D.), Pirāntakan Iruṅgolar *alias* Siṟiyavēlār paid 130 *Ilakkāṣu* to the assembly of Amaṇinārāyaṇa-chaturvēdimaṅgalam and got the gift lands exempted from taxes for the midday offerings in the temple. The same donor figures in another inscription² in the same year from the same place. He gives a sum of 430 *Ilakkarungasu* to the big assembly (*peruṅguri*) on behalf of the temple. From another record³ of the king (971 A. D.) we learn that Rajadichchi and Kuṇjaramalli, wife and daughter, respectively of the Siṟiyavēlār mentioned above, jointly made an endowment of 25 *Ilakkāṣu* for two perpetual lamps to the god of the temple. The chief mentioned above was the commander of the Chola king, Parāntaka II and fell fighting in the battle in Ceylon.⁴ Bālāsriyabhaṭṭaṇ Śivan-kūttan of Ādavūr, who figures in an inscription⁵ from Tiruppalātturai dated in the 5th year (961 A. D.) of the king, made an endowment of a lumpsum deposit of *Ilakkāṣu* for the maintenance of servants, for one perpetual lamp and for the midday offerings. The big assembly paid taxes on the lands in consideration of the deposit made. On a deposit of *Ilakkāṣu*, we find from an inscription at Tirumeyjñanam,⁶ the remission of taxes on the temple lands at Nallur by the village assembly in the 12th year (969 A. D.) of Sundara Chola was made. The record⁷ from Tirukkalittattai, was made by Vimaladēvarasa Vasudēvabhaṭṭaṇ Somayāji of Āraṇipuram with another individual. The Tiruviḍaimarudūr inscription⁸ of 967 A. D. records the gift of 20 *Ilakkāṣu* which was equivalent⁹ to 10 *kalaṇju*, by Poduvan Siṟraḍi, a servant

1. *SII*, Vol. XIII, No. 85, p. 40.

2. *ARE*, 1907, No. 34.

3. *SII*, Vol. XIII, No. 246.

4. *SII*, Vol. XIII, Introduction, p. v.

5. *Ibid*, No. 106.

6. *Ibid*, No. 223.

7. *Ibid*, No. 253, p. 135.

8. *Ibid*, Vol. V, No. 720.

9. The relative value of *Ilakkāṣu* and *kalaṇju* can also be seen from two inscriptions (*ARE*, 1895, No. 25 and *ARE*, 1895, No. 156).

of the queen Uḍaiyapirāṭṭiyar¹ for lamp. The *perumagarattār* of Tiruvadimarudil agreed to maintain the charity with an additional 24 *kalaṇju pon* which they received as loan (*taṇisu*) from Nidiyanirākula Brahmādarayar Āraiychchi. During the period of this king, we find that the number of coins deposited was more. Another record of this king² from Koyil Tēvarāyappēṭṭai mentions that the annual interest of 3 *kāṣu* on 20 *karuṅgāṣu* was given as prize to the best reciters of prescribed portions of *Jaiminiya-Sāmaveda*.

UTTAMA CHOLA (970-85 A. D.): One of the records³ of Uttama Chola dated in 973 A. D. says that owing to the failure to render account for the money and paddy left in charge for disbursement to Vēllālas and Brāhmaṇas, the *mahāsabhai* of Pallava-mangalam which met after a beat of drum received 25 *Ilakkāṣu* from the *karaṇattār* by selling 1½ *ma* of land in Kālipiḍāri, another *brahmadēya* village. The importance of this inscription lies in the fact that the price of one *ma* of land is 16½ *Ilakkāṣu* during Uttama-Chola's time at Pullamaṅgalam in Tanjore District.

We have an instance reported in an inscription⁴ from Tiruvilakkudi of the same king that *Ilakkāṣu* was a standard coin with which the silver vessel was weighed. The silver vessel weighing 30 *Ilakkāṣu* was the gift of Aiyan Māra Siṅgaṇ *alias* Viraśekhara Muvēndavēlāṇ, an officer⁵ of Uttama Chola, for offering sacred water to god of the temple. The phrase *Ilakkāṣu nīrai* in the inscription is noteworthy. The Tirukkalambiyūr inscription says that Āruraṇ Poṇṇambalattaḍigal, the queen of Uttama Chola, purchased 7 *ma* of *stridhana* land of a certain lady and donated it to the goddess as *tiruchchennaḍoippuṭam*. The land was made tax-free by the assembly on account of the lumpsum deposit of 60 *Ilakkaruṅgāṣu*. Here the *Ilakkaruṅgāṣu* fetched 7 *ma* of land whereas 25 *Ilakkāṣu* in another inscription⁶ fetched only 1½ *ma* of land. The purchase

1. The queen mentioned in this record figures also in a record of Parakṣari who took the head of the Pāṇḍya king as the mother of Anaimēruṇjina-dēvar. See *ARE*, 1911, No. 226.

2. *ARE*, 1923, No. 266.

3. *ARE*, 1921, No. 549.

4. *Ibid*, 1926, No. 113.

5. *SII*, Vol. XXI, No. 812.

6. *ARE*, 1921, No. 549.

value of *Ilakkāṣu* was lower than that of *Ilakkaruṅgāṣu*. So this significant difference makes us to decide that owing to the lesser value of *Ilakkāṣu* its denomination was lower than that of *Ilakkaruṅgāṣu*.

RĀJARĀJA I (985-1014 A. D.): Reference is made to this period from the 5th year to the 17th year of Rājarāja. An inscription¹ of Rājarāja dated in 990 A. D. from Kumbhakonam records an endowment of 70 *Ilakkāṣu* in gold made in the third year of Āditya II Karikāla (956-69 A. D.) by the Dēvan Kuppai of the Virasolateriṅja-Kaikkolar community. This record traces the prevalence of this coin during Āditya's period which synchronises with that of Sundara Chola. The interest from the deposit was utilised for worship of the silver image which was set up by the donor. The 15th year (1000 A. D.) record² of Rājarāja I reveals the agreement by the servants to maintain 82 evening lamps in the temple from the interest accruing on a deposit of 12 *Ilakkāṣu* which they received from Soladigal *alias* Tirunāvukkaraiyan, a merchant. The probable last reference in Chola period comes from Rājarāja I's record dated in the 17th year (1002 A. D.) from Katuttāṅgudi. This inscription³ records the sale of 4½ mā of land of the *mahā-sabhai* of the place to Kundavai, daughter of Parāntaka I for instituting a lamp in the temple, for which 81½ *Ilakkāṣu* were received by the assembly. The phrase '*vilai porutkāṣu Ilakkāṣu vāṣipadāmaich-chelluṅgāṣu*' may be noted. From this we understand that debased coins were not accepted in transactions.

We also find references to this coin in the early Chola records of kings bearing the titles such as Rājakēsari⁴ and Parakesari.⁵ As the identities of these kings are uncertain, they have not been discussed here.

Solantalaikonda VIRAPĀṆḌYA (acc. 946 A. D.): Mention of *Ilakkāṣu* is not at all found in the Pāṇḍyan inscriptions except in a couple of records of *Solantalaikonda* Virapāṇḍya. His damaged

1. *ARE*, 1911, No. 236.
2. *Ibid*, 1910, No. 330.
3. *Ibid*, 1897, No. 46.
4. *Ibid*, 1907, No. 242 and 239, No. 231.
5. *Ibid*, 1910, Nos. 44-45; 1920, No. 555; 1917, No. 443.

record¹ from Madurai dated in 4-5th year (955 A. D.) states that an officer probed into the affairs of the temple and its holdings. *Ilakkāṣu* is mentioned in this connection but the exact nature of the transaction in *Ilakkāṣu* cannot be understood from this mutilated and fragmentary record.

Another record of this king, from Suchindram² in Vatteluttu dated in 960 A. D. states that a deposit of 30 *Ilakkāṣu* was entrusted to the village assembly who invested it on lands to maintain a lamp in the sanctum out of the interest amount from the capital which remained always undisturbed. The donor is one Serantaka Pallavaraiyan *alias* Māraṇchaḍaiyan of Poliyūr.

The provenance of these records prove that *Ilakkāṣu* and *Ilakkaruṅgāṣu* were in currency from the period 931 to 1002 A. D. and that they were accepted mostly as lumpsum deposits by the village assemblies or temple authorities as the remittances and for running various services in the temple. It is significant to note that the donors were mostly queens, generals, chiefs, their families, military communities and officers. In one or two cases the donors were private individuals. The circulation of the currency was in Tanjore, South Arcot, Tiruchchirapalli and Tirunelveli districts. References to these coins are mostly found in inscriptions from the Tanjore district. This may be due to the proximity of the capital and the coast. The existence of the coin in the Pāṇḍyan localities viz., Suchindram and Madurai, may be attributed either to the conquest of Madurai by Parāntaka I which is explicit in his epithet '*Madiraiḱoṇḍa Kop-Parakēsari*,' or due to the friendly relations of Vira Pāṇḍya, the contemporary of Parāntaka I with Ceylon. It is to be noted that Parāntaka has also left behind a record at Anaimalai, i.e., in the locality of Madurai, dated in the 33rd year of his reign. The currency and popularity of this coin for more than six decades in South India indicates that it was accepted legal tender in that period. But it is not possible to arrive at a definite conclusion as to why it was adopted by the Cholas when *kalañju* and *pon* were already in use.

1. *ARE*, 1926, No. 624.
2. *JAS*, Vol. III, p. 71.

It is believed that *Ilakkāṣu* and *Ilakkaruṅgāṣu*¹ are the same. On our examination we find that there is difference between these two as regards their purchase value and denominations.

MISCELLANEA

1

A UNIQUE TINY COPPER COIN OF THE RĀJANYA GAṆA

[PL. II.]

This tiny coin was obtained by us from a friend in Akola, Vidarbha, nearly a month ago. We are grateful to him for permission to publish it.

This is a tiny coin of copper, with a diameter of .8 cm. Its weight is less than a gramme by a *ratti*, or about 13.6 grains. It has on the obverse the letters *Rajaṇa* in relief in Brāhmī, with horizontally placed indistinct sign resembling a goad below and on the reverse the figure of a humped bull facing left with a curve in front inside a circle of dots. (PL. II. 3).

The legend on the obverse shows that the coin is of the Rājanya Gaṇa. Larger coins of this Gaṇa had been obtained by Cunningham and Rawlins, but the legend was at first read as *rājñah* meaning 'of a king' and the coins were ascribed to some king. Later, the legend was taken to mean *Rājanya*. The complete legend *Rajaṇa-janapadasa* was understood to denote that the coins belonged to some country of the Kshatriyas.¹ The latter were identified with the *Kathai* of the Classical writers. As Cunningham obtained these coins from Mathurā and the surrounding region, this country was supposed to be some part of eastern Rajputana. K. P. Jaiswal, however, pointed out that the coins belonged to the Rājanya Gaṇa.

The coins found till now were of a much larger size, ranging from .65" to .8" in diameter and weighing from 45 to 121 grains. They had the legend *Rajaṇa-janapadasa* in Kharoshthi or Brāhmī, round the figure of a deity with a lotus in hand (identified usually with Lakshmi) on the obverse, and the figure of a bull in a rayed circle on the reverse.² The present coin is considerably smaller.

1. V. Smith, *Catalogue of Coins in the Indian Museum*, Vol. I, p. 164.

2. Allan, *CAI*, p. cxxii.

For want of space the figure of the deity has been omitted from its obverse, which shows only three *aksharas*, boldly executed. The figure of the humped bull on the reverse is beautifully formed, much better than on most ancient coins. This is the first time that a coin of such a small size and weight has been found. This makes it a unique discovery.

The coins of the Rājanya Gaṇa have the legend either in Kharoshthī or in Brāhmī. Those with the Kharoshthī legend are referred to the second century B. C. and others with the Brāhmī legend to the first century B. C.¹ The present coin, which has the legend in the Brāhmī characters thus dates back to the first century B. C. Though more than two thousand years old, the present coin is in an excellent state of preservation. It does not bear the slightest rust.

The Rājanya Gaṇa was one of the oldest Indian Gaṇas. Pāṇini mentions it in his *sūtra* 4.2.53. He tells us that *Rājanya* and other words of that group take the affix *vuñ(aka)* in the sense of the country inhabited by the particular tribe.² The country inhabited by the Rājanyas was known as *Rājanyaka*. Cunningham, who obtained many coins of this Gaṇa from Mathurā and the surrounding region, thought that the country comprised the eastern parts of Rājputāna; but many coins were obtained by Rawlins from the Hoshiarpur region. It seems that the original country of the Rājanya Gaṇa was in the Doab of the Beas and Sutlaj. Later, the people may have moved southward to the Mathurā region.

The early coins of the Rājanya Gaṇa, like those of other ancient Indians, must have been punch-marked. The Rājanyas had to submit for a while to the Greeks, but after the downfall of the latter they declared their independence and began to issue coins in the name of their *janapada*. The Brāhmī characters of the legend on the present coin show that it is one of the early coins of that Gaṇa.

It may look surprising that a coin of such a northern region as Hoshiarpur should be found in a place of Vidarbha in the

1. *Loc. cit.*

2. Elsewhere (6. 2. 34) Pāṇini uses *rājanya* in the sense of a Kshatriya of a consecrated family.

Deccan, but coins, like copper-plate grants, are often found far away from their original places. A notable instance of the latter is the set of plates of the Early Chālukya King Vinayāditya, dated Śaka 617, recording a grant of land in Chemulya (Chaul in the Kolābā district of North Koṅkan), which was found at Pātodā in the Panjab.

The present coin, though tiny in size, is not however, the smallest Indian coin so far known; for smaller coins, .2 inch in diameter and weighing 1.7 grains, belonging to the Mālava gaṇa, have been listed by Vincent Smith and others. About them Vincent Smith remarks, "It is very difficult to understand how such a coinage can have been used as it was used for centuries."¹

V. V. MIRASHI & BRAHMANANDA DESPANDE

2

A CLAY SEALING FROM SUNET

[Pl. II.]

I obtained this sealing from Sunet.⁴ This is oval in shape and 1.2" × .9" in size. It contains an elephant to right with slightly upraised trunk in the upper half and single line legend below in lined border. The writing runs as follows : —

Sri-r-Indra-Guptasya

(Pl. II. 4)

The characters belong to the Northern variety of Gupta alphabet ascribable to the fifth century A. D. Because of the absence of any royal title it can safely be presumed to have belonged to a private individual.

From its representation on the coins it can be safely surmised that elephant was a venerable animal of the Yaudheyas. We know

1. The photograph of this coin (Pl. II. no. 3) is enlarged more than four fold.
2. I am thankful to my friend Shri Ganga Ram Soni (Sardarshah) for the photograph of this sealing.

that Sunet was a stronghold of the Yaudheyas after the extirpation of the Kushāṇas. The Yaudheyas had accepted the suzerainty of the Guptas but were otherwise autonomous. The present sealing bears the figure of the elephant. The sealing with the name Śrī-Kri (?) guptasya found from Sunet earlier probably also bore the figure of the elephant.¹ We may, therefore, conclude that these sealings belonged to the Yaudheya denizens of Sunet and that the name-ending 'Gupta' was quite popular with them during the Gupta period as indicated by some other seals also, e. g., Śrī-Hariguptasya,² Śrī-r-Guptasya³ etc.

DEVENDRA HANDA

3

A RELIGIOUS SEALING FROM PAUNAR

A. M. Shastri published a sealing discovered at Paunār.⁴ The same sealing was discussed by S. B. Deo and M. K. Dhawlikar.⁵ They differ with each other on the paleography and measurements of the sealing.

Though they read the inscription, as '*nama Purushottama*' there is little controversy in the starting place of the legend. Shastri read it '*nama Purushotama*' beginning at XI, from left to right. Deo and Dhawlikar read it '*Nama-Purushottama*' and in their opinion the legend starts at VIII and runs anti-clockwise, which is given below :

tta ma sho ru Pu na ma.

1. *JNSI*, XX, p. 69 Pl. IX. 4. The figure is worn out and Prof. Jagannath Agrawal thought it to be garuḍa, probably because of the name ending in Gupta and the sealing belonging to the Gupta period. To me, however, it seems to be quite similar to the figure on the present seal.
2. *APR*, Pb. Circle, 1905, p. 40.
3. *JNSI*, XXVII, op. cit.
4. *JNSI*, XXX, 215 ff, pl. XIII(5).
5. *NUJ*, XVIII, No. 3 & 4, p. 214 ff. pl. XIX(a), *Report of Paunar Excavation 1967*—S. B. Deo and M. K. Dhawlikar, Page. 14 f., pl. XIX.

The *aksharas* are of Kushāṇa-Sātavāhana period (2nd Cent. A. D.). The authors agree at this. The form of '*na*', '*ta*', '*sha*' and '*ra*' *aksharas* of this period are little different from those of Aśokan Brāhmī. Special attention should be paid at the form of alphabet '*na*'. The Aśokan '*na*' (𑀭) gets little change and

becomes (𑀮). Deo & Dhawlikar has not considered this and, therefore, they have read '*ta*' (𑀮) as '*na*' (𑀭) and '*na*' (𑀮) as

'*tta*.' This is due to '*ta*' which is doubled in *Purushottama*. They, therefore, considered '*ta*' as '*na*' which can be read in this manner by turning it to the left. But the major mistake on part of Deo & Dhawlikar has been committed in deciphering '*pu*' and '*sho*.' These are interchanged. It is quite clear that '*pu*' is the first letter in the middle line and '*sho*' is the last. The medial sign '*u*' is inscribed in rectangular form in '*pu*' and '*ru*' both. This helps in identifying '*pu*.' Therefore, the reading given by A. M. Shastri is more correct than that of Deo & Dhawlikar.

Thus the legend of this sealing begins at XI and reads '*Nama Purushota(tta)ma*.'

Shastri measures the sealing 9.5×7 cm. while Deo and Dhawlikar measure it 8.4×7 cm.

Comparing the length and the breadth of the sealing in all the illustrations, I found that the measurements given by Shastri is correct.

YADAO R. GUJAR

4

SEALS OF DHANABHŪTI, VADHAPĀLA, DHANABHŪTI (II)
AND
HASTIPĀLA
[Pls. I & II.]

1. Dhanabhūti

A clay seal from Kauśāmbī bearing a *svastika* and another symbol—'a combination of *Indradhvaja* and taurine'—and the legend

1. In Foot note of page 216 (*JNSI*, XXX) Shri A. M. Shastri has given the details.

Dhanabhūti in Brāhmī characters of *circa* first century B. C. has been recently published by Bajpai.¹ On the basis of close similarity between the letters on the seal and the epigraphs from Bharhut² mentioning one Dhanabhūti, Bajpai takes them to be identical.³

2. Vadhapāla

A sealing from Kauśāmbi⁴ bears four symbols—*svastika*, *nandipada*, *Indradhvaja* and a curious one which cannot be easily ascertained—and the legend which has been read as *Hathipalasa*,⁵ but is, in fact, *Vadhapāla*. *Vadhapāla* of the sealing seems to be identical with his homonym who was son of Dhanabhūti (identifiable with one referred to above), according to the evidence of inscriptions.⁶

3. Dhanabhūti II

A Rajghat sealing housed in the Department of Ancient Indian History, Culture and Archaeology, Hindu University, Varanasi, bears the legend *Dhanabh(ū)tisa* together with a *śaṅkha* and a *svastika* in compartments (Pl. II. 5). The characters are of a type which are slightly later than those on the seal of the homonym discussed above. A Dhanabhūti whose son and grandson were Vadhapāla and Dhanabhūti II respectively, is known from a Mathura inscription, as restored.⁷ The present sealing may have belonged to Dhanabhūti II. From the epigraph,⁸ we get the following genealogy:

1. *JNSI*, XXVI, p. 5; *ibid.*, XXVII, p. 188, pl. III. 6.
2. Barua and Sinha, *Barhut Inscriptions*, pp. 30-31; *Sel. Ins.*, p. 87.
3. *JNSI*, XXVII, p. 188.
4. *JNSI*, XXVIII, pp. 44-45 and pl. II. 11.
5. *Ibid.*, p. 44, pl. II. 11.
6. Cunningham, *Stūpa of Bharhut*, p. 142, no. 54; Barua and Sinha, *Barhut Inscriptions*, pp. 30-31; cf. also the evidence of a Mathura inscription, Cunningham, *Stūpa of Bharhut*, p. 130.
7. Cunningham, *Stūpa of Bharhut*, p. 130.
8. Barua and Sinha, *Barhut Inscriptions*, pp. 1-3, 30-30; Cunningham, *Stūpa of Bharhut*, pp. 16, 130 and 142 (no. 54).

= Gārgi
|
Viśvadeva = Gaup̄ti
|
Āgaraju¹ = Vatsi
|
Dhanabhūti I
|
Vadhapāla
|
Dhanabhūti II

4. Hastipāla

An ivory seal from Kauśāmbi having *svastika* as device bears the legend read as *Vaṃgapalasa*.² *Vaṃgapāla* was identified with a homonymous ruler known from the Pabhosa inscription³ and also with a king of the same name known from coins.⁴ The legend on the seal should be read as *Hathipalasa* (Pl. I. 3). There is a coin in the Allahabad Museum with a legend read as *Hathiparasa* and the possibility of its being read as *Hathipalasa* has been stated.⁵ If the latter suggestion be accepted, *Hastipāla* of the seal and that of the coin may be identical. On grounds of provenance and palaeography and name-ending, it is tempting to suggest that *Hastipāla* of the seal might have been related to *Vadhapāla* referred to above.

Since the seals of Dhanabhūti and *Hastipāla* and the sealing of *Vadhapāla* have been found at Kauśāmbi, these seem to have been the rulers of that place, Bharhut being within their kingdom.⁷ The find of a single sealing of Dhanabhūti (identifiable with

1. This form, Prof. Bajpai points out, is met with as legend on coins (*Kavirāja Abhinandana grantha*, p. 375). It has been variously rendered as *Agrarāja*, *Aṅgāradyut* (*Sel. Ins.*, p. 88) and *Aṅgarāja* (*Kavirāja Abhinandana grantha*, pp. 374-75).
2. *JNSI*, XXIV, p. 136; *ibid.*, XXV, p. 101.
3. *Ibid.*, XXIV, p. 136.
4. *Ibid.* This was, however, doubted and it was suggested that palaeographically the seal is later than the coins. (*ibid.*, XXV, p. 101).
5. *Ibid.*, XXIV, p. 20.
6. *Ibid.*, XXV, p. 103.
7. cf. also *ibid.*, XXVII, p. 188.

Dhanabhūti II) at Rajghat may or may not suggest his rule over that¹ region.²

K. K. THAPLYAL

5

**DID TORAMĀṆA CONQUER GANGETIC VALLEY?—
EVIDENCE OF A KAUSĀMBI SEALING RE-EXAMINED**

It has been opined by a learned scholar³ that it was Mihirakula and not Toramāṇa who conquered the Gangetic valley and that the Kauśāmbi sealing bearing the legend *Toramāṇa* was carried to Kauśāmbi from somewhere else and, therefore, should not be taken as evidence of Toramāṇa's conquest of that region.

It is, however, extremely difficult to agree with this suggestion. Seals and sealings, no doubt, can be carried to long distances, but the present sealing is different from the normal type. The legend, *Toramāṇa*, is impressed on the same lump on which is also impressed the seal of the Ghoshitārāma monastery; in fact, the first impression was struck over the second.⁴ Both the impressions on the lump were evidently made at the same time or within a very short period when the day was still moist. The seal of the Ghoshitārāma monastery was undoubtedly struck at Kauśāmbi where the said monastery was located,⁵ and hence the second should also have

1. For facilities of study and for photographs we place on record our gratefulness to Dr. A. K. Narain, Professor and Head of the Department of Ancient Indian History, Culture and Archaeology, Hindu University, Varanasi And Director Rajghat Excavations and to Dr. S. C. Kala, Director, Allahabad Museum.

2. Another article by T. P. Verma on these rulers is included in this Journal

—Chief Editor

3. S. Chattopadhyaya, *Early History of North India*, (c. 200 B. C.—A. D. 650), 2nd ed., Calcutta, 1968, p. 334, Appendix 1.

4. G. R. Sharma in *Annual Bibliography of Indian Archaeology*, XVI, pp. XLIV-XLV.

5. The Ghoshitārāma monastery was founded by Śreṣṭhi Ghoshita and named after him. It has been discovered in the south-western corner of Kauśāmbi (Sharma, G. R., in *Annual Bibliography of Indian Archaeology*, XVI, p. XLI) and the location tallies with the description of Hiuen-tsang (Beal, *Si-yu-ki, Buddhist Records of the Western World*, I, p. 236).

been struck at the same place and before the clay lump (on which the impressions have been made) dried. The sealing, therefore, did not come from outside, but originated at Kauśāmbi itself, which lends support to the view that the region of Kauśāmbi was under the rule of Toramāṇa.

The counterstriking on the Ghoshitārāma monastery seal-impression seems to have been done with a view to show the authority of Toramāṇa also over the religious institutions.

K. K. THAPLYAL

6

**PALLAVA COINS AT KĀNCHI
[Pl. III]**

In spite of the discovery of numerous hoards of coins in different parts of the Tamil country from time to time there are still many blanks in the history of South Indian numismatics. The early periods of the Chola and the Pallava history suffer from the dearth of numismatic evidence though some finds in recent years have thrown some welcome light. The discovery of the square copper coins in the excavations of Kaveripumpattinam (Thanjavur District), for instance, has given us a glimpse into the coinage of the Early Cholas.¹ These coins bear on one side the redoubtable tiger, the royal crest of the Cholas with an uplifted tail and a majestic elephant on the other. The elephant was accepted by many ruling dynasties like the Sātavāhanas, the Pāṇḍyas and others as a symbol of royal might. These coins were obtained in a level datable to not later than the second century A. D., when the early Chola power was at its height at Kaveripumpattinam. Similar square or rectangular coins of the Pāṇḍyas or probably of the same period have been found in the Vaigai bed at Madurai and elsewhere in the Pāṇḍyan country. They bear on one side their crest, viz., the double-fish and on the other an elephant surrounded by the

1. *Indian Archaeology: A Review 1961-62*, plate XLV—A.

ashtamaṅgas or the eight auspicious symbols. The recent important discovery of the coins of the Chengam hoards with early Tamil script has further widened our horizon in this sphere.

But curiously, for the subsequent period, i. e., the Pallava epoch, not even this scrappy information had so far been available. The Pallavas were one of the major ruling dynasties of the Tamil country who held sway for well over five centuries from fourth to ninth century A. D. While almost all of their religious edifices and many of their admirable copper plate charters have come down to us, we know, next to nothing, about the coins issued by them. Long back, Vincent Smith published one coin in his well-known book *"The Oxford History of India"*¹ and suggested that it might be that of the Pallavas as it bears a maned lion on one side and a *ghaṭa* flanked by two lamp stands. But it has since been proved to be that of the Vishnukundins with the help of the legend on it.² So, at present, there is practically not a single coin which can truly be identified as that of the Pallavas.

But, in the recent excavations done at Kāñchi by the Southern Circle of the Archaeological Survey of India, some eight lead coins have been unearthed which appear to be those of the early Pallavas.³ They were found about 10 or 12 feet below the present ground level in the strata that are posterior to the layers which yielded the Sātavāhana coins. For the first time, coins belonging to the Sātavāhanas and the later periods, were found at Kāñchi in well-stratified position. The Sātavāhana coins are of copper and they are very much corroded. Only the elephant emblem on one side and the Ujjain symbol on the other are visible. One coin, however, bears the unmistakable legend '*Rudra-Satak*' or Rudra Sātakarṇi, one of the last of the Sātavāhana monarchs who ruled in the beginning of the third century A. D. The presence of the Sātavāhana coins in the contemporary layers at Kāñchi goes to confirm the already prevalent opinion among scholars that the Sātavāhana empire extended up to the Tondamandalam region. The Pallavas

were feudatories of the Sātavāhanas who were first in charge of the south-eastern portion of the empire, just as the Abhiras were in charge of the north-west, or the Ikshvakus were in charge of the Andhra region. After the fall of the Sātavāhana empire, the feudatory powers became independent rulers at Kāñchi from about the beginning of the fourth century A. D. and issued their copper plate charters. Stratigraphically, the eight lead coins (Pl. III, nos. 12-16)¹ mentioned above are found in a deposit that is later than the Sātavāhana period and that falls well within the duration of the Pallava rule. Secondly, the use of the soft metal-lead as the material for marking coins was in keeping with the practice of the times. The coins of the Vishnukundins and the Ikshvakus are also made of lead. Therefore, it is not unlikely that the Pallava coins, at least the earlier series, should also have been made of lead.

The third significant point in these coins is the depiction of the bull on one side. It is well known that the Pallavas had the *Rishabha* or the bull as their royal crest just as the Cholas had the tiger and the Pandyas had the fish. Their predilection in portraying the bull in all their seals attached to the copper plates and also in the sculpture is too well known.

The style of the bull on the coins agrees admirably with that found on their seals too.² Unfortunately, the coins are completely obliterated, and no legends are visible; but the bull standing and facing to its left in all the coins is quite clear. The bull is placed within a dotted circle. There is a small symbol like the *Śrivatsa* or the *Nandipada* over the bull just as the one found in the Pallava seals.

So, taking into account all these circumstantial evidences viz., the presence of the coins in the post-Sātavāhana layers, the use of lead as the material for the coinage and the imprinting of the *Rishabha*, which was the *lāñchhana* of the Pallavas, may enable us to identify these coins at least tentatively as those of the Pallavas and in all likelihood belonging to the fifth or sixth century A. D.

K. V. RAMAN

1. V. Smith, *The Oxford History of India*, p. 207.
2. R. Subrahmanyam, *The Tundi Copper Plate Grant of Vishnukundin King Vikramendravarman* (1962), p. 45-46.
3. *Indian Archaeology—A Review 1962-63*, p. 12, pl. XXXIX-B.

1. Only five coins are illustrated here; the rest three are highly defaced. — Editor
2. For instance compare the seal of the Pallankoil copper plate illustrated by T. N. Subramaniam in *Transactions of the Archaeological Society of South India*.

AN UNIQUE COIN OF SHĀH ĀLAM II

[Pl. IV]

The Mughal authority decayed considerably after Aurangzeb and many states became almost independent during the anarchy that followed his death. It is well known that a large number of coins were issued in the name of Shāh Ālam II by one or other of these numerous quasi-independent states.¹ The reason for this is stated to be 'the prestige which lingered round the tottering monarchy that its supplanters preferred, by recording the name of the sovereign of Delhi on their coins, to retain the semblance of suzerainty which such an issue of coinage implied.'² Though such coins were issued by various authorities, yet Lane Poole has classed them as Shāh Ālam's coins as long as they show the Emperor's name and so long as their dates tally with his reign.³

Recently, I have come across an unique coin⁴ which can be assigned to Shāh Ālam II on the grounds stated above. The description of the coin is as below :

AR; Round; Size, 1.1"; Thickness, 0.1"; Weight, 12.3 gms.

Obv. :

الله حامی دین محمد
سایه نعل شاه عالم بادشاه
سکه

۱۲۰۲

زمرہ شاہ عالم

Rev. : Four-handed Vishṇu wearing Kiriṭa-mukuta, necklace and Vaijayanti, reclining on the coil-bed of five-hooded Ādi Śeṣha; Lakṣmī shampooing his legs; three-faced Brahmā with four hands seated on a lotus

1. S. Lane Poole, *BMC* (Moghul Emperors), Introduction, p. Cvii.
2. H. Nelson Wright, *IMC* (Moghul Emperors), Vol. III, Part I, (Oxford 1908), Preface, p. v.
3. Lane Poole, Loc-cit. cf. Nelson Wright, op. cit., p. vi.
4. I am thankful to Shri Babhut Mal Dugar of Sardarshahr (Raj.) for bringing this coin to my notice and allowing me to write on it.

flower whose stalk issues forth from Vishṇu's navel; the words *Śrī* and *Nārāyaṇa* in Devanāgarī script along the border spaced by Brahmā's head; a flower on right and a floral design on left—all in a double-lined circle with a row of dots between.

(Pl. IV. 1)

The present coin, a silver rupee, with Shāh Ālam's legend and date 1202 A. H. 1787-88 A. D.) on the obverse cannot be said to have been issued by Shāh Ālam himself as all the coins issued by him invariably show on the reverse his regnal year and/or the name of the mint from which they were issued. All the known specimens of coins issued by various authorities in the name of Shāh Ālam II also show on the reverse his regnal year, the name of the mint and the symbol or mark of the issuing authority.

The absence of the name or mark of the issuing authority and the mint render the identification of the present coin impossible. It, however, seems to be almost certain that it was issued by some Hindu State when Shāh Ālam was ruling over his small territory around Delhi.

[While Handa deserves our thanks for bringing this piece into light, it may be pointed out that this is not an issue of any Hindu State as a coin. The Shāh Ālam's coins were struck till quite recent by the silver smiths for the purpose of necklaces. This piece belongs to the same class. Here the striker has given it a new form by adding a new but well known Hindu religious motif. P. L. G.]

DEVENDRA HANDA

INDEPENDENCE DAY AND OTHER COMMEMORATIVE MEDALS

[Pl. IV]

First Vidya Prakash published a note on an 'Azad Hind Token'.¹ Then some more similar tokens were brought to our

1. *JNSI*, XXX, pp. 91-92

notice by D. M. Phatak¹ and Deenbandhu Pandey.² Phatak, though captioned his note as 'Azad Hind Token', but rightly rejected the term 'token' for the pieces and preferred to call them 'Commemorative Medals.'³

While studying the coins of Shri Babhut Mal Dugar's collection at Sardarshahr (Rajasthan), I found all the types of the commemorative medals so far published except the one described by Pandey.

Shri Dugar's collection, contains a silver medal besides two bronze pieces similar to No. 2 of Phatak, the round medal having on the obverse Mahatma Gandhi's bust to left with the words '*mahātmā jī*' in Devanāgarī script on the top and '*Rāshṭra Pītā*' below along the border and reverse having outline map of India within a beaded circle with words '*Āzād Hind*' in Devanāgarī script superimposed across the map at the top and the date '*15 August 1947*' also in Devanāgarī below the map along the beaded circle. The weight of this silver medal is 11.608 gms. and its thickness is 0.25 cm.

Other unpublished Commemorative Medals in Shri Dugar's collection are as follows :

1. Bronze; Round; Diam. 2.2 cm.; Thick 0.1 cm.; Weight 4.3 gms.

Obv. : Bhagat Singh's bust facing with his typical felt and bush-shirt, placed over a four-petalled lotus flower in a beaded circle. The words '*Sardār Bhagat Simha*' in Devanāgarī script written along the border around the head.

Rev. : Two flags flying right and left with their poles cutting across and tied together. '*Vande Mātarama*' in Devanāgarī script in two lines and a small map of India below it all placed in the space between the poles of the flags above the point of their junction; '*Svatamitra*' and '*Bhārata*', also in Devanāgarī

1969]

characters, on either side of the junction of the poles below the flags. Along the border are the letters '*B. R.*' between the lower ends of the flag poles.

(Pl. IV. 2)

This medal seems to have been issued in 1932 to commemorate the death anniversary of the martyr Bhagat Singh and the letters '*BR*' is perhaps the initials of the name of person or the firm who got these medals minted.

2. Bronze; Round; Diam. 2.2 cm.; Thick 0.1 cm.; Weight 4.9 gms.

Obv. : Mahatma Gandhi squatting on a mat with legs turned back; the right arm stretched down, resting on the mat; the left hand upraised, reaching at the chin '*Mahātmā Gāndhī*' at the top in Devanāgarī script, on either side of the figure.

Rev. : Same as in No. 1 above. (Pl. IV. 3)

The same reverse as of medal No. 1 with the initials '*BR*' indicates that this medal too was issued by the same agency that issued the Bhagat Singh's commemorative medal.

3. Bronze; Round; Diam. 2.5 cm.; Thick 0.18 cm.; Weight 6.3 grams.

Obv. : Within a circle Mahatma Gandhi squatting slightly to left on a semi-circular mat with both hands resting on the legs and folded. '*Vande Mātarama*' (Salutation to the mother-land) in Devanāgarī script at the top on either side of the head. A quadrilateral object (book?) with superscribed '*G. S.*' is placed before him.

Rev. : Within a circle a rough outline map of India with *charkhā* in the centre. '*Made in India*' written at the top and letters '*G. S.*' at the lowest end of the map along the border. (Pl. IV. 4)

The initials '*G. S.*' like the '*B. R.*' on nos. 1 and 2 represent in all likelihood the name of the person or the firm who issued these medals.

1. *JNSI*, XXX, pp. 236-7.

2. *Ibid*, pp. 237-8.

3. *Ibid*, pp. 237-7. cf. Pandey, loc. cit.

192 JOURNAL OF THE NUMISMATIC SOCIETY OF INDIA [Vol. XXXI]

4. Bronze : Round; Diam. 3.6 cm.; Thick 0.25 cm.; Weight 19.5 grams vertically milled.

Obv. : Within a beaded circle, smiling bust of Mahatma Gandhi facing left; 'Superman' written over the head; a (female) hand with wristlet holding a spindle (*takali*) and another (female) hands with wristlet holding a five-lamped (*pañcha-sikhi*) worshipping vessel, are placed respectively on the right and the left of the figure. In the lower half, below these hands and the bust is written in Devanāgarī characters 'Rāshṭra Deva' (The National god) and Pū. Mahātmā Ji (The Venerable Saint) spaced by a hand supporting a lamp towards right and a stalk with flower on either side.

Rev. : Within a beaded circle, a map of India with the superscribed figure of Mahatma Gandhi with a incused halo walking to left with the stick in his right hand. The map is also superscribed horizontally with the words 'Gāndhī is India' in an incuse. Near the right hand top of the map is shown a flag with Charkhā (Congress Party Flag). In the space representing Bay of Bengal is the figure 75. Above 'Ahimsā hi merā prāṇa hai (Non-violence is my life); below 'Satya hi Kṛvā hai' (Truth is God) flanked above by a flower and below by a lamp (*deep*) on either side; to left 'Prema' (love) and to right 'Sevā (service). (Pl. IV. 5.)

The figure 75 on the reverse most probably indicates that the medal was issued on the 75 birth anniversary of Mahatma Gandhi.

5. Bronze; Round; Diam. 3.2 cm.; Thick 0.2 cm.; Weight 12.4 gms.

Obv. : Within a beaded circle bust of Netaji (Subhash Chandra Bose) wearing cap; legend 'Netaji above Subhās Chandra Bose' below. In between, on either side hands with bangles holding stalks with a flower.

Rev. : Within a beaded circle, map of India with the figure of Capt. Laxmi saluting with the superscribed

horizontal legend 'Jai' and 'Hind' on her either side in incuse over the map. A congress party flag is shown on the right hand top of the map (as on No. 4); to the left and right of the map a hand holding a torch-the symbol of the revolution; above 'Kadama Kadama Badhāye jā' (March on step by step) in Devanāgarī script; below 'Capt. Laxmi' in English. (Pl. IV. 6)

The token is perforated at the top. It seems to have been circulated amongst the soldiers of the Azad Hind Force to commemorate some achievement of the Force some time in the mid-forties.

DEVENDRA HANDA

TECHNICAL SECTION

A METALLURGICAL VIEW OF SOME EARLY INDIAN COPPER COINS

H. C. BHARDWAJ* AND SOMNATH MISRA†
[Pls. V, VI & VII]

Introduction

Early copper coinage, including punch-marked coins, diestruck coins, uninscribed and inscribed cast coins have been studied from the orthodox points of view. Cunningham, Smith, Allen and others have made exhaustive studies of these coins pertaining to their geographical distribution, chronology, issuing authority, archaeological and palaeographic implications and political history etc.

The metallurgical and technological aspects of the early copper coins have not been so far investigated systematically. The present paper reports the metallurgical studies of some of the early copper coins of the Indian sub-continent. This is part of a larger programme of metallurgical investigations of early Indian metallic objects and artifacts jointly conducted by the Archaeological laboratories of the Department of Ancient Indian History, Culture and Archaeology and the Department of Metallurgy both of the Banaras Hindu University. A metallurgical view of early Indian silver coinage was presented by the authors in 1968.¹

Historical background of copper metallurgy and coinage

Indus valley people had mastered the metallurgy of copper around 2350 B. C. They made commercial pure copper (99% Cu), and copper-rich alloys with tin, lead, arsenic and even nickel. Although it is unlikely that the alloy components were added in the elemental forms, yet the presence in significant amounts of the alloying elements such as 2-26% tin, 2-7% arsenic, 1-15% lead, 1-10%

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1. H. C. Bhardwaj and S. Misra, *JNSI*, Vol. XXX, (1968), Technical Section, Dr. Richard Bertram Whitehead Commemoration Volume, pp. 241-251

nickel, in various copper base materials testifies to the fact that these were deliberate additions. Both forging and casting techniques of fabrication of materials were developed. The Indus valley civilisation had even developed a system of weights, but no system of coinage had yet emerged.

The earliest copper coinage in India is presented by the Punch Marked Coins (P. M. C.) which are contemporary to the silver P. M. C. and can be dated circa 500 B. C. These P. M. C. coins are followed by the so called local or tribal coins. The latter are clearly distinguished from the P. M. C. due to the difference in mode of fabrication, shape, legend, type and even the principal metal content. The local coins have been issued by different rulers and have been reported from various sites such as Taxila, Eran, Mathura, Kanauj, Kausambi, Ayodhya etc. By contrast the P. M. C. represent the imperial coins of the Nandas and the Mauryas.

Scope of this study

Since coins may be good representatives of the contemporary metallurgy prevalent in a particular geographical region from which they hail, their chemical analysis and metallographic studies could supply valuable information about the metal technology of the period. Study of the impurity pattern and presence of certain key elements could throw light on the probable sources of ores used for obtaining the metal.

Chemical analysis would directly tell us the metal content of the coin, the principal metal and alloying elements. The impurities present could be significant in revealing the metallurgical processes of extraction of the principal metal, the furnaces and other equipments and attainable temperature of operation.

The metallographic examination of the coins reveals the micro-constituents and thereby the processes of smelting, casting, fabrication, processing, heat treatment, stamping, embossing, die-striking and other metallurgical details. The hardness measurement of the coins can also supplement information about metallurgical processing and fabrication. The Macro-examination of the superficial features of the coins informs about the perfection of finishing operations.

In the present investigation five copper based coins-2 from Taxila and 1 each from Varanasi (Rajghat Excavation), Ayodhya and Mathura have been studied. They belong to the period from 4th century B. C. to 2nd century A. D.

Provenance and attributes

Table I gives the archaeological and surface attributes and provenance of the coins. Pl. V. 1 to 5 shows the photographs of the obverse and reverse sides of the coins.

Experimental procedure

Chemical Analysis

A small portion of each coin (0.1 g) was clipped and chemically cleaned to remove any accretion, washed in distilled water and finally dried at 110°C. It was dissolved in nitric acid. The residue (hydrated tin oxide, silica etc.) was filtered off. To determine the net amount of SnO_2 , the residue was ignited with NH_4I to volatilise SnO_2 by Caley's method. The residue still left was reported as insolubles and difference as SnO_2 . Lead was estimated as PbSO_4 , copper as cuprous thiocyanate, iron as Fe_2O_3 , sulphur as barium sulphate, and nickel as dimethylglyoxime complex. Arsenic was tested by Marsh test.

Metallographic examination

The macrofeatures such as surface finish, perfection of coining and presence of cracks etc. were observed. The representative parts of the coins were mounted in bakelite at a maximum temperature of 150°C and a maximum load of half a ton. The mounted coins were then ground on successively finer grades of emery paper and polished with alumina powder. Final polishing was done by hand on chamois leather using brasso.

The polished surfaces were examined under a metallurgical microscope to reveal the presence of non-metallic inclusions. Then the surfaces were suitably etched with Merica's reagent¹. The etched surfaces were examined under a Leitz Panphot metallograph.

Hardness Measurement

The coins were indented under a diamond pyramid indenter

under a 5 kg. load. The Vicker's Hardness Numbers (V. H. N.) were obtained as averages of 10 readings on each sample.

Results

The chemical analysis, hardness values and characteristics of microstructures etc. are presented in Table II. The photomicrographs are given in (Pls. V, VI & VII).

Discussions

Chemical Analysis

The presence of small amounts of sulphur in all the coins indicates that the copper must have been extracted from a sulphide ore. The simultaneous presence of iron also leads to the conclusion that the ore must have been chalcopyrite. This is in agreement with the similar conclusion drawn from analysis of other copper objects of those periods. It has been established that extraction of copper from native copper and richer desulphurised copper ores was exhausted long before the Indus valley civilisation, and the sulphide ores were the only raw materials left for copper extraction.¹ The pyrometallurgical extraction of copper from sulphide ores was well established then.

Copper extracted from North Indian sulphide ores are known to inherit invariably small amounts of nickel. The absence of this key element in the Taxila and Ayodhya coins indicates that copper used for these coins may not be indigenous. Since the period of these coins coincides with the Greek conquest and influence, it is possible that the copper could have been obtained through trade from foreign sources. In that event Taxila and Ayodhya could have been important trade centres.

The significant quantity (7.83%) of tin in the Varanasi coin must have been an intentional alloying addition. The other oxides and insolubles such as CaO , MgO , SiO_2 etc. must be due to the entrapped slag particles inherited from the fluxing and slagging operations. Some amount of Cu_2O must also have formed due to oxidation of the molten metal and precipitated during subsequent cooling.² The small traces of lead and arsenic must have been

1. Nitric acid (70 percent).....50 c.c.
- Acetic acid (50 percent).....50 c.c.

1. H. C. Bhardwaj, *Bharati*, No. 9, Pt. II, 1965-1966, pp. 57-80.
2. Joseph Newton, "Extractive Metallurgy", 1963, (Wiley), pp. 226-227.

inherited from the corresponding sulphide contamination of the parent chalcopyrites.

Microstructure

The earliest coin of the group, i. e., the Rajghat coin, is a cast product as evident from both the macro—and micro-structures (Table II). The composition corresponds roughly to a basis of phosphor bronze, but the full utility of tin addition e. g., increased hardness and strength with sufficient ductility for cold working has not been realised. The only beneficial effect that has been taken advantage of is the lowering of melting temperature (down to 950°C) and increased fluidity for ease of casting.

The presence of coarse grains with segregation, the dendritic structure and the grain boundary net work of low melting constituents indicates that the melt was cast in sand or clay moulds where cooling was low. The presence of the low melting grain boundary network is usually responsible for the hot shortness of phosphor bronzes. The brittle and nonadhering network also explains the unusually low hardness of this coin (Pl. V. 6).

Taxila coin No. 1 (Pl. VI. 1) also reveals a cast structure. The amount of spherical and irregular inclusions is significant and must be entrapped particles of silicate slags. The size of grains are smaller than in Rajghat coin and the cooling of the casting must have been more rapid. This may account for some of the interconnected cracks in the coin.

By contrast Taxila coin No. 2 (Pl. VI. 2) has no evidence of casting defects. The presence of elongated streaks of slag particles along with equiaxed grains in the matrix indicates that a cast product has been hot worked. This elongated the microconstituent, but the lower melting metallic constituents recrystallised at the higher working temperature. The hot work, however, must have been continued severely down to cold work range accounting for the generation of cracks (Pl. VI. 2). Eventually, the product was annealed at a temperature low enough to recrystallize the matrix without affecting the elongated slag streaks.

The microstructure of the Mathura coin is qualitatively similar to that of the latter Taxila coin (No. 2) but the former shows slightly less elongated and therefore thicker slag streaks.

The amount of hot work is therefore less. The subsequent cold work is also less severe and is consistent with inferior coining or embossing, and absence of cracks. (Pl. VII. 2)

The Ayodhya coin (Pl. VII. 1) also exhibits a cast structure and shows cored dendrites. The inclusions in this case are, however, not slag particles but Cu_2O particles. These must have originated from the high amount of oxygen in the melt. Edges of the coin must have cooled down rapidly generating the side cracks.

Conclusions

The technology of copper coin making shows a chronological trend of improvement although the coins come from different sources. A similar trend was detected in the case of silver coins.

The earliest copper base coins were obtained by casting a melt on a flat substrate. There is very little post fabrication or treatment. At this time the techniques of alloying the melt to improve fluidity was well known. The surface attributes were obtained by incorporating the corresponding design on the mould surface.

Subsequently improvement of mechanical properties e. g., hardness and strength by cold working the cast product was adopted. This was easily achieved by die striking the coin surface for embossing the symbols.

Later, the technique of eliminating the defects of cast structure by hot working was devised. The working may be hammering or a forging operation. Due to this hot deformation composition homogenisation, refinement of grain structure, and disintegration and lamination of oxide and slag inclusions were achieved. In some cases the melt was supersaturated with oxygen and techniques of deoxidation of melt were not perfect. However, this has the beneficial effect of reinforcing and hardening the structure. This may be the reason why the Ayodhya coin is the hardest among the coins investigated. The technique of final shaping and inscribing the coin by punching and die-striking also developed with time.

The surface symbols and the figures in the Rajghat coin have been incorporated by providing corresponding designs in the mould walls. In the later coins (Ayodhya, Mathura and Taxila) the

TABLE I.
Showing archaeological and historical details of copper coins

S. No.	Coin type and shape	Source and location	Surface attributes	Approximate date	Weight gms.	Dimensions mm.
1.	Uninscribed, rectangular (VARANASI)	Rajghat excavation	Obverse : Elephant with rider, standard and two unidentifiable symbols. Reverse : Tree in railing, hollow cross, Crescent in hill and taurine.	400-200 B. C.	2.10	15.9 × 14 × 3
2.	Uninscribed, Die struck (TAXILA)	Taxila collection of the Department of A. I. H. C. & Archaeology, B. H. U.	Elephant walking to right with Swastika above its shoulders. Tiger to left with Swastika above and a few symbols below head	300 B. C. to 200 A. D.	4.9	19.0 × 17.6 × 3.1
3.	Uninscribed, Die struck (TAXILA)	—do—	Obverse : Eight armed sun symbol, Six crescent hill.	—do—	2.6	14.0 × 11.9 × 2.9
4.	Inscribed, Vijayasena, oblong (AYODHYA)	Collection of the Department of A. I. H. C. Archaeology, B. H. U.	Bull before tree	200-100 B. C.	7.38	21.3 dia. × 3.7 thick
5.	Inscribed, Ramadatta, Round (MATHURA)	—do—	Ramadatta	100 B. C.	9.44	21.9 d ⁱ 3.7

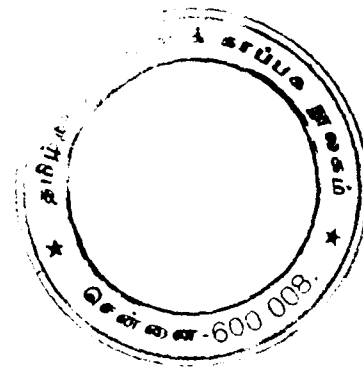
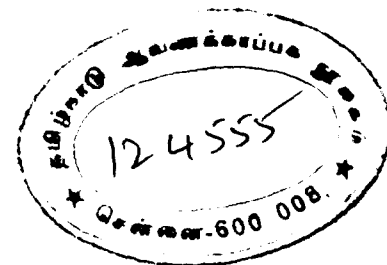


TABLE II.
Chemical analysis and metallurgical details of the coins

S. No	Chemical composition		Hardness V. H. N. kg/mm ²	Macro- features	Characteristics microstructures	Fabrication Technique	Reference
	Quantitative wt%	Trace elements					
1.	Cu 86.90 Sn 7.83 Fe 1.50 Ni 1.07 Pb 0.83 CaO 1.00	S, As, P Other oxides 0.87	66	Evidence of cast marks	Coarse grains with cor- ing, grain boundary net- work of low melting constituents, which are brittle and dislodge dur- ing polishing.	Cast in sand or clay moulds	Pl. V, Fig. 2
2.	Cu 96.24 Fe 0.56 Insolubles 1.24 Ni...Nil	S, Pb, Other oxides 1.96	87	Better coin- ing and embossing	Cored dendrites, glassy spherical and irregular inclusions, edges slightly cracked, interconnected cracks, more inclusions than in coin No. 1, but similar.	Chill Cast warm stamped	Pl. VI, Fig. 1
3.	Cu 98.40 Fe 0.80	S, Pb. Ni-0.00 Other oxides 0.80	90	Very good coining and embossing	Finer, equiaxed grains, glassy elongated slag streaks, no smooth crack in centre.	Hot worked then cold worked and annealed	Pl. VI Fig. 2
4.	Cu 94.77 Fe 1.20 S 0.48 Ni...Nil	Pb. Other oxides 2.98	112	Coining good but superficial	Cored dendrites a few blue and grey inclusions. Inclusions lesser than coins Nos 1 and 2.	Warm Stamped	Pl. VII Fig. 1
5.	Cu 95.27 Fe 0.85 Ni 0.98 Pb 0.25 CaO 1.2 S 0.50	Insolubles 0.57 Other oxides 1.30	68	Poor coin- ing	Equiaxed fine grains with annealing twins, elon- gated glassy inclusions and globular plenty of surface impurities.	Hot worked	Pl. VII Fig. 2

legend and the figures have been embossed by die-striking. The two Taxila coins and the Ayodhya coin show better technology of die-striking than the Mathura coin. The corresponding metal stock seems to have been imported as also inferred earlier. It is conceivable that the superior metallurgical techniques of these three coins may be attributed to foreign influence, direct or indirect.

The two Taxila coins also exhibit different degree of perfection of metallurgical techniques. The second coin (Pl. VI. 2) is a better material and shows better fabrication and embossing techniques. The first coin appears to have been diestruck at a higher temperature probably due to nonavailability of good, strong dies necessary for low temperature operation. On the basis of this metallurgical factors it may be inferred that the former may be of an earlier period.

Acknowledgments

The authors are indebted to Dr. A. K. Narain, Dean, Faculty of Arts, B. H. U., for kindly making available the coins, and for keen interest in the programme. Thanks are due to Dr. T. R. Anantharaman, Professor and Head of the Department of Metallurgy, B. H. U., for permitting the use of the facilities of the Metallographic Laboratories and for general interest in this programme. The authors acknowledge the capable assistance of Shri Shankar in preparation of metallographic samples.

OBITUARY

DR. MORESHWAR G. DIKSHIT

Students of Indology have sustained a serious loss in the sad untimely demise of Dr. Moreshwar Gangadhar Dikshit which took place at Bombay on Thursday, the 26th of June, 1969. He was only fifty-four at the time of his death.

Born in a well-to-do Brahmin family in a small village of Marathwada in 1915, Moreshwar Dikshit had his primary and secondary education at Nasik. Later he joined the Fergusson College at Poona wherefrom he took his B.A. degree in History and Economics in 1936. In 1943 he won the coveted degree of Philosophy of the University of Bombay at the young age of about twenty-eight. He worked for his doctorate at the Indian Historical Research Institute (now Father Heras Institute) of the St. Xaviers' College at Bombay under the inspiring guidance of the late Rev. Father H. Heras, the subject of his thesis being "*The Buddhist Settlements of Western India*". To work under Father Heras was indeed a privilege, and it gave him the much needed training for his future work.

After completing his education, Dr. Dikshit joined the Department of Archaeology of the Deccan College Post-Graduate and Research Institute, Poona, as the Curator of its archaeological Museum. During his stay at Poona he also held the office of the Honorary Secretary of the Bharat Itihas Samsodhak Mandal, Poona. He continued at Poona till 1951 when he joined the University of Saugar as a Lecturer in Ancient Indian History, Culture and Archaeology. In 1959-60, he was appointed Fellow of the British Council and during this period he studied at the British Museum and Victoria and Albert Museum besides visiting the archaeological Museums in France, Holland, Italy and other countries of the Continent. In 1960 he joined the Nagpur University as Reader in

206 JOURNAL OF THE NUMISMATIC SOCIETY OF INDIA [Vol. XXXI]

Ancient Indian History and Culture and was promoted as Professor in December 1963. In 1965, he went to Bombay as the Director of Archaeology and Archives, Government of Maharashtra, which position he occupied with distinction till the moment he breathed his last.

Dr. Dikshit enjoyed a good reputation as an archaeologist. He received training in field archaeology under Sir Mortimer Wheeler. He conducted archaeological excavations at the ancient sites of Kolhapur, Karad, Nasik, Rangpur, Tripuri, Sirpur, Paithan and Ter. All these excavations have shed valuable light on the political and cultural history of Maharashtra, Gujarat and Madhya Pradesh. Reports of most of these excavations have been published. However, the reports of Sirpur, Paithan and Ter excavations are yet to see the light of the day.

Moreshwar Dikshit was endowed with a multi-faceted talent. He did research in a variety of disciplines with equally brilliant success. His contributions in the field of epigraphy, numismatics, art and archaeology are well-known and will continue to be read with benefit by interested students. He also worked on the history of the Śilāhāras of Koṅkaṇa and the Ratnaśāstra. But there are some fields in which he was regarded as an authority. His studies in ancient Indian glass and beads fall in this category. His *Etched Beads in India*, *Indian Beads* (in collaboration) and *Indian Glass* will remain classics for many years to come. He also worked on old Marathi inscriptions. He had over ten books and about 100 articles on a variety of subjects to his credit.

Dr. Dikshit had some other hobbies also. Philately was his most favourite pastime. He had a very good collection of Indian stamps including those of the princely states. He had also collected stamps of some European countries. He has also left a good collection of Indian beads.

There were shocks and strains in Dr. Dikshit's personal life. He had been a diabetic for many years. His wife died of cancer in 1965 whereafter there was none to look after his comforts. He was a heart patient for the last couple of years or so and had suffered two heart attacks before the last one which proved fatal. But he was always cheerful, and one not acquainted with his personal life

could never have any idea of his strains and shocks. He was a very witty and lively talker too and was gifted with a jovial temperament. He was very hospitable, and I was privileged to enjoy his generous hospitality on occasions more than one. To me the sad news of his death comes as a personal shock as we were close friends both in sorrows and joys ever since he came to Nagpur in 1960. The vacuum created by his premature death in the field of Indological studies will be hard to fill.

Dr. Dikshit leaves behind him his two sons, a daughter and a large circle of friends to mourn his death. May his soul rest in peace.

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- f. Coins of Indian Native States-Alwar, Bikaner, Bundi, Indore, Udaipur and others.
- g. South Indian Pagodas and Fanams.
- h. Coin Catalogues like Ancient India, Gupta Dynasties by J. Allan, also Coins of the Andhra Dynasties by Rapson, also Modern World Coins by Yeoman and others.

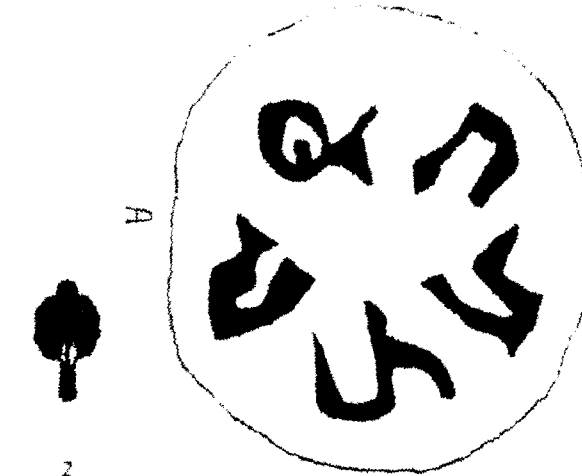
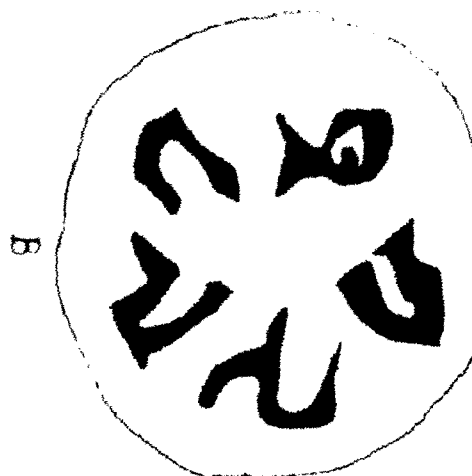
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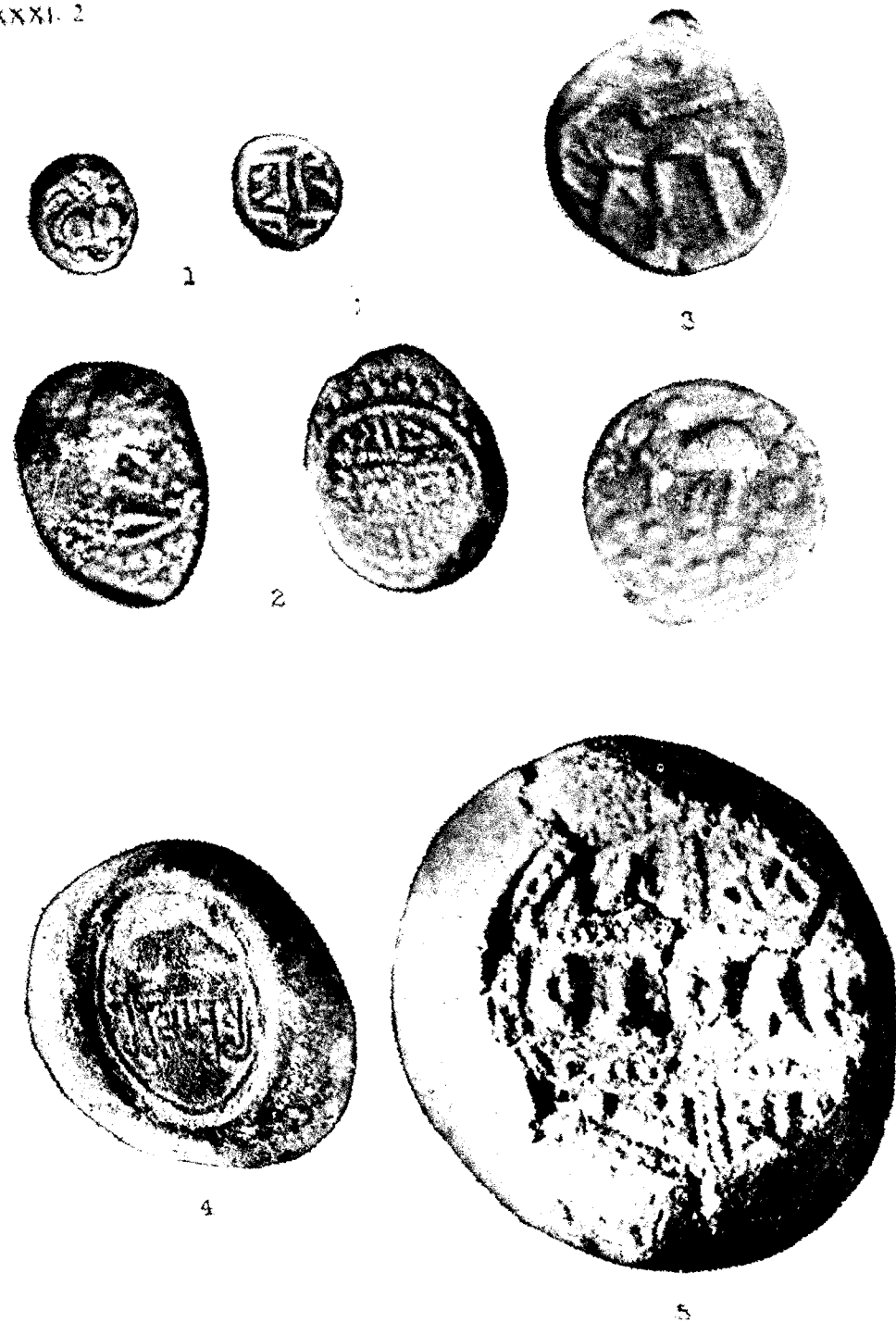
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PLATE I



1. A Sealing of Gondophrates : 2. A Copper Coin of Hathipala : 3. A Seal of Hathipalasa.



1. A Silver Coin of Arinjaya ; 2. Alloyed Coin of Uttama Chola ; 3. Copper Coin of Rājanya Gana ; 4. A Clay Sealing from Sunet ; 5. A Clay Sealing of Dhanabhūti



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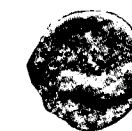
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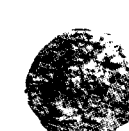
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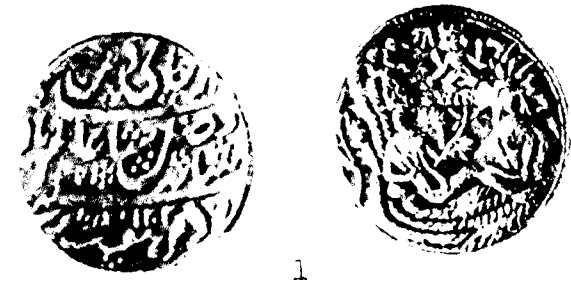
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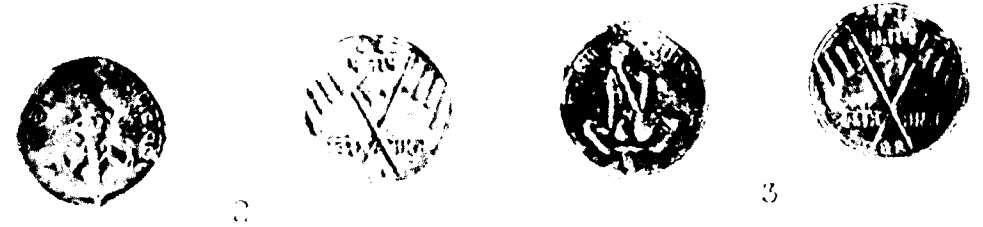
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1-11. Gold Coins of Mahendrāditya :
12-16. Pallava Coins

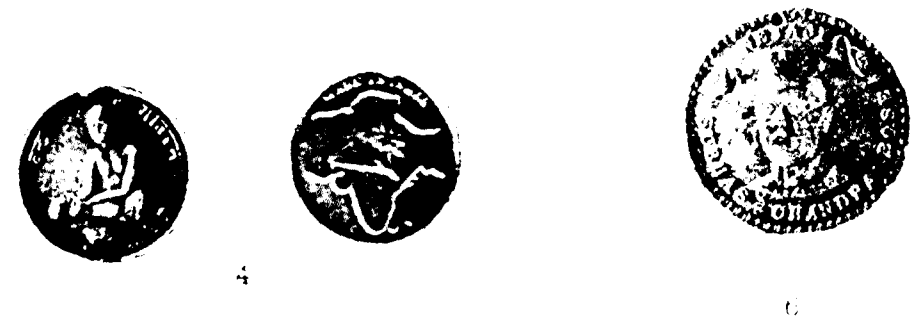


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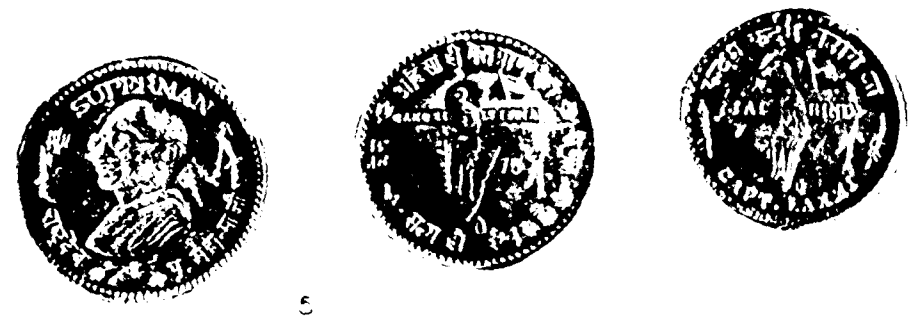
2

3



4

5



5

1. A Coin of Shah Alam I.
2-6. Independence Day & Commemorative Medals.