

ORIENTAL NUMISMATIC SOCIETY

NEWSLETTER

No. 173

Autumn 2002

ONS News

Members News

Congratulations to Jan Lingen, the Society's Regional Secretary for continental Europe, for being made a Member of the Order of Orange-Nassau. This prestigious award was bestowed upon him by the Mayor of Bergambacht. Jan's home town, on the occasion of the 40th anniversary of the Rotterdam Coin Club on 5 October this year. The award was made for his services to numismatics both within the Netherlands and, via the ONS, world-wide.



As we go to press, we have just learnt of the untimely and tragic death on the 31st of October at the early age of 59, of Jan's wife, Lauwra. Her sudden death came after a close and enduring marriage of almost 38 years, during which time she gave Jan unstinting support in his numismatic activities. ONS members in continental Europe have particular cause to be thankful to her as she gave tremendous help to Jan in his job as Regional Secretary. Those of us who knew her will miss her very much while cherishing the memory of a lovely, lively person who was an excellent cook and hostess, regardless of whether we were eating 'posh', or in the kitchen. We send our deepest sympathy and condolence to Jan and his family.

London

A meeting took place on Saturday 5 October 2002 at the British Museum, Department of Coins and Medals. The meeting was on coin circulation in East and South-East Asia. Talks given were:

- Michael Mitchiner: "The Origins of Coinage in China"
- Helen Wang: "Money on China's North-West Frontier, 1st Century AD"
- Sara Pimpaneau: "Japanese Money Envelopes"
- Alex Fang: "Chinese Charms"

Oxford

The meeting held at the Ashmolean Museum on 28 October took place as previously advertised with 16 keen attendees. Papers read were:

- "Indo-Greek coin sequences" by Bob Senior
- "Clash of Titans: The Scythian bid for supremacy in the Deccan" by Shailendra Bhandare
- "Heliocles imitations: What do they suggest?" by Joe Cribb
- "The Kidarites in Gandhara" by Md. Naseem Khan (Uni. of Peshawar) read in absentia by Joe Cribb

It is hoped to hold two such meetings a year in this series. Further information can be obtained from Shailendra Bhandare, telephone number 01865-288270:

Leiden

The annual Leiden ONS meeting took place on Saturday 19 October 2002 at the Royal Coin Cabinet. Talks given included:

- "The holy city of Qumm: 1000 years of coinage" by Roland Dauwe
- "The Chaghatayid coinage of Samarqand" by Dr Tjong Ding Yih and Ruud Schüttenhelm

A report will be included in the next newsletter.

Other News

A new temporary exhibition at the British Museum (Gallery 69a) is *Discovering Ancient Afghanistan: the Masson Collection*. This display, which will be on view until 9 January 2003, traces the development of our understanding of the history of Afghanistan through an early 19th century collection of its antiquities. In 1832-8, Charles Masson was the first explorer and excavator of the archaeological remains near Kabul and Jalalabad. His finds and manuscripts provide a unique record of many ancient sites which are now lost. The Museum has provided an explanatory four-page handout to accompany the display.

New and Recent Publications

Sassanian Coins of Armenia. By Eduard Khurshudian and Armine Zohrabian, published by Desht-i Qypchaq, Almaty 2002. ISBN 9965-13-487-1. Price: US\$15\$ including postage. 173pp, 48 plates. Language: English

"This book is the result of long and laborious research completed in 1998. It combines the hitherto separate and fragmentary information regarding the Sasanian Numismatics of Armenia. In this work is given the history of the monetary economy of the Sasanian period and of commodity-money relationships in Armenia during the 3rd-8th centuries AD. The work consists of a catalogue, with full descriptions and classification, of the Sasanian coins of Armenia (about 1000 pieces) from the collection of the State Historical Museum of Armenia

For all orders please contact: e-mail: akod100@hotmail.com

Medals of British India, with rarity and valuations, volume one: Commemorative and Historical Medals from 1750 to 1947, by Robert P. Puddester, published by Spink, London, 2002. Casebound, full colour laminated jacket. 563 pp. 500 medals illustrated. ISBN 1 902040 50 3. Price £45.

The publishers have provided the following information: "Benefiting from extensive research in the Calcutta and Bombay mints, this work charts the medallic history of the British Empire in India and Burma, from the mid-1700s to 1947, featuring more than 1200 medals, 500 of which are illustrated, commemorating or acknowledging events, personages, institutions and significant milestones and achievements of the Raj. Many medals of the Princely States are included especially if there is a particular British interest. Hundreds of new medals were uncovered through the author's research in the Indian mints and are detailed here for the first time. Medals issued by, and on behalf of kings and queens, maharajahs, governments, viceroys, durbars, universities, colleges, schools, exhibitions, associations and societies, are all described in detail along with the rarity and value of each medal.

Far from just a catalogue of medals this work delves into the history of the persona and places found on British India medals and provides background information on the events and happenings depicted. Essays placed throughout the book draw together information on more than twenty-five subjects including *Royal Visits to British India, Exhibitions and Shows, Parsis in India, Viceroy Presentation Medals, Agricultural & Horticultural Societies, Railway Medals etc.* The major universities of Calcutta, Bombay and Madras are represented by more than 200 medals with strong representation by other universities, schools and colleges.

There is a detailed general index along with an index of medallists, designers, engravers, die-cutters, artists, makers, publishers and mints."

Sylloge of Islamic Coins in the Ashmolean. Vol. 1: *The Pre-Reform Coinage of the Early Islamic Period*. By S. Album and T. Goodwin, Oxford, 2002. Casebound, pp. 122 with 47 plates, each with descriptive text. Price: £60. Distributed by Spink on behalf of the Museum.

This new volume contains just under 750 coins of the pre-reform period from all parts of the Islamic world. It is particularly strong in the Arab-Sasanian silver and Arab-Byzantine gold and copper issues.

Enrico Leuthold Jr: *Un dinaro coniato a Tarābulus (Tripoli di Libia) nel 416 H / 1025 AD durante la "assenza" dell' Imām al-Hākīm bi-Amr Allāh: and La zecca di al-Zawālah in Fazzān*. 12 page booklet published by author,

This booklet is the sixth in a series comprising:

1056 dirham Umayyad ed Abbasidi

La riforma monetaria di Al-Salih Ayyub

Inizio e splendore della dinastia Buwayhide

124 dirham dell'epoca de Kayqubadh I

Dirham dei Califfi Abbasidi e dei dinasti Hamdanidi-Buwayhidi-Samanidi

The booklets are in Italian and may be obtained free of charge from the author via the e-mail address previously mentioned.

Medieval Gold Coins of Sri Lanka (700 - 1100 AD) by O. M. R. Sirisena, Colombo, Sri Lanka, 2002. 22cm x 22cm, pp. 46 of which 11 are high quality colour plates showing both sides of 91 gold coins. Limited edition of 500 copies. ISBN 955 - 8133 - 04 -3. Price: US\$24 plus postage.

The Coinage of Tripura, with notes on the Seals, Orders, Decorations and Medals of the State by Nicholas Rhodes and S.K. Bose, Kolkata, 2002. pp. 127 and 19 plates; 18.5 cm by 24 cm. Price \$21, with 30% discount for bulk orders of 10 copies or more. e-mail orders to bosecoins@rediffmail.com

Türkiye Selçuklu Sikkeleri I, I. Mesud'dan I. Keykubad'a Kadar (510-616 / 1116-1220) by Prof. Dr. Sevki Nezih Aykut. Hardcover: 21 x 29 cm, pp. 514 (including index and bibliography). Text: Turkish (five-page English preface). Istanbul 2000

ISBN 975-94009-0-X

Brian Johnson has provided the following information.

The book opens with a lengthy discussion (roughly 90 pages) of catalogues, past and present, that list Seljuk coins. The first chapter presents a brief historical/numismatic survey, and the second describes special characteristics of the coinage (motifs, monograms, titles, inscriptions, etc.). The latter section contains a number of drawings and charts. This is followed by a chapter on metrology. The final portion of the book, pp. 187-493, is a catalogue of coins, organised by ruler. Complete, well-rendered inscriptions in Arabic, with Turkish transliteration are given for each entry. Literary references are also provided in footnotes. Photos (b/w) are included for each piece, but are very poor. Unfortunately, Dr. Aykut, who published the work himself, devoted his resources to paper, binding, and printing of the text (which is excellent), but not to photography. Despite this weakness, the book offers a wealth of information. An image of the cover can be viewed in the Turkish section of the Archaeology and Art website (www.arkeolojisanat.com). When first published two years ago, the book was retailing locally for over US\$100. Because of the photos, we are offering it at US\$70 + shipping (20% for surface mail, 40% airmail). For quickest response, orders can be sent directly to

me (bdjohnson@e-kolay.net). Please note that Archaeology and Art only accepts payment by bank transfer or cheque for mail orders.

Lists Received

1. Stephen Album (PO Box 7386, Santa Rosa, Calif. 95407, USA; tel ++1 707 539 2120; fax ++1 707 539 3348; album@sonic.net) list 182 (September 2002)
2. Jean Elsen s.a. (Tervurenlaan 65, B-1040 Brussels, Belgium; tel ++32 2 734 6356; fax ++32 2 735 7778; e-mail numismatique@elsen.be; www.elsen.be) list 222 (Sept-Oct 2002) contains a couple of hundred oriental items.

Auction News

- DNW's London auction on 8 October 2002 included 120 lots of Indian coins, medals and tokens from the R & N Puddester collections. (Dix Noonan Webb Ltd, 1 Old Bond Street, London W1S 4PB, UK; tel ++44 20 7499 5022, fax ++44 20 7499 5023; auctions@dnw.co.uk; www.dnw.co.uk)
- Baldwin's Auctions held two auctions in October 2002. The general auction (number 31), held on 14/15 October included no fewer than 400 lots of Indian coins, while Islamic coin auction number 5 took place on 29 October and comprised some 500 lots representing a broad range of dynasties and issuing authorities. The sale included an important group (11 lots) of uniface trial striking designed for Sidi Muhammad III of Morocco by the Spanish mint and dated 1201 AH. Many of the denominations were hitherto unrecorded. Due to Sidi Muhammad's death in 1204h, and subsequent war between Spain and Morocco, the project never came to fruition. These coins represent a significant contribution to the history of both countries, since it was the first time a Muslim state had requested assistance from a European state in preparing a coinage. (Baldwin's Auctions, 11 Adelphi Terrace, London WC2N 6BJ, UK; tel ++44 20 7930 9808; fax ++44 20 7930 9450; auctions@baldwin.sh; www.baldwin.sh/auctions)
- The Peus auction to be held on 30 October to 2 November includes some 600 lots of oriental interest, with a good selection of Ottoman coins, and medals. (Dr Busso Peus Nachf., Bornwiesenweg 34, 60322 Frankfurt (Main), Germany; tel ++49 69 959 6620; fax ++49 69 555995; info@peus-muenzen.de; www.peus-muenzen.de)

Disclaimer

In relation to their supplementary lot no. 572A in auction 31 (14 October 2002) Baldwin's Auctions published in full and allegedly with the permission of your Editor an article that appeared in newsletter 172. It is not ONS policy to allow the reproduction of complete articles for the purpose of selling or auctioning coins or medals or other such material. Articles may be referred to in auction catalogues and small extracts quoted or paraphrased as is customary. In the present case your Editor's consent was neither sought nor given. Baldwin's Auctions have apologised for this unfortunate lapse.

Articles

On the Money Circulation in the Qarākhānid Khaqanate.

By Michael Fedorov

A brief history of the origins and development of the Qarākhānid state has been given in one or more earlier articles

in this series, so it is not proposed to repeat it here. (see supplements to ONS Newsletters 165 and 168)

Having started off as nomads, the Qarākhānids continued the socio-economic and cultural achievements of the Sāmānid state, which had occupied the more advanced western regions of Central Asia. Among the important innovations they had introduced was the Muslim monetary system, which had been created in the Arab Caliphate and existed in all Muslim lands from Muslim Spain and North Africa to Afghanistan. Bukhārā was conquered in Dhū-l-Qa'da (XI month) 389/October 999. In 394 Muslim coins were minted in Quz Ordū (Balāsāghūn) and Ordū (Suyab) and in 395 in Kāshghar (Markov 1896, 210; Kochnev 1995, 213). These were the first mints opened by the Qarākhānids in the eastern part of their khaqanate, i.e. in the lands which never belonged to the Sāmānids. After the conquest of Bukhārā by the Qarākhānids, it took the Muslim monetary system, which, by that time, had existed in the western part of Central Asia for more than 200 years, only 4-5 years to advance from the eastern borders of the former Sāmānid state to Quz Ordū and Kāshghar and farther to the frontiers of China.

The money circulation of the Qarākhānid khaqanate was affected and shaped by the so-called silver crisis, which needs some comment before coming to the money circulation itself. In the 8th to 10th centuries AD a huge amount of silver coins flowed from the Muslim countries of Central Asia, the Caucasus and adjacent regions of the Middle East to Eastern Europe. The inflow of high standard Muslim silver dirhams to Europe started in the 70s-80s of the 8th century and ended in the second decade of the 11th century (Ilanin, 1956, 84, 92, 101-106, 109, 119, 121, 130). For about two and a half centuries Muslim merchants had used high-grade dirhams minted in their countries to pay for northern goods which were in high demand in the Muslim East. But starting with the 10th century this huge outflow was no longer made good with silver obtained from the mines of the region. In some mines the deposits of silver ore were depleted, around others the woods had been cut down and, without charcoal, it was not possible to refine the silver from the ore. So by the beginning of the 11th century, there was already a shortage of silver in Central Asia, the Caucasus and adjacent regions of the Middle East. The external result of it was that during the first two decades of the 11th century, the outflow of silver to the North came to a stop. The internal result was the so-called silver crisis which continued for about two and a half centuries.

The essence of the silver crisis is as follows. The amount of silver in the region (depleted by the massive outflow to the North) was not enough to satisfy the needs of the market for high grade coins. This resulted in the debasement of the coins circulating within the region, and finally even in the disappearance of billon coins, which were replaced by fiduciary, copper silverwashed dirhams (sometimes not even silverwashed but merely called dirhams in their marginal legends) which were a kind of metallic bank-note. These fiduciary coins were accepted only within the state which minted them and, when the amount of such coins surpassed the circulation needs of the market, inflation occurred. Simultaneously with the appearance of such fiduciary coins the output of gold dinars increased to meet the need for coins which would be accepted everywhere and would not be subjected to inflation. But since the high-grade dinar was a coin of considerable purchasing power (it could buy one or two sheep) and was not convenient for everyday trade, low-grade gold dinars spread and high-grade ones were cut into small pieces. Some rulers also tried to compensate for the shortage of silver coins with a massive output of copper fulūs. But the further west and south from Central Asia and the Caucasus, the less acute were the forms adopted during the so-called "silver crisis".

I have commented further on the silver crisis in ONS Newsletter 167

There were three periods in the money circulation of the Qarākhānid state. The first period comprised the end of the 10th century AD and the first quarter of the 11th century. The second period comprised the last three quarters of the 11th century and the first quarter of the 12th century. The third

period comprised the last three quarters of the 12th century and the beginning of the 13th century.

The first period (end of 10th – first quarter of 11th century)

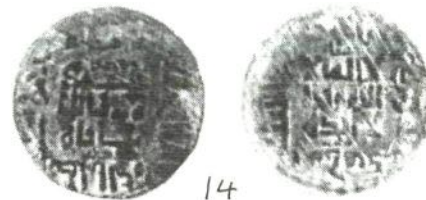
In the first period, money circulation in the Qarākhānīd khaqante did not differ much from what it had been in the state of the Sāmānīds. The Qarākhānīds minted high-grade, silver dirhams, copper fulūs and gold dinars (though rare). The only difference was that they did not mint the so-called "black dirhams". Davidovich (1966, 110-125; 1979, 108-111) established that the black dirhams were silverplated billon dirhams of "Bukhār Khudāt" type in imitation of Soghdian drahms, minted before the Arab conquest of Central Asia. These, in their turn, copied Sāsānīan drahms of Varahrān V (421-439 AD) and had images of a king with crown (obverse) and a fire altar with two attendants (reverse). Arab geographers wrote that, among the black dirhams, the Musayyabī were the dearest, the Muḥammadī were cheaper and the Ghitrīfī dirhams the cheapest. Davidovich identified the Musayyabī as the silverplated dirhams containing about 69-50% silver (she called them high-grade subaerati). The Muḥammadī (low-grade subaerati) she identified as silverplated coins containing 40-20% silver. It was these black dirhams which were minted for domestic trade and internal money circulation within the Sāmānīd state. So even during better times there was not enough silver in the Sāmānīd state to satisfy both the needs of foreign and domestic trade for high-grade silver dirhams. Davidovich (1979, 117) added that Arab geographers reported that Ghitrīfī dirhams looked like copper coins but she supposed that they may have been silverwashed, which would have justified their circulation as dirhams.

But then the Qarākhānīds started to debase their coins. The silver content of their dirhams became as follows: Tārāz 1004-5=97-96.4%; Shāsh 1003=92%; Uzgend 1010=89%; Tārāz 1016=88%; Akhsīket 1014= 87%; Tārāz 1013=85%; Tārāz 1017=75%; Īlaq 1012=70%; Tunket 1020=67%; Khojende 1014=64%. Then the silver content became 50% and even less: Tārāz 1019=51%; Kāshghār 1019=49%; Īlaq 1019=47%; Yarkend 1027=42% (Davidovich 1960, 102-5; 1979, 191; Bubnova 1962, 33-4). So it was in 405-10/1014-20 that the standard of Qarākhānīd dirhams approached that of the Musayyabī black dirhams and that Qarākhānīd dirhams became subaerati. By now Qarākhānīd coins were the same as the black dirhams but, instead of the image of a king and fire altar, they had normal arab legends i.e. by their appearance they were like Kufic dirhams. It is interesting that early Qarākhānīd hoards (Davidovich 1966, 123) contain not only Qarākhānīd dirhams but also black dirhams, most probably Musayyabī ones (i.e. high standard subaerati) which had the same standard as the then Qarākhānīd dirhams.



The first phase of the money circulation. Qarākhānīd high-grade solid (about 97-75% silver) and high-grade subaerati (about 2/3-1/2 silver) dirhams.

- 1 Uzgend 395/1005. (Obverse).
- 2 Quz Ordū (Balāsāghūn) 400/1009-10, type 2. (Obverse and reverse).
- 3 Quz Ordū (Balāsāghūn) 400/1009-10, type 4. (Obverse and reverse).
- 4 Quz Ordū (Balāsāghūn) 401/1010-11, type 1. (Obverse).
- 5 Quz Ordū (Balāsāghūn) 402/1011-12, type 5. (Obverse and reverse).
- 6 Kāshghār 402/1011-12. (Obverse and reverse).
- 7 Balāsāghūn 404/1013-14. (Obverse and reverse).
- 8 Shāsh 404/1013-14. (Obverse).
- 9 Īl Ordū 405/1014-15. (Obverse).
- 10 Quz Ordū 407/1016-17. (Obverse).





The first and beginning of the second phase of the money circulation. Qarākhānid fulūs.

- 11 Farghāna 386/996. (Reverse and obverse).
- 12 Khojende 390/999-1000. (Obverse).
- 13 Īlāq 399/1008-09. (Reverse).
- 14 Samarqand 403/1012-13. (Reverse and obverse).
- 15 Soghd 404/1013-14. (Reverse).
- 16 Kermīne 415/1024-25. (Reverse and obverse).
- 17 Kermīne 417/1026-27. (Reverse).
- 18 Ishtikhan 419/1028. (Reverse and obverse).

The second period (the last three quarters of the 11th – first quarter of the 12th century)

During the second period, the debasement of the coins continued and the silver content was reduced to one third: Tārāz 1021=38-37%; Shāsh 1020=34%; Şaghāniyān 1029=30%; Şaghāniyān 1035=22.8-24.4% (Davidovich 1960, 102-5; 1979, 191; Bubnova 1962, 33-4). This was when the standard of Qarākhānid subaerati dirhams approached the standard of the black Muḥammadi dirham. Dirhams struck in Marghinān in 453/1061 had 23% silver. I suspect that their official silver content was a quarter or 25%. Such dirhams were introduced in the Western Qarākhānid khaqanate circa 437/1045-6 by the supreme ruler of the khaqanate, Mu'ayid al-'Adl Ibrahīm Tafghāch Khān.

The monetary reform of Ibrahīm Tafghāch Khān.

Būri Tegīn Ibrahīm, the son of İlek Naşr (the conqueror of Bukhārā in 999) was a prisoner of Arslān İlek Yūsuf, the ruler of Mawarānnahr. In 429/1037-8 he slipped from Yūsuf's hands and came to the Kumijī and Kenjine nomads. They joined him and he raised an army of 3000 horsemen. With their help, he captured Şaghāniyān in 430, a task facilitated by the fact that its ruler had died without leaving an heir. Then he started a war against Yūsuf b. 'Alī. Coins show that Būri Tegīn conquered Kesh and Samarqand in 431 and Bukhārā in 433 (Fedorov 1980, 40-42). Then Ibrahīm accepted the high title of Tafghāch Khān and reigned until 460/461 AH.

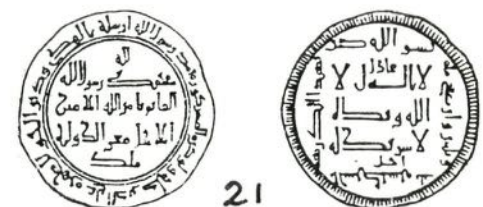
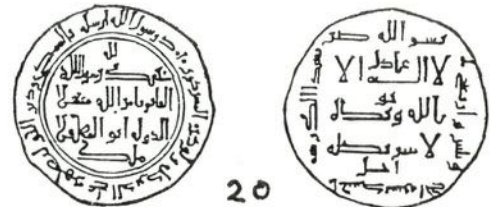
In waging war against Yūsuf, Ibrahīm needed large amounts of money to pay his troops. The only source of it was initially the mint of Şaghāniyān. It appears that there was a shortage of silver, resulting in the dirhams containing only 15.3-18.6% silver. This probably corresponded to an official silver standard of one fifth (20%). Having conquered Mawarānnahr, Ibrahīm tried to improve his coins. Judging by their appearance, his dirhams of 435/1043-4 Bukhārā had

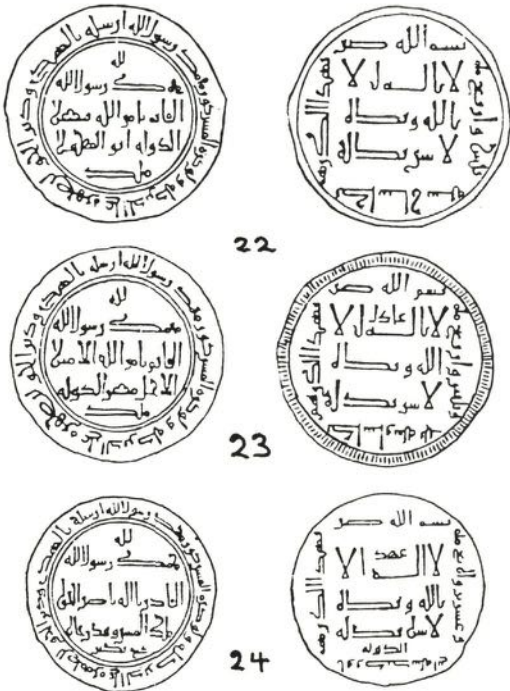
about 40% silver. It is interesting that the marginal legend of these coins comprised sentences 34-35 of the IX Sūra of Qur'an, which states that those who store up silver and gold will be tortured in Hell. But admonishment did not work: by that time the market was inundated with low-grade coins, and soon the comparatively high-grade dirhams of AH 435 disappeared from circulation. Then Ibrahīm carried out a new monetary reform. Around the year 437/1045-6 all the mints of his state started to mint silverplated dirhams containing one fourth or 25% silver.

Two *vaqf-nāmas* have survived written around 1066 in Samarqand in the name of Tafghāch Khān Ibrahīm. In these documents such coins are called Mu'ayidi dirhams (the *laqab* of Ibrahīm was Mu'ayid al-'Adl) and there it is written that 47 Mu'ayidi dirhams were equal to one mithqāl of gold (Bol'shakov 1971, 171). The canonical mithqāl was 4.464 g and the canonical dirham weighed 4.235 g (Hinz 1970, 11-13). So one dinar was equal to 45 such dirhams (44.6 to be exact). This monetary reform proved to be a success. Dirhams of "Mu'ayidi" type were minted and circulated up to and including the first quarter of the 12th century.

Mu'ayidi Dirhams were not fiduciary. In the 9th-10th centuries, a dinar was equal to 15 dirhams weighing 2.965 g and containing around 90% silver. Judging by the Mu'ayidi dirhams weighed by me, their official weight was 3.6 g (20 ṭassūjes). Mu'ayidi Dirhams had 25% silver which is 0.9 g. So a high-grade dirham of the 9th-10th centuries contained as much silver as 3.3 Mu'ayidi dirhams. But the exchange rate was 1 dinar = 45 Mu'ayidi dirhams, thus 1 dirham of this period should be equal to 3 Mu'ayidi dirhams. This would mean that the official exchange rate was 11% higher than the value of silver in the coin. But the Mu'ayidi dirham also contained 2.7 g copper, which is equal to 1 fals, and so 3 Mu'ayidi dirhams contained 3 fulūs. The 9th-10th century Sāmānid dirham was equal to 24-36 such fulūs (Davidovich 1966, 130). So the 3 fulūs made up the missing 9-12%.

The farther east one went, the more acute was the form of the silver crisis. In the middle of the 11th century AD the first fiduciary dirhams appeared in the Eastern Qarākhānid khaqanate.





The early second phase of money circulation. Qarākhānid lower grade subaerati (about 2/5-1/3 silver) dirhams.

Reconstruction of the types by Michael Fedorov.

- 19 Akhsiket 428/1036-37. (Obverse).
- 20 Akhsiket 431/1039-40. (Reverse and obverse).
- 21 Akhsiket 433/1041-42. (Reverse and obverse).
- 22 Kāsān 430/1038-39. (Reverse and obverse).
- 23 Kāsān 433/1041-42. (Reverse and obverse).
- 24 Uzgend 422/1030-31. (Reverse and obverse).
- 25 Khojende 434/1042-43. (Obverse).

Copper-lead alloy fiduciary dirhams (Reform of Arslān Khan Sulaimān?).

From the year 442/1050-1, the mints of Farghāna and the Chu valley minted coins which contained 59.7-78.7% copper and 37-15.4% lead (Davidovich 1960, 104). Despite their being made of base alloy, in their marginal legend they are called dirhams. So they were the first fiduciary Qarākhānid coins. They are thick (1-1.3 mm), their edges are cracked in places, they have fissures (both probably as a result of heavy minting blow and insufficient pliability of the alloy). They were cut out of a metal sheet by a tube with a sharpened edge. Sometimes the tube was deformed so that the resulting flan is oval in shape. Because of the tube's sharpened edge the upper diameter of the coins is less than the lower diameter. So the coins look like a thin, truncated cone. They resemble the coins minted in Kāshghar by the Eastern Qarākhānids in the second half of the 12th century. It looks as if such coins initially appeared in Qarākhānid Eastern Turkestan under Arslān Khan Sulaimān (1032-1056) and spread from there to the region of Issyk Kul. In the collection of A. Kamyshev (Bishkek) there is copper-lead alloy dirham of AH 441 struck in Barskhān. It looks as if such coins spread from there to the Chu valley and Farghāna. If so, it is easy to understand why coins of Kāshghar and Yarkend ceased to be brought to Central Asia after 430. Theoretically some billon dirhams of Kāshghar and Yarkend, minted after AH 430 and up to AH 440, could have been brought to Central Asia, but as far as I know, they have not yet been found there.

Circa AH 451, the Head of the Western Qarākhānids, Ibrahim Tafghāch Khān, took advantage of the internecine wars between the Eastern Qarākhānids and attacked them. First, he conquered the Farghāna valley. His earliest coins were minted in Akhsiket in AH 451 (Fedorov 1980, 43-44.). The Chu valley was conquered somewhat later. Having annexed Farghāna, Ibrahim Tafghāch Khān carried out a monetary reform there. Old copper-lead alloy dirhams were prohibited and dirhams of "al-Mu'aiyidi" type, which were minted in the Western Qarākhānid khaqanate, were introduced.

Since copper-lead alloy dirhams continued to circulate in the Chu valley, those that had been prohibited in Farghāna flooded into that region. The massive influx of fiduciary coins in amounts which greatly surpassed the needs of the Chu valley economy, triggered inflation and a monetary crisis. The population refused to accept the valueless coins (Davidovich 1983, 15-18). But those who had copper-lead alloy dirhams stored them pending better times. That is why almost all the hoards of copper-lead dirhams minted in Farghāna have been found in the Chu valley. I published (Kochnev and Fedorov 1974, 179-195; Vinnik and Fedorov 1983, 64-75.) four such hoards (comprising more than 10,149 coins, and that was only what archaeologists managed to retrieve), found at two comparatively small hillforts, Shish-Tiube and Belovodskoe Gorodishche. The number of Farghāna coins in these hoards found in the Chu valley surpasses the number of the hoard coins struck in the Chu valley itself (at Quz Ordu mint). One more hoard was found at Shish-Tepe (or Tiube). This hoard comprised more than 1000 copper-lead alloy dirhams, several hundred fragments of such coins and 30 billon (silverplated) dirhams (Omorov and Fedorov, 1975, 63-71). Two more hoards were found in Petrovka and near Bishkek. Each of them contained more than 1000 coins. Several hoards of such coins were found in the Kazakh part of the Chu valley but I have no information about how many coins there were in those hoards.

Eventually the Eastern Qarākhānid rulers of the Chu valley were forced to carry out a monetary reform and started to mint billon (silverplated) dirhams of "al-Mu'aiyidi" type there. The earliest such dirham which I know of was minted in Quz Qrdū (Balāsāghūn) in AH 45(1 or 2 or 4). Unfortunately only the initial letter "alif" in the digit of the date has survived, so it could be either اربع or اثنى عشر.

In addition to the silverplated billon and the shortlived, copper-lead alloy fiduciary dirhams, copper fulūs were also struck during the second period. Gold dinars are not known so far for this second period.

With the exception of the shortlived, copper-lead alloy fiduciary dirhams, there were no dramatic changes in the internal money circulation of Central Asia during the first two periods of money circulation under the Qarākhānids as compared with that under the Sāmānids. The most important change caused by the silver crisis was that the mints of Central Asia stopped striking high-grade silver dirhams but this mainly affected foreign trade and, at that, mainly the trade with the North. As soon as the dirhams of 'kufic style' became debased, they stopped being taken to the North. Gold dinars also became quite rare.

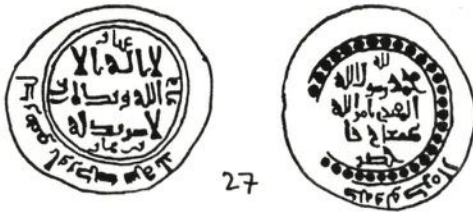
As for the Bukhar Khudat type dirhams, they were not minted by the Qarākhānids during the first two periods. Those Bukhar Khudat type dirhams which were found among the hoards of 11th century Qarākhānid coins came from the Sāmānid period. By the time of the Qarākhānids, there were many such coins in Mawarānnhr. The black dirhams had been minted and circulating in the state of the Sāmānids for about two centuries. They were well known and readily accepted by the populace. It appears that the Qarākhānids did not prohibit their circulation. Davidovich (1960, 109) wrote: "silver coins of bukhār-khudat type disappeared from circulation in the beginning of the 11th century together with good silver Qarākhānid coins". As for the copper coins of 'bukhar-khudat type', they, according to her, circulated at least "till the second quarter of the 12th century." In 1966 (Davidovich, 125) she corrected herself and wrote that it was by the middle of the 11th century that the "silver coins of 'bukhar-khudat type'... will have totally disappeared from circulation", because of "the so-called silver crisis in Central Asia". Kochnev (1990, 55-56) corrected Davidovich again. He mentioned four hoards of Bukhar Khudat type dirhams "which contained a certain amount of silver" (some of them were called 'Muhammadia' in their marginal legend). These hoards also included Qarākhānid coins. In the first hoard there was a coin struck in 415/1024-5; in the second hoard there was a coin struck in 433/1041-2; in two other hoards were coins minted in 483/1090-1. Though there is some lack of clarity regarding the coins minted in AH 483. Seven years later Kochnev (1997, 245-314) published a

comprehensive Corpus of Inscriptions on Qarākhānid coins. There were no coins mentioned minted in AH 483. Which could mean only one thing: the date 483 was read by Kochnev mistakenly.

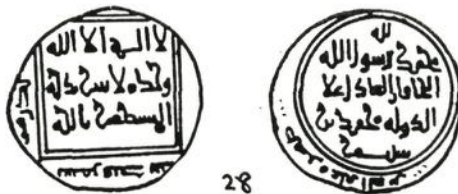
Between 1040-1050 Bīrūnī wrote: "One of the calamities of our time is that Ghīṭrifī dirhams are equal to silver dirhams and sometimes their circulation rate is even higher than that of silver dirhams. Meanwhile Ghīṭrifī dirhams are nothing more than copper coins with an addition of silver" (Bīrūnī 1963, 229-30). But Bīrūnī's statement that the circulation rate of Ghīṭrifī dirhams was higher than that of silver dirhams is to me reminiscent of Sāmānid times, for it is difficult to accept that the circulation rate of black dirhams was higher than that of contemporary Qarākhānid dirhams at the time of Bīrūnī. On the other hand, if one takes old, black, Muḥammadī dirhams containing 40% silver, from the hoard the date of which is fixed by a coin minted in 433/1041-2, and contemporary Qarākhānid coins minted in Ṣaghāniyān, containing 20% silver, it is possible.



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The second phase of the money circulation. Qarākhānid lowest grade subaerati dirhams: 'Mu'ayīdī' (about 1/4 silver) and 'Mu'ayīdī type' (about 1/5 silver). Reconstruction of the types by Michael Fedorov.

26 Quz Ordū (Balāsāghūn) 460/1067-68.

27 Uzgend 473/1080-81. (Obverse and reverse).

28 Samarqand, first quarter of XII c. AD. Arslān Khān Muḥammad b. Sulaimān (495-524/1102-30).

The third period (the last three quarters of the 12th - the beginning of the 13th century)

It was during this period that considerable changes took place. At this time silverplated, billon dirhams of Mu'ayīdī type ceased to be minted and disappeared from circulation, being replaced by fiduciary, copper silverwashed dirhams which were a kind of metallic bank-note. The struck copper flans were covered by a mercury-silver amalgam and put in an oven. The mercury evaporated leaving the thinnest coating of silver. Such coins had only about 5% silver.

By the time of the Qarākhānids money had been used for commodity trading in West Central Asia for about 13 centuries. Since the populace needed coins for everyday trade and since, after the disappearance of the billon dirhams, fiduciary silverwashed dirhams were the only ones available, the populace accepted them as a means of circulation. But these fiduciary coins were accepted only in the principality which

minted them, and, when the amount of such coins surpassed the price of goods in trade and the needs of the market-place, inflation occurred. As was noted above, Qarākhānid gold coins were very rare during the first period, and they are not known for the second period. But simultaneously with the appearance of fiduciary, copper silverwashed dirhams, the regular mintage of gold dinars started during the third period of money circulation in the Qarākhānid khaqanate in order to meet the need for coins which would be accepted everywhere and would not be subject to inflation. So the gold was brought in to play an active role as a currency of circulation. But since the gold dinar had quite a large purchasing power (it could buy one or two sheep) and was not very handy for everyday trade, high-grade dinars were cut into small pieces. So a piece of a high-grade gold dinar equal to one sixth of the coin would be equivalent to 2.5 high-grade silver dirhams. Almost all the hoards of Qarākhānid gold dinars contain cut pieces of such coins. Low-grade gold (electrum) dinars were also minted. These had less value and were more convenient for everyday trade.

It would appear that, initially, Qarākhānid billon and silverwashed dirhams coexisted. Sometimes they could even be used in exchange with each other for some period (depending on the fiscal policy of a ruler). But eventually silverplated billon coins disappeared and were totally supplanted by fiduciary silverwashed dirhams. The latest silverplated coins which I know of are dirhams of Qilych Tafghāch Khān Mas'ūd minted in Samarqand in 558-61/1162-6. In 562 he started to strike fiduciary silverwashed dirhams. And thereafter, only such dirhams were minted in the Western Qarākhānid khaqanate till the end of this state. Such coins are also known for the Eastern Qarākhānid khaqanate but in that state there prevailed the fiduciary copper-lead alloy dirhams of the type which was minted in Farghāna and the Chu valley in the middle of the 11th century AD.

In addition to dinars and dirham, copper fulūs were minted in the Western Qarākhānid khaqanate.

The precursors of silverwashed fiduciary Qarākhānid dirhams of Kufic style were Ghīṭrifī dirhams of Bukhar Khudat type minted by Arslān Khān Muḥammad b. Sulaimān (1102-1130).



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The early third phase of the money circulation. One of the latest 'Mu'ayīdī type' dirhams.

29 Samarqand 547/1152-3 or 548/1153-4 (cf. Kochnev 1997, 261/1031), minted by Ibrāhīm b. Muḥammad (1141-1156).

The third phase of the money circulation.

30 Fals of 560/1164-5 Samarqand, minted by Rukn al-Dunyā wa'l-Dīn Qilych Tafghāch Khān Mas'ūd b. Ḥasan (556-568[9?]/1160-1173[4?]). Reconstruction of the type by Michael Fedorov.

The monetary reform of Arslān Khān Muḥammad b. Sulaimān (circa 1118-1128).

In 1971 I established that Arslān Khān Muḥammad b. Sulaimān carried out a monetary reform which resulted in the striking of the latest Ghitrifi dirhams so far known (Fedorov 1971a, 122-126). Almost all dirhams of 'Bukhar Khudat' type are bilingual (or rather trilingual). On the reverse is a distorted Pahlavi legend. On the obverse is a Soghian inscription, which P.I. Lerch in 1876 read as 'Bukhar Khudat' (and subsequent scholars as 'Bukhar Khud Kan(a)'), and a short Arabic inscription, usually the name of a caliph or a governor (Masson 1955, 176). The most common are black dirhams with the inscription 'Muḥammad' or 'al-Mahdī', citing caliph Muḥammad al-Mahdī (158-169/ 775-785). But there were two types with purely Arabic legends. One of them had the following legend:

بِسْمِ اللَّهِ مُحَمَّدُ رَسُولُ اللَّهِ الْخَاقَانُ الْأَعْظَمُ خَمَالُ أَمِيرِ الْمُؤْمِنِينَ. Scholars were not unanimous about the reading of the eighth word. Fraehn (1819, 45-7) read it خَمَالُ "Sincere friend"; Soret and Walker (1941, XCVI) read it آمِينَ "The Trusty". On the coins which I am familiar with, the first letter looks more like خ so I believe that Fraehn was right. Walker (1941, XCVI) considered that such coins were struck under caliph Māmūn (198-202/814-833). Masson (1955, 191, 195, 196) wrote that this dating was "absolutely mistaken" and attributed such coins to the Qarākhānids. And he was right: before the Mongol invasion of Central Asia, the Qarākhānids were the only Muslim dynasty to use the title of Khān (Khāqān, Qarākhān, Qarākhāqān). He also wrote that black dirhams disappeared from money circulation in the middle of the 12th century.

As far as I know, the titilage "al-Khāqān al-A'zām" is not known for the Qarākhānids during the 11th century. It appears in 513/1119-20 and 516/1122-3 on the coins of Arslān Khān Muḥammad minted in Bukhārā: "al-Khāqān al-A'zām Muḥammad b. Sulaimān" (Kochnev 1997, 258/988). One more circumstance enables us to attribute these coins to the 12th century. On some coins, traces of silvering have fortunately survived, which indicates that they were copper silverwashed fiduciary dirhams. Davidovich (1960, 105-106) wrote that Qarākhānid copper silverwashed fiduciary dirhams appeared in the second half of the 12th century. But as a matter of fact they appeared somewhat earlier, in the reign of Arslān Khān Muḥammad b. Sulaimān. What they did in the second half of the 12th century was to supplant the billon silverplated dirhams totally.

The mention of such coins dated 522/1128 has survived in the "Tā'rikh-i Bukhārā". It was written by Nerzhakhī in 332/943-4 in Arabic but, in 522/1126, Aḥmad al-Qubāvī translated it into Persian. In various manuscripts there are two versions of this sentence. The first reads: "Says Aḥmad b. Naṣr, when in 522 we translated this book, 100 dirhams of pure silver نقره خالص cost 70 (in some manuscripts 72 or 80) Ghitrifi dirhams and a mithqāl of red gold زر سرخ cost 7.5 Ghitrifi dirhams". The second version reads: "Says Aḥmad b. Naṣr, when in 522 we translated this book, 100 dirhams of pure silver نقره خالص cost 70 Ghitrifi dirhams and a mithqāl according to the law در شرع cost 7.5 Ghitrifi dirhams" One of the versions added that such Ghitrifi dirhams were minted in Kūshk-i Mākḥak (Castle Mākḥek in Bukhārā). Davidovich (1960, 94-99) cited both versions but chose the first. She wrote that 70 Ghitrifi dirhams were equal to 100 dirhams (units of weight, not coins) of pure silver and even calculated the ratio of gold to silver as 1:7.5. But such an exchange rate for Ghitrifi dirhams seems to be absurdly high. Both Masson and Bol'shakov considered that 70 Ghitrifi dirhams were equal to 100 Qarākhānid dirhams which were in circulation at that time. Masson (1955, 191) wrote that, by 1128, more than 100 years had elapsed since the time when dirhams of pure silver circulated in Central Asia. Bol'shakov (1971, 177) considered that originally the correct version was در شرع according to the

law and then, by mistake, it became زر سرخ red gold. He wrote: "If this is the case, this sentence states that, according to the law, 7.5 Ghitrifi should cost 1 mithqāl of silver, i.e. 5.25 Ghitrifi dirhams should cost 1 silver dirham. This exchange rate is very close to the initial exchange rate set at the end of the 8th century: 1/6 of a silver dirham (i.e. 6 Ghitrifi dirhams = 1 silver dirham, M.F.). Maybe it is because of this that Qubāvī tells us about the cost (of a Ghitrifi dirham, M.F.) according to the law. And because of this he was astonished that in his days it (i.e. a Ghitrifi dirham, M.F.) cost 1 and 3/7 silver dirhams (i.e. 70 = 100, M. F.). If we admit that... 'dirhams of pure silver'...were real dirhams, nominally considered as silver, then the exchange rate of Ghitrifi dirhams ceases to be something mysterious, and it will mean that they were somewhat dearer than the debased dirhams of that time". I cannot but agree with Masson and Bol'shakov.

Whatever the truth of the matter, the essence of the reform of Arslān Khān Muḥammad b. Sulaimān was as follows: fiduciary copper silverwashed dirhams of Ghitrifi type were introduced with a high exchange rate based on a state decree. According to al-Qubāvī these fiduciary Ghitrifi dirhams were struck in Kūshk-i Mākḥak in Bukhārā. The reform will have taken place between 512/1118-9 (the latest billon silverplated dirham of Arslān Khān Muḥammad, minted under caliph Mustazhir i.e. no later than AH 512) and 522/1128 (the mention of such dirhams by al-Qubāvī). This must have been a sort of experiment. It is not clear why Arslān Khān had chosen the form of Ghitrifi black dirhams with the stylised image of a crowned king and fire-altar. Maybe it was a tribute to the old tradition. Judging by the rarity of such coins, the initiators of the reform intuitively realised that the inundation of the market with fiduciary Ghitrifis would cause the devaluation of these coins. After the first experiment using the Ghitrifi type, fiduciary silverwashed coins of Kufic (or 'Muslim') type appeared. In Osh (Kirghizstan) was found a hoard of fiduciary copper (originally silverwashed) dirhams minted between AH 522-526 in the name of Arslān Khān Muḥammad and his son and co-ruler, Qadir Khān Aḥmad, or Qadir Khān Aḥmad alone, or some other Qarākhānids. But some successor of Arslān Khān also struck silverplated billon dirhams. The latest I know of were minted by Qilych Ṭafghāch Khān Mas'ūd between 558-561/1162-6.

The reform of Qilych Ṭafghāch Khān Mas'ūd b. al-Ḥusan (562/1166-7).

Mas'ūd came to power after a victorious battle on the steppe near the caravanserai of Rabāt-i Malik, situated 20 km to the west of Kermine on the road from Samarqand to Bukhārā (Davidovich 1985, 97). He also carried out two other victorious campaigns: one against the unruly Qarluqs, the other against the Ghuzz nomads who were ravaging Khurasan. In the height of winter, Mas'ūd with an army of 100,000, crossed the Amudaria on the ice and invaded Khurasan. Yūsuf Andkhūdī wrote that the Khitays plundered Balkh and Andkhūd in 560/1165 (Bartold 1963, 399). Being, like other Qarākhānids, a vassal of the Gūr Khān, ruler of the Khitays, Mas'ūd was able to get military help from him when needed. So the words of Andkhūdī show that in 560/1165, while carrying out his campaign against the Ghuzz nomads, Mas'ūd conquered Balkh and Andkhūd with the help of the Khitay troops.

Having conquered vast territories, Mas'ūd will have been preoccupied with strengthening his positions there. Indirect evidence shows that he had transferred his residence to the newly acquired dominions and stayed there with his main army. So, according to the written sources, Mas'ūd's general, 'Aiyār Bek, was for one year Commander-in-Chief in Mawarānnahr but then rebelled. Mas'ūd left his newly acquired dominions and hurried back to Mawarānnahr. The battle between the rebels and the Khān took place in the Barren Steppe, east of Samarqand. 'Aiyār Bek was defeated and executed (Bartold 1963, 399-400). Ḥusainī wrote that 'Aiyār Bek Ḥusainī seized Samarqand but was later killed by the Khitays (Husaini 1990, 131). Thus Mas'ūd won the battle with the help of Khitay troops again. The Gūr Khān again helped

his loyal vassal. Proceeding from the fact that, after the death of 'Aiyār Bek, his son fled to the Khwārizmshāh, who made him commander of his army in 'Irāq in AH 563, Kochnev considered that the rebellion of 'Aiyār Bek took place before 563/1167-8. Since, in AH 562, Mas'ūd started to mint a new type of dirham in Samarqand, Kochnev wrote that Mas'ūd introduced the new type of dirham after he regained Samarqand (Kochnev 1993, 430-431). But Kochnev did not pay attention to the fact that dirhams minted by Mas'ūd up to 562 were silverplated billon, while dirhams minted from 562 were silverwashed. It is interesting to note that the more or less regular minting of gold dinars started simultaneously with the striking of Mas'ūd's silverwashed fiduciary dirhams. After Mas'ūd's reform, only fiduciary copper silverwashed dirhams were minted in the Western Qarākhānid khaqanate until the last days of this state.

Monetary reforms in Farghāna (second half of the 12th century)

a. Reforms of Arslān Khān Ibrāhīm b. Ḥusain in Uzjend.

In 559/1163-4 an appanage ruler, Arslān Khān Ibrāhīm b. Ḥusain, started to mint copper fiduciary silverwashed dirhams in Uzjend. It is not out of the question that this state of affairs prompted the reform of Qilych Tafghāch Khān Mas'ūd in Samarqand. According to Davidovich (1971, 181) between 559-568/1163-73 fiduciary silverwashed dirhams of the same type, weight and size were minted every year in Uzjend. Then in 570/1174-5 the striking began of quite another type, heavier and bigger than the previous one. Davidovich wrote that it was a fiscal measure connected with the prohibition of old coins and the exchange of old coins for new ones at the high exchange rate. It was a reform aimed at making profit at the expense of the populace. Since the exchange rate was not favourable to the populace a lot of old coins were concealed as hoards to await better times.



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32



The third phase of the money circulation. Fiduciary copper silver-washed dirhams of Uzjend minted by Ibrāhīm Arslān Khān (in Uzjend 559-574/1168-1179). Reconstruction of the types by E. A. Davidovich.

31 559/1163-64.
32 570/1174-75.

b. Reforms of Qadir Khān (574-607/1178-1211) in Uzjend.

Davidovich (1961, 194, 195; 1979, 197) established that several monetary reforms were carried out in Uzjend during the reign of this ruler. When the amount of fiduciary copper silverwashed dirhams surpassed the trade needs for circulating coin, inflation began. The government of Qadir Khān tried to

rectify this by the issue of new fiduciary dirhams, increasing every time in weight and size. Having started in 574 "heavier than 3 g", copper silverwashed Uzjend dirhams ended circa 607/1211 at 12.9 g. Davidovich (1961, 195) singled out 5 metrological groups in the coinage of Qadir Khān: 1 - heavier than 3 g, average diameter 27-28 mm - AH 579; 2 - about 4 g, average diameter 31-32 mm - before AH 594 and in AH 596; 3 - about 6 g, average diameter 35-36 mm - AH 582-584, 594, (606?), 4 - heavier than 8.5 g, average diameter 40-41 mm - AH 601, 603, (606?); 5 - heavier than 11.6 g, average diameter 42-43 mm - AH (606?), 607. This metrology helps to date Qarākhānid coins of that time which have no date. According to Davidovich, coins of types 2 and 3 circulated in AH 582-586, types 3 and 4 in AH 601-606, and types 4 and 5 in AH 606-609. During each of those periods 2 types, or denominations, circulated at a ratio of 1:1.5. When monetary reform took place as a result of inflation, the old lighter denomination was banned, while the old heavier denomination started to play the role of the lighter denomination for the new coins which were half as heavy again.

The reforms in Uzjend usually triggered a sort of chain reaction. When fiduciary silverwashed copper dirhams grew heavier and bigger in one of the principalities the others had to follow suit.



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The third phase of the money circulation. Fiduciary copper silver-washed dirhams of Uzjend minted by Qadir Khān (574-607/1179-1211). Reconstruction of the types by E. A. Davidovich.

33 579/1183-84.
34 582/1197-98.
35 594/1197-98.
36 596/1199-1200.



33



Money circulation in Samarqand (the last two decades of the 12th century - the first decade of the 13th century)

In Samarqand the situation was better by comparison with Uzjend. Inflation occurred less often than in Uzjend. The Treasury was probably cautious enough not to let the output of fiduciary coins increase uncontrollably. The exchange rate of fiduciary copper silverwashed dirhams in Samarqand was more stable and high enough for them to be able to be changed into fulūs. Nine types of fulūs, minted in Samarqand, are known and none so far known for Uzjend. Apart from anything else, the mintage of fulūs had a psychological effect: it meant that since those fiduciary dirhams could be exchanged into fulūs they were valuable enough and valid. By this simple expedient the Treasury tried to support the circulation of large, copper silverwashed dirhams struck in Samarqand. There was also a more or less regular minting of gold dinars in Samarqand, while only one dinar minted in Uzjend is so far known.

The appearance of a new, heavier type of fiduciary dirham in Uzjend eventually led to the appearance of new, more heavier types in other principalities, Samarqand included. But it looks as if the Treasury of Samarqand indulged in one of the Middle Ages's common forms of exploiting the circulating currency, by gradually (but not too much) reducing the weight of the coins without changing their face value. After the minting of a new, heavier type, its weight was reduced little by little while its face value remained the same. This method of exploiting the currency was far less lucrative than the massive output of fiduciary coins, but, on the other hand, it was less dangerous and did not lead to inflation and the devaluation of the fiduciary coins.



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41



The third phase of the money circulation. Fiduciary copper silver-washed dirhams of Uzjend minted by Kūch Arslān Khān Muhammad b. Ahmad (607-609/1211-1213).

40 609/1212-13. Type 1. Reconstruction of the type by B. D. Kochnev.

41 609/1212-13. Type 2. Reconstruction of the type by E. A. Davidovich



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The third phase of the money circulation. Fiduciary copper silver-washed dirhams of Samarqand minted by Sulṭān 'Uthmān b. Ibrāhīm (601-609/1204-1212). Reconstruction of the types by Michael Fedorov.

- 37 605/1208-9. Type 1.
- 38 605/1208-9. Type 2.
- 39 606/1209-10.



43



44



The third phase of the money circulation. Fiduciary copper silver-washed dirhams of various Qarākhānīd appanage principalities. Reconstruction of the types 1, 2 by E. A. Davidovich.

- 42 Bināket 602/1205-6. Ulugh Akdash(?) Jaghrā Khān. (on page 13)
- 43 Marghinān 602/1205-6. Qutluḡ Toghān Khāqān.
- 44 Bārāb 603/1206-7. Qutluḡ Bilghā Khāqān Husain. Reconstruction of the type by B. D. Kochnev.

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Dating Gondophares by Mrs. Dr. Christine Frölich

It has been considered for years now that Gondophares, the founder of the Indo-Parthian dynasty, reigned between 20 and 46 AD. This assumption is based upon the following three pieces of evidence: the story of the apocryphal Acts of Thomas citing a king named Gondophares, the supposed journey of Apollonius of Tyana told by Philostratus and the Takht-i Bahi inscription dated year 103 of an unspecified era and of the 26th year of Gondophares' reign. But contrary to this consensus, RC Senior, some years ago, rejected all this theory, asserting that both the textual sources were not reliable and that the Takht-i Bahi inscription did not refer to Gondophares I but to one of his followers, Gondophares-Sases. Thus, he places Gondophares I in the second half of the 1st century BC, just after Azes' death (20/19 BC), and Gondophares-Sases between 20 and 46 AD.




The aim of this article is not to discuss the usual arguments. It has been proved by other scholars that the Taxila city described by Philostratus was not the same as the one excavated by Sir John Marshall (See P. Bernard, 1996, 507-12 and 1999, 70-4). Furthermore, DW MacDowall stressed that Gondophares was probably a dynastic name like Augustus for the Roman emperors (See DW MacDowall, 1991, 246). Together with this last piece of evidence, one may accept that Sases effectively took Gondophares' name as a surname. Concerning the Takht-i Bahi inscription, one has to prove that year 103 is dated in the Azes era and that the Azes era is the same as the Vikrama era, beginning in 58/7 BC. There is no place here to discuss this particular point, which is usually accepted. There are other aspects of Indo-Parthian history which have to be pointed out here and may represent a more solid basis for dating Gondophares I and some of his successors.

There are four different kinds of argument which can be used to try to arrange Indo-Parthian chronology, each taken in a different part of the Indo-Parthian kingdom and history: the iconography and the legends of the silver drachms in Seistan; the copper tetradrachms from Arachosia and Paropamisadae; the context of Indo-Parthian power in Gandhara and Kushan chronology. Some of these arguments have recently been reappraised thanks to new elements, as we shall see later on. Let us first have a look at the Seistan silver drachms.

Seistan

The silver drachms struck by the Indo-Parthian kings in Seistan, near the Iranian border, west of Afghanistan, in the Herat area, are directly inspired by the Parthian drachms and tetradrachms. They were struck to the Parthian weight standard and style. According to the similarity between Indo-Parthian and Parthian coins some scholars have tried to date the Indo-Parthian coinage — and thus to date the different Indo-Parthian kings. For instance, M. Alram (M. Alram, 1987, 133) considered the shape of the diadem and of the tiara on some Gondophares (figs. 1 & 2) and other Indo-Parthian kings (Abdagases II, Ubouzanes, Orthagnes) in order to date the Indo-Parthian dynasty late in the 1st and 2nd century AD. On the other hand, Senior used the same details to date Gondophares I to the second half of the 1st century BC., just after the supposed fall of the Indo-Scythian Azes (Senior, 1997, 4-7). So the same comparison gives at least three different points of view, including the general assertion, depending on how one wants to date Gondophares I. If the similarities between Indo-Parthian and Parthian issues are real, they rely only on isolated iconographical details. On one of his issues, Gondophares wears a diadem made of a triple ribbon, a round loop and three ribbons falling on the back of the neck (fig. 1; Senior, 2001, type 210.1). The same diadem appears on the portrait of the king wearing a tiara and a diadem (fig. 2; Mitchiner, 1976, type 1070; Senior, 2001, type 240, classified under Sases' name). The tiara is exactly the same as the one worn by the Parthian kings, Gotarzes I (95-90 BC; see D. Sellwood, 1980, type 33.4) and Phraates III (70-57 BC; see D. Sellwood, 1980, type 39.1). The diadem with round loop worn by Gondophares cannot be found on these two Parthian kings' issues. It appears only from Orodes II onwards (57-38 BC; see D. Sellwood, 1980, type 44.1) and was repeated by many other Parthian kings till the end of the 1st century AD. Furthermore, the ribbons falling onto the king's neck on Parthian issues cannot be compared with those of Gondophares' diadem: they are wavy, single or double, but never straight and triple like Gondophares' ones. Thus, the comparison relies only on isolated elements and not on a whole Parthian portrait or headdress. Dating Gondophares using this argument seems quite hazardous; only a *terminus post quem*, the beginning of the second half of the 1st century BC., can be deduced from these iconographical details.

The same observation is true for the reverse of the Seistan issues. The Greek legend is arranged around the design in a square shape (figs. 1 & 2). The Nike crowning the king seated on a chair is inspired by the Parthian issues where both Nike and seated king are common — even if they are not seen in this very particular way. The model is clear, but gives no fixed chronological clue.

In the same area, near the Iranian border, some countermarked Parthian coins were found. Different kinds of countermarks on Parthian issues are known, but two special countermarks may be related to the Indo-Parthian dynasty: one with a *tamga* , usually called the Gondopharid symbol, the other one with the same *tamga* and the name "ΟΡΘΑΓΝΟΥ" written around. This last countermark is very rare and the name was related to the Indo-Parthian ruler Orthagnes, one of Gondophares' successors. The first countermark () is counterstruck on Orodes II drachms (57-38 BC) and on Orodes II and Phraates IV (38-2 BC) local imitations (See Sellwood, 1980, countermark iii and types 91.7, 91.9 and 91.11); the second one () with ΟΡΘΑΓΝΟΥ is counterstruck only on Orodes II local imitations (See D. Sellwood, 1980, countermark iv and type 91.10). These countermarked coins were used by RC Senior to date Gondophares I to the second half of the 1st century BC (Senior, 1997, 8). According to him, Gondophares is the only one responsible for countermarked drachms bearing a *tamga*. But firstly the countermarks are struck on both Orodes II and Phraates IV regular issues and

imitations. Thus, they only provide again a *terminus post quem*: 2 BC, the date of Phraates IV's fall from power. Secondly there is no certainty about the author of the countermarks: if it is probable that the king belongs to the Gondophares dynasty because of the *tamga*, nothing at all proves that Gondophares himself is the only one responsible. Furthermore, the Zaranj hoard published by Bopearachchi and Grenet in 1999 contains countermarked coins struck both on Orodes regular issues and on imitations, together with Parthian and Indo-Parthian silver drachms, from Gondophares to Abdagases II.

Arachosia and Paropamisadae

Easternmost in the Paropamisadae and Arachosia provinces, the Indo-Parthians struck copper tetradrachms bearing the bust of the king and a Greek legend on the obverse and a Nike holding a crown with a Kharoshthi legend on the reverse. Two mints have to be distinguished: to the north, in the Begram area, the coins are of poor quality and were struck only by Gondophares and Abdagases (fig. 3); the king's head is generally turned to the right. Overstrikes of Gondophares on Hermaeus imitations (See O. Bopearachchi, 1991, series 20) and of Kujula Kadphises on Gondophares indicate that the first Kushan king put an end to Indo-Parthian rule in this area. The even poorer quality and the scarcity of Abdagases' issues make it certain that the Indo-Parthians did not rule for a long time in the Paropamisadae. Once again, the date of their reign depends on the Kushan chronology — and on the approximate date of Kujula Kadphises' invasion to the east.

In the Kandahar area, i.e. in Arachosia, Indo-Parthian rule lasted for longer. We know for certain that kings reigned from Gondophares onwards to Pacores, and that some unknown kings imitated the Indo-Parthian coins after the fall of the dynasty (See chart 2). Once again, overstrikes help us to understand the chronology. A large quantity of Pacores' coins were overstruck on Soter Megas copper tetradrachms (fig. 4). They indicate that Pacores was contemporary with Soter Megas. Now the question of this Kushan king's identity has been recently solved. Thanks to the Rabatak inscription, we know that Kujula Kadphises was followed by Vima Tak[to], who was himself followed by Vima Kadphises. The equation Soter Megas = Vima Tak[to] is based upon some of Soter Megas' coins bearing the name Vima (See Sims-Williams and Cribb, 1995/96; for the controversy on the name of Vima Tak[to], see Fussman, 1998 and MacDowall, 2002). Thus, we know that Pacores was Vima Tak[to]-Soter Megas' contemporary in Arachosia and previously that Gondophares was Kujulas Kadphises' contemporary in the Paropamisadae.

Gandhara

On the other side of the borderland, in Gandhara, Pakistan, and in the Taxila area, Indo-Parthian chronology relies of course on numismatics, but also on epigraphy. Three kings struck copper tetradrachms: Gondophares, Abdagases and Sases, then followed by Soter Megas. Besides these kings, we know that local rulers existed, especially to the north of Peshawar, in the Bajaur valley. One particular local dynasty is known through both coins and inscriptions: the Apracarajas. Their relationship with the Indo-Scythian and Indo-Parthian powers has been argued by many scholars. There is no place here to discuss all the details concerning the Apraca dynasty. What has been accepted is that Aspavarma, who is known from coins and inscriptions, formed the link between the last Indo-Scythian king, Azes II, and the founder of the Indo-Parthian dynasty, Gondophares. Indravarma, who was supposed to be known from coins and inscriptions, was thought to be the founder of the local dynasty of the Apracas. Senior proved some years ago that Indravarma, who was effectively a member of the Apracas and Aspavarma's father, did not strike coins; the coin legends say that Itravasu, Vijayamitra's son, struck copper

coins (See Senior, 1994, 1995 and 1998). Both Indravarma and Itravasu are known thanks to epigraphy. About fifteen inscriptions dealing with the Apracas are now known to us, and four of them give some essential clues to the Apraca family-tree and to Gandhara chronology. The interpretation of the inscriptions is decisive for the reconstitution of the Apraca family-tree. Two main interpretations exist; RC Senior adopted R Salomon's one, accepting that Visnuvarman and Vispavarman were one and the same man, the father of Indravarma, who was *strategos* and prince (See R Salomon, 1996). But recently H Falk convincingly proved that two Indravarmans existed, one the king of Apraca and Vijayamitra's son, and the other one a prince and son of Vispavarman. Aspavarma is the son of the first one and Intravasu is his nephew (See H Falk, 1998 for the complete analysis and the Apraca family-tree).

This being accepted, one also has to look closely at the coins and one particular inscription, dated in the 98th year of the Azes era (See A Sakadata, 1996). This inscription, which is not taken into consideration by RC Senior and was considered as doubtful by some scholars, says that in the 98th year of the Great King Azes, during the reign of Abdagases, Gondophares' nephew, and during the rule of Aspavarma, *stratega*, son of Indravarma, Sivasena's wife, Aryasrava, dedicated some Buddhist relics. The Kharoshthi text gives Abdagases exactly the same title as the one which appears on his Gandharan issues: son of Gondophares' brother — i.e. Gondophares nephew. Although the dating formula does not mention that Azes is dead, which is the usual way in other inscriptions of that time, and, although the way it gives Abdagases' and Aspavarma's titles is the very same as on the coins, this inscription seems to be genuine. Furthermore, Aspavarma and Indo-Parthian Gandharan issues indicate that it is possible that Aspavarma lived — or struck coins — at the same time as Abdagases. If one looks at the Indo-Parthian Gandharan issues, from Gondophares to Sases, together with the coins of Itravasu and Aspavarma, it can be seen that Itravasu and Aspavarma copied Gondophares' — and, through them, posthumous Azes — coins with the king mounted on horseback on the obverse and Athena standing to right on the reverse. But the monograms they used are quite different. Secondly, the issues bearing on the obverse the king mounted on horseback walking to right and Zeus standing to right on the reverse concern only the Indo-Parthian kings starting with Gondophares (fig. 5) and ending with Sases. It was then taken up again by the Kushan Soter Megas with different mintmarks. Aspavarma, Abdagases and Sases share the same issues with the king mounted on horseback walking to left on the obverse and Zeus standing to right on the reverse (fig. 6). All these issues bear on the obverse, in front of the king, a *tamga* (𑀘) and on the reverse the monogram (𑀧) associated with different mintmarks and *aksharas* which are specific to each king or satrap (See chart 1). Finally, the three rulers share another issue with the king mounted on horseback on the obverse and Zeus Nikephorus on the reverse. This last type was not used by Gondophares and is represented only by four drachms in Aspavarma's coinage. But one can immediately notice that the same mintmarks characterise these particular issues: a *tamga* on the obverse and a variation of the 𑀧 monogram on the reverse associated with a Greek *beta* over a *gamma* (β over γ).

Gondophares (Seistan)

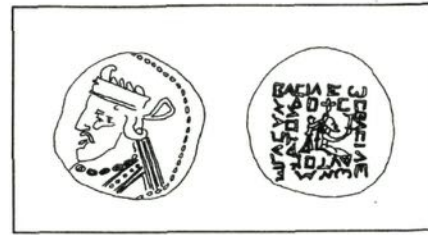


Fig. 1



Fig. 2

Gondophares (Begram)

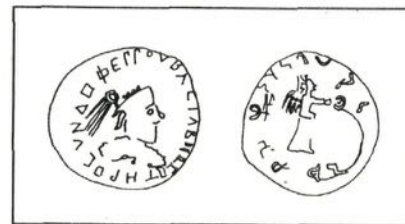


Fig. 3

Pacores (Arachosia)



Fig. 4

Gondophares (Gandhara)



Fig. 5

Abdagases (Gandhara)

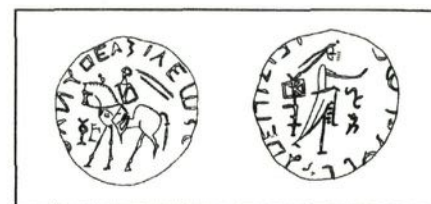
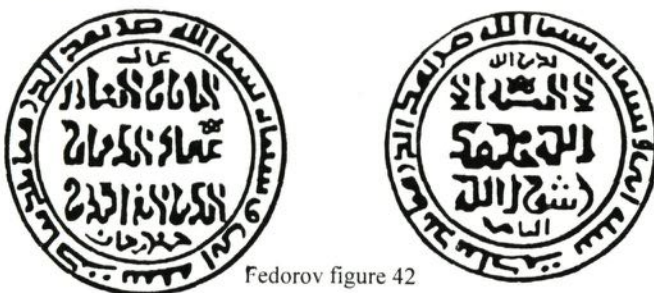


Fig. 6



Fedorov figure 42

Chart 1 : Gandharan copper issues, monograms and mintmarks

Kings	Siva & other associated types	KMW/ Athena to r.	KM to r./ Zeus to r.	KM to l./ Zeus to r.	KMW/ Zeus Nikephorus
Gondophares	𑀘/6, 𑀧+𑀢 𑀘/𑀢, 𑀧	𑀘/𑀧+𑀢, 𑀢 𑀘/𑀢, 𑀢 𑀘/𑀢, 𑀢	𑀘/𑀢, 𑀢		
Itravasu		𑀘/𑀢, 𑀢+𑀢			
Aspavarma		𑀘/𑀢, 𑀢+𑀢, 𑀢		𑀘/𑀢+𑀢, 𑀢+𑀢	𑀘/𑀢, 𑀢+𑀢
Abdagases			𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢	𑀘/𑀢+𑀢, 𑀢+𑀢 𑀘/𑀢+𑀢, 𑀢 𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢+𑀢	𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢+𑀢
Sases			𑀘/𑀢+𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢+𑀢, 𑀢+𑀢	𑀘/𑀢+𑀢, 𑀢+𑀢 𑀘/𑀢+𑀢, 𑀢+𑀢	𑀘/𑀢, 𑀢+𑀢 𑀘/𑀢, 𑀢+𑀢
Soter Megas			𑀘/𑀢, 𑀢		

Abbreviations :

- KMW King Mounted on horseback holding a Whip (usually to right)
- KM King Mounted on horseback

Thus, the similarities between Aspavarma's and Abdagases' coinages, followed by the issues of Sases, coincide with what is said in the inscription dated in the 98th year of the Azes era. Furthermore, the shape and the size of the flan of the Abdagases and Aspavarma issues together with the script and the style used on the coins point in the same direction. There is more than a possibility that Aspavarma was *strategos* during Abdagases' reign. And this last king was probably a sub-king of Gondophares, as the study of the titles he used suggests: firstly just "king, nephew of Gondophares", then "great king" and finally "king of kings".

Another last piece of evidence is provided by the Soter Megas coinage: as it has been pointed out earlier, Soter Megas, for his local issues, copied the coins of Sases with the king mounted on horseback on the obverse and Zeus turned to right on the reverse (See N. Sims-Williams and J. Cribb, 1995/96, 119-20). He may also have overstruck one Sases issue which would confirm that he followed the Indo-Parthian king. As the great number of Kujula Kadphises coins found in Taxila suggest, Sases would have lived at the end of the reign of the first Kushan king.

To put it in a nutshell, we know that, in Gandhara, the *strategos* Aspavarma was Abdagases' contemporary and that both of them were ruling in year 98 of the Azes era; Sases, Abdagases' successor, was probably a contemporary of Kujula Kadphises and was immediately followed by Soter Megas.

The Kushan chronology

Apart from that of Seistan, all the Indo-Parthian chronology is closely related to the Kushan one, because this powerful dynasty put an end to Indo-Parthian power in almost every area. If

Senior dates Gondophares I to the second half of the 1st century BC, it is partly due to the fact that he places the Kanishka era in 78 AD, i.e. at the same time as the Saka era. Everyone knows how long and passionate the debate about the date of Kanishka has been since the beginning of the 20th century. But recently, H Falk convincingly proved that the Kanishka era has to begin in 127/128 AD, according to an Indian text, the *Yavanajataka*, written by Sphujiddhavaja in 269 AD. (See H Falk, 2001, 121-36 for the complete discussion). If Kanishka's reign began in 127/128 AD, it means that all his predecessors reigned in the 1st century AD. We know through the Chinese sources that Kujula Kadphises, the first Kushan king, died when he was about 80 years old. He was then followed by his son Vima Tak[to] and his grandson Vima Kadphises, according to the Rabatak inscription. Thus, we can safely place Vima Kadphises in the beginning of the 2nd century AD, Vima Tak[to] in the last decades of the 1st century AD and Kujula Kadphises, who had a long reign according to the Chinese texts, in a large part of the first half of the 1st century AD.

Finally, according to the numismatic evidence of the Parapomisadae area, Gondophares was contemporary with Kujula Kadphises, and Pacores with Soter Megas in Arachosia; Sases was immediately followed by Soter Megas in Gandhara, and Abdagases was his immediate predecessor, ruling for certain in year 98 of the Azes era. This means that Gondophares actually reigned in the first half of the 1st century AD, Sases around 50 and Pacores at the end of the same century.

Chart 2 : Indo-Parthian and first Kushan kings chronology

DATES	SEISTAN	BEGRAM	ARACHOSIA	GANDHARA
		<i>posthumous Hermaeus</i>		
First half of 1st c. A.D.	Gondophares	Gondophares	Gondophares	Gondophares
98 Azes era (c. 40 A.D.)		Abdagases		Abdagases/ Aspavarma
			Sarpedones	
	Orthagnes		Orthagnes	
	Ubouzanés			
		<i>Kujula Kadphises</i>	Sases	Sases
	Sanabares		Sanabares	
	Abdagases II		Abdagases II	
	Pacores	<i>Soter Megas</i>	Pacores / <i>Soter Megas</i>	<i>Soter Megas</i>
			Late Indo-Parthians	
		<i>Vima Kadphises</i>		<i>Vima Kadphises</i>
127/8 A.D.		<i>Kanishka</i>		<i>Kanishka</i>

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Some New Indo-Scythian Coins

By Bob Senior

In ONS 172 the monograms for coins 45 and 47 did not show up as clearly on the scans as I had hoped and so I reproduce them more clearly here;



48) **MAUES** Æ 9.00 gm In these notes I have drawn attention to several important or unpublished coins and these usually consist of new denominations or varieties of existing types. This coin is however, a new *type* for Maues. The obverse depicts a deity that I take to be Zeus, holding a torque in his right hand and with a trident in his left. The prongs of the trident bisect the epithet ΒΑΣΙΛ..ΕΩΝ. Normally a deity with a trident may be taken to be Poseidon but Zeus is shown holding a trident on certain coins of Azes and I feel this depiction more resembles that figure. The reverse has a horse walking to the left, with the monogram often associated with Taxila before it. This new type fits nicely with the two round coins, Issues 12 and 13 in *ISCH*. The coin seems to be overstruck on Issue 5.1 (Elephant head/Caduceus).



49) **AZILISES** Æ 1.68 gm Since I wrote *ISCH* a few tiny denominations have surfaced of known coin types and this is another. It is an 1/8 unit of Issue 58.5 and is therefore classified as 58.5c. ...yilishasa of the king's name is very clear. Perhaps more such tiny denominations are to be expected.



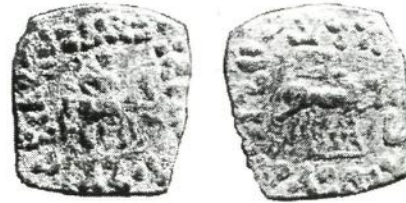
50) **VONONES WITH SPALAHORES** Æ 2.13 gm Until I wrote *ISCH* no fractions were known for this series of copper coins but now, in addition to the 1/2 units published there, I am publishing this 1/4 unit, previously unknown. Classified as 66.1b it seems to be from the same dies as the 1/2 units but is much thinner.



51) **AZES** Æ 1.49 gm Some tiny coins were issued in the name of Azes (*ISCH* 109 - 111), probably at provincial mints. This has 'Elephant to right' obverse with monogram above as on 109. The legend is on four sides with square *omikra*. The reverse is as 110.10, with lion right, but has monogram 'square with Greek *beta* within' above the lion. The legend is on four sides with epithet *Rajarajasa*. Several more small varieties similar to this have surfaced which I will publish in due course.



52) **AZES** Æ 1.58 gm Another tiny fraction not recorded before is this square coin of 'Mounted King with spear' obverse and Bull right reverse types. There is no letter in the obverse field and only a retrograde 'Z' in a square above the bull on the reverse. The reverse legend reads '*Rajadirajasa*'. I shall classify it as type 121.20b, a 1/4 unit, though it might possibly be an 1/8th unit.



53) **AZES** Lead 0.915 gm. Posthumous issue with 'Lion walking right' obverse and 'Deity with cornucopia left' reverse. Above the lion is a Kharosthi '*Am*' and on the reverse in the right field '*Ra*' with the usual monogram in the left field. I had not recorded a coin as small as this in *ISCH* nor one with these field letters. The classification will be 123.23



54) **KHARAHOSTES** Æ 7.21 gm. When I drew the table on page 39 of Volume III of *ISCH* for issue 143 I showed that there were three obverse field letters used with three different reverse variants. The latter were identified by the lack of any Kharosthi letter (column 1), '*Sam*' (column 2) or '*Sa*' (column 3). For the latter group only the combination with the obverse letter '*Pra*' was known but here is one with '*Jha*'. Classified as 143.9



55) **KHARAHOSTES FAMILY** Æ 2.57 gm. This and the next type are seemingly more common and complicated than previously thought with new variations surfacing periodically. This example resembles issue 142.1 with 'Horseman left' and 'Facing figure' on the reverse. The reverse symbols are Kharosthi '*Kha*' retrograde left and monogram as on issue 141 right. The reverse legend begins on the right and reads around with the last two characters of '*Rajadirajasa*' and '*Ayasa*' in the bottom line. Classified as 142.2



56) Æ 2.22 gm. As the last but the reverse legend seems shorter with just 'Ayasa' in the bottom line - no *Mahatasa* ? In the reverse left field is 'Dhra'. 142.3



57) **HAJATRIA** Æ 3.09 gm. Issues 145/6 seem to exist in two weight types, one heavy (c. 4 gm), one light (c. 2+ gm). Here is an unpublished coin with obverse 'King mounted left' as on Issue 146 but unusually the three spoked wheel symbol is *behind* the king, upper right. On the reverse there is a Nandipada in the top right field and the retrograde 'Kha' letter below. In the right field is a pellet top and uncertain letter below. The legend uniquely reads '*Kharaosta Chatrapa putrasa Hajatria.....*'. The legend down the left side is off the coin but I imagine that it reads '*Chatrapasa*'. This would mean that this is the first coin known to give the title Satrap to Hajatria and not just his father. Hopefully this will be confirmed by the future discovery of another specimen. Classification 146. 2



58) ditto Æ 2.12 gm. As issue 148.1 but with clear reverse symbols, 'Sa' left and the usual monogram right. Slightly barbarous Kharosthi legend.



59) **GONDOPHARES-SASES** Æ 8.00 gm. In *ISCH* I catalogued this coin as 223.1 'Uncertain' since the only known example was the worn specimen in the BM. This beautiful and perfectly preserved coin now allows the coin to be allocated to Gondophares-Sases. It is a unique 'type' though the very rare Issue 214 of Gondophares I may have been its inspiration. The weight of this new coin may also be related to that issue since it does not conform to the billon tetradrachm issues. The obverse shows the king enthroned right holding a torque. His feet rest on a stool and in the left field is the Gondopharid symbol. The Greek legend around is corrupt but seems to contain elements of:

ΒΑΣΙΛΕΥΟΝΤΟΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΚΑΘΟΥ

The reverse shows a figure standing left holding a torque, and a diaphanous scarf billows around him. The 'Taxila' monogram is in the left field and corrupt Greek 'B' over Kharosthi 'Va' in the right. These mint controls appear on issue 243 and the style of both obverse and reverse legends are identical to this issue. There is obviously some connection despite this coin being of copper, with no sign of silver content and its weight being of a different system. Perhaps the coin is a medallion? The reverse legend reads '*Maharajasa Rajadirajasa [Devavratasa] Guduphara/ Sasasa*'. The Devavratasa is partly off the coin and is slightly uncertain. Inasmuch as this coin has solved one mystery - as to who was the issuer of the type, it creates another in posing the question as to why such a unique style coin was struck which does not conform to any of the monetary systems then in use by Gondophares-Sases. This king's

coinage is turning out to be the most varied and interesting of all the Indo-Parthian/Scythian issues in Gandhara after the Azes period.



60) **SARPEDONES** AR obol 0.53 gm. In volume 1 of *ISCH* on page 111, figure 14, the Gondopharid succession is shown and I placed Sarpedones there as the direct successor of Gondophares I. One of the latter's issues, which was unique to him, is Issue 209 in good silver. It bears the his name plus the title 'Theos' and is of excellent style. Now this additional obol has come to light which is in baser silver (slightly corroded and difficult to scan) and cruder style. It bears *no* legend on the obverse below the riding Dioscuroi, but has on the reverse the name ΣΑΡΠΗΔΩΝ to the right of Nike, who stands right with her arm raised and holding a wreath. It would seem that these obols (bearing solely Greek legends) were struck somewhere in 'Bactria', in territory that presumably fell to the Kushans, (as did all the land north of Ghazni) on the demise of Gondophares I. Having run out of numbers to allocate, I should classify this Issue as 252A.1



It is surprising how many new coins have surfaced in the last few years since I compiled my three volume 'Indo-Scythian Coins and History' and more are sitting in my trays yet unpublished. Eventually enough will come to light to enable me to write a supplement to the catalogue and help revise some of the statements that I made therein.

Late 4th Century AD Copper Coins of Kashmir - Smast Hoard By Haroon Tareen

I have in my collection ten coins from a selection of small copper coins that were part of a hoard discovered at a cave near Mardan. This is now a well-known discovery called the Kashmir-smast Cave Find. It has also been confirmed from various sources, including local residents, that the hoard consisted mainly of copper coins with a few highly debased and corroded silver (probably contemporary imitation) Kushan coins. The copper coins were also in very poor condition due to corrosion. The ten coins that I acquired were in relatively good condition. I posted scans of those coins on the South Asia Coins Group's website in the first week of February last year but most members did not appear enthusiastic about this find. Joe Cribb and Wilfried Pieper, however, were prompt in responding and suggesting possible attribution for those coins.

It was, therefore, with great interest that I read through Mr Pieper's article in ONS Newsletter 170. Mr. Pieper however, chose to discuss only those coins that were in his possession, and the scans posted by me were not included (though some of these are in better condition than those discussed in the article, not to mention that some are unique). Since Mr. Pieper has already discussed the history and other details of the probable rulers of this series, I will only reproduce the scans here and also provide other relevant details



The first coin is a combination of Kushano-Sasanian and Kushan. On its obverse is the bust of a bearded king facing right within a dotted circle. The king is wearing a crown with turreted ends and topped by a crescent and a star. At the back of the crown is a ram's horn turned backwards. The king is wearing some kind of ornaments in his ears and around his neck. There is a small arch in front of the face which is probably a bow. The portrait is quite similar to Kushano-Sasanian monarchs, the Kushanshahs. The reverse side depicts a bull sitting left with a deity sitting on its back (holding some kind of a standard in front). The upper part of the goddess is, however, off flan. Weight: 1.65 g.



The next coin (T15-15) is indicative of the diminishing Kushan influence. The coin is an obvious hybrid of the common Kujula Kadphises coppers as it is overwhelmingly similar to the Kujula Kadphises coin also reproduced hereunder. The king's bust faces right and the portrait depicts Kushan/ Central Asian features. The king's raised hand is obscured by the cursive inscriptions in front.

The naked figure (probably Hercules) standing on the reverse is holding a tripod instead of the usual skin of the Micenean lion. There is a marine creature (probably a dolphin) at the feet of the standing human figure (Perhaps the species of Blind Dolphin, *Platanista minor*, that is presently endemic only to the Indus river in southern Sind, once flourished in that river far to the north, right up to Attock (then within the Kushan sphere of influence) where the said river leaves the rapids and enters into a calm flow. Otherwise it would not have been possible to draw a dolphin merely by hearing its description in Hellenic folklore – that again would have been highly corrupted after a time lapse of six centuries), its tail ending between the standing figure's legs. Next to the head of the creature is an unidentifiable object, probably an insect, a moth or a bird in flight or maybe something else. Any inscription on the reverse side is completely invisible due to wear. Weight: 1.5 g.



The third coin is similar to the first coin except that the bust of the king facing right within the dotted circle on the obverse is not as refined as that on the first coin and the quality of art-work or the standard of die making appears to have degenerated by the time this coin was struck. Another interesting feature on this coin is the Kidarite Symbol or *tamgha* behind the turreted crown. On the reverse side signs of wear are extensive and the seated bull design is only vaguely made out. Weight: 1.5 g.



The fourth coin] is a different variety. On the obverse, the king's bust right is within the dotted circle and wears a turreted crown with pointed edges. The engraving is rather cursive, and due to wear, much of it is now invisible. On the reverse the Kushano-Sasanian fire altar has been replaced by a three-pronged *tamgha* and the attendants by similar bars and lines. An interesting feature is a small counter-mark at 1-2 o'clock (i.e. on the upper right hand corner of the reverse side). The counter mark or what appears to be a counter-mark could be part of the original die, except that it appears distinct and separate from the original fabric and looks like a later punch. The counter-mark itself is unidentifiable due to wear but it looks somewhat like the "Hunnic face" counter-mark. Weight: 0.7 g.



The fifth coin is a combination of Hunnic-Sasanian style. On the obverse there is the bust of the king facing right, holding what appears to be an *ankus*, all within a dotted circle. The style on the obverse seems to be inspired either by Hunnic busts or by that of Soter Megas. The king's features show a short nose, thick lips and outwardly narrowing eyes that resemble those of Central Asian people. The headgear is that of some animal or bird but cannot be distinguished with clarity due to its being slightly off flan and wear of the coin. On the reverse is a cursive depiction of a fire-altar within a linear circle. There are no inscriptions on either side. Weight: 0.9 g.



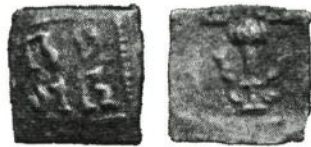
The sixth coin is from an entirely different series. On the obverse the bust of the bearded king is facing the front. The king has large eye-sockets and is wearing some kind of headgear with his hair falling out on the right side. He is wearing a necklace, the central jewel of which is distinctly large and prominent. The dotted circle around is worn and visible only in the lower right quadrant. The coin has some script, which I cannot decipher, on the left of the bust but only three letters are visible. On the reverse side a cursive *Ahuramazda* is rising out of the flames of a cursive fire-altar without any attendants. Four letters of the same script appear on the right side and the remainder, if any, are invisible due to wear as well as being off flan. The dotted circle around on the reverse side is equally worn and is visible in the lower right quarter only. Weight: 0.85 g.



The seventh coin is the most interesting coin of the lot. I have not seen anything like this one before and I am sure no one else has either. It is a rectangular coin. It has a king's head facing right with a *tamgha* in front. The *tamgha* is the same as on the 'Kota' coins published by Mitchiner. The head is rather elongated, with hair coiffed and the nose has been obliterated by a triangular punch. The king's forward-extended hand is holding a torch. The inscriptions are not visible due to wear. The reverse is also very interesting. An animal (probably a lion) with a rather elongated body and curled tail is facing left, its mouth agape in a roar. In front there is a post or a pole topped with a *tamgha* or some kind of marker. No inscriptions are visible. Weight: 0.7 g.



The eighth coin is square in shape. On the obverse is what appears to be an empty chair or a throne left, enclosed within a dotted rectangle most of which is invisible due to wear. On the reverse is something like a *tamgha* but I feel that it is a battle standard with the flag fluttering left. No inscriptions are visible on either side. Weight: 1.1 g.



The ninth coin is also a square-shaped coin. It has cursive Greek? letters on the obverse and a *tamgha* (or candelabra) on the reverse. It is in very good condition. Weight: 0.85 g.



The tenth coin is heavily encrusted with deposits and patina. It also shows signs of corrosion. Nothing much else is distinguishable on either side except that the size, weight (0.95 g) and markings (on the reverse) are similar to those of coin 32 in Wilfried Pieper paper in ONS Newsletter 170.

A Religious Coin of Jalal al-Din Fath Shah

By S. M. Iftikhar Alam

Jalāl al-Dīn Fath Shāh ascended the throne of Bengal in late 885 AH or early 886 AH (1481 AD) by deposing his brother Nūr al-Dīn Sikandar Shah and reigned until 893 AH (1487 AD). This later Ilyas Shahi king issued different types of coins from different mints. Many of these coins have come to light through different books and catalogues.¹

Recently a coin of Fath Shāh has been discovered which contains some unique titles adopted by this king. Such titles have never been found used by any other king. The full description of the coin is as follows:



Metal: Silver, Weight: 10.6g (a full tanka of Bengal), Size : 27mm. Script: Arabic.

Obverse legends : *jalāl al-dunyā w'al- dīn / abū-l muẓaffar wa murīd al-nabī / nāṣir al-sahābihi fath shāh / al-sultān bin mahmūd/ shāh al-sultān.*

Reverse legends : *la ilaha illa allah / muhammad rasūl / allah khazāna 890.*

Here the king, Fath Shāh takes the titles of "*abū-l muẓaffar*", "*murīd al-nabī*" and "*nāṣir al-sahābihi*". Of these *abū-l muẓaffar* (meaning father of the conqueror) is a very common title/kunya used

by Fath Shāh as well as by other Bengal Sultans. But the other two titles, *murīd al-nabī* (meaning the follower of the prophet of Islam) and *nāṣir al-sahābihi* (meaning the helper of his companions²) are absolutely new and are not known to have been used by any other ruler. However, the companions of the prophet have been mentioned in the following inscriptions of the Bengal Sultans:

1. Satgaon (Hugli, W. Bengal, India) inscription of Sultān Nāṣir al-Dīn Maḥmūd Shāh dated 861 AH.³
2. Darasbari Madrasah inscription (Firuzpur, Gaud, Nawabgonj) of Sultān 'Alā' al-Dīn Ḥusain Shāh dated 909 AH.⁴
3. Purnea (Bihar, India) inscription of Sultān Ghiyāth al-Dīn Maḥmūd Shāh dated 943 AH.⁵

In all these inscriptions the companions have been mentioned while paying respect to the companions of the prophet, Muḥammad, and praying for them along with the prophet. But no title mentioning the companions of the prophet of Islam has been used by any of these rulers.

In the coins and inscriptions, the sultans of Bengal and Delhi adopted different titles and inscribed various legends for both political and religious reasons. For example, some rulers inscribed the Kalima and the names of the four Khalifas of Islam out of religious devotion, some mentioned the Abbasid Khalifas for reasons which are more political than religious and some even called themselves the Khalifa of God mainly for political reasons.

For political reasons, Fath Shāh also took such titles as *sultān al-salāṭīn*⁶ (the king of kings) and *khalīfat allāh bi'l- hujjat wa'l- burhān*⁷ (khalifa of Allah by proof & testimony). But at the same time his religious devotion can be found in his first inscription from Mahdipur, Gaud, W. Bengal, India where Fath Shāh called himself the "revealer of the secrets of the Quran, learned in the sciences of religion"⁸. The inscription is dated 889 (AH). Now the question is whether these new titles i.e. "*murīd al-nabī*" and "*nāṣir al-sahābihi*" are political or religious.

This particular coin was issued in 890 (AH) i.e. during the later half of Fath Shāh's reign. The *qadam rasūl* type of coins⁹ of this ruler issued from Khazānah, Dār al-Ḍarb and Fathābād are also dated 890.

Another type of Fath Shāh's religious coin is described by Stan Goron/J.P. Goenka in *The Coins of the Indian Sultanates* (coin type B633) inscribing "The Sultan, renowned as a disciple of God and the fifth companion..... the vice-regent of the Almighty resplendent in the light of the caliphate and "possessor (supporter) of the destitute". This coin is also dated 890 (AH). In fact all the known coins of Fath Shāh with religious legends are dated 890 i.e. the later part of his reign.

Now considering all these examples of religious coins and inscriptions of Fath Shāh, it seems that he became more pious during the second half of his reign. But was there any political motive behind this? Muhammad Mohar Ali states¹⁰ "The last years of Fath Shah's reign were clouded by the growing influence of the Abyssinians who had been recruited in large numbers during Barbak Shah's reign. Like the Turkish guards of the 'Abbasid khalifas, these Abyssinians occupied most of the important positions at court. They also manned the palace-guards of the sultan. Fath Shah appears to have grown tired of their power and highhandedness and to have taken some steps to curb their influence." In response the Abyssinians began to conspire against Fath Shāh. Whether Fath Shāh was aware of this conspiracy or not, he knew well that it was very difficult to eliminate the Abyssinians completely as they already had "occupied most of the important positions at court." So is it possible that Fath Shāh, during the second half of his reign, adopted a strategy to strengthen his position by placing himself on a religious platform and issued the religious coins of different types to serve this purpose?

References

1. For coins of Fath Shāh please see :
 - a) Abdul Karim, *Corpus of the Muslim Coins of Bengal*, p. 99-101.
 - b) Stan Goron / J.P. Goenka, *The Coins of the Indian Sultanates*, p. 220-226.
 - c) Taisei-Baldwin-Gillio auction catalogue 28, Singapore 1999, p. 56-57.
2. By the word *al-sahābihi* i.e. the companions of the prophet, Fath Shāh might have referred to the religious leaders/saints of Islam during his reign as the actual companions of the prophet did not exist at that time.
3. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 130.
4. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 2635. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 376.
6. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 206-207.
7. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 206-207.
8. Abdul Karim, *Corpus of the Arabic & Persian Inscriptions of Bengal* (Asiatic Society of Bangladesh), p. 206-207.
9. Stan Goron / J.P. Goenka, *The Coins of the Indian Sultanates*, p. 225.
10. Muhammad Mohar Ali, *History of the Muslims of Bengal*, vol. 1A (Imam Muhammad Ibn Sa'ud Islamic University, Riyadh, Kingdom of Saudi Arabia), p. 177.

A Rupee of Bajranggarh in the Name of Ajit Singh

By Shailendra Bhandare

Bajranggarh is a fortified town presently located in the Guna district of Madhya Pradesh. In historic times the area in which it is situated was a stronghold of a Rajput clan named the Khichis and as such was referred to as 'Khichiwada'. The Khichis belonged to the Chauhan stock of Rajputs and claimed descent from the legendary Prithviraj Chauhan of Sambhar and Delhi, who lost the Rajput supremacy to the Afghan ruler, Muhammad bin Sam, at the battle of Tarain in 1198 AD. After being lost in historical obscurity for a few centuries, the Khichis came into some prominence under Akbar. The clan inhabited the area around Gagraun on the western boundaries of Malwa when one member of the family named Gharib Das secured a *Jagir* at Sironj in Malwa. His son, called Lalji or Lal Singh, went on to establish a Khichi estate and founded Raghogarh, which subsequently became the chief seat of the Khichis. The political clout of the clan was further enhanced by matrimonial alliances with noted Rajput houses such as those of Jaipur and Mewar (Udaipur).

The Marathas invaded Malwa during the reign of Peshwa Bajirao I (1720-1740), and clashed with the Khichis under Balabhadra Singh (a descendent of Lalji). But a truce was soon reached between them and the Khichis formed an alliance with the Marathas. In 1780, Balabhadra Singh was succeeded by Balwant Singh, who was a weak ruler. Mahadaji Sindhia, the Maratha elder statesman and political virtuoso in Malwa, accused Balwant Singh of conspiring with the British, who were then at war with the Marathas. This sounded the end of the Khichi-Maratha alliance. Mahadaji subsequently marched upon Raghogarh and sacked it, taking Balwant Singh and his son Jai Singh prisoners. This action of Mahadaji was much a consequence of the weak position of Balwant Singh and the rise in his own political fortunes in the region.

After the sack of Raghogarh, a Khichi named Sher Singh put up some resistance against the Sindhias with the help of other discontented political factions in the region, such as the Nawab of Bhopal. The Sindhia had confined Jai Singh, the son of Balwant Singh, in the fort of Bhilsa. Sher Singh managed to help him escape from the fort and, subsequently, Jai Singh rallied support from other Rajput kings, such as the ruler of Jaipur, for his father to be released from the Sindhia's captivity.

Mahadaji Sindhia died in 1796. Subsequent years saw political turmoil within Sindhia's court with his widows refusing to acknowledge his adopted son Daulat Rao's claim to the throne. Jai Singh allied himself with the widow's faction but was defeated by General Perron's troops representing Daulat Rao. After his father's death in 1798, Jai Singh adopted the ruling title. He was known to

have been a cruel ruler, although brave and capable of government in every other respect. He was also an ardent worshipper of Hanuman the Monkey God. He spent almost his entire career fighting with the troops of Jean-Baptiste Filose, who was Daulat Rao Sindhia's courtier, and exacting tributes from petty rulers in the Khichiwada region. He made Bajranggarh his capital and struck coins in his own name. Jai Singh died of cholera in 1818 and a war of succession ensued between two claimants to the title, namely an adopted son, Ajit Singh, and a nominated successor, Dhonkal Singh. The Sindhia intervened and defeated Dhonkal Singh. In 1819, mediation was sought through the British and Ajit Singh was granted a fief by the Sindhia.

The coins of Jai Singh are unique in many respects. Firstly, he chose to strike them in his own name rather than the name of the Mughal Emperor, Shah Alam II, as was the practice. Secondly, they are inscribed in Devanagari script with legends mentioning the mint-name as 'Jainagar' (the alternative name of Bajranggarh) and the details of his regnal year. James Prinsep noted them for the first time in his *Useful Tables*, pp. 64-65 and offered a reading for the legends, albeit with a few errors. Webb in his *Currencies of the Hindu Kings of Rajpootana* merely reproduced what Prinsep said about the Bajranggarh rupees. A subsequent attempt to read the legends was made by Rodgers (*Catalogue of the Coins in Calcutta Museum*, vol. II, pp. 156-157). They were extensively discussed by Richard Burn in his paper 'The Bajranggarh Mint and Coins', which appeared in *JASB*, vol. 66, part 1, no. 4, 1897, pp. 275 - 285. It was only in Richard Burn's article we find that the legends were read satisfactorily for the first time. The obverse reads '*Shri Rāghav Paratāpa Pavana Putra Bala Paya Kē*', while the reverse reads '*Yah Sikkā Par Chhāp Maharaja Jai Singh Kī* (followed by the regnal year) *Jayanagar*'. Respectively they translate as 'obtaining the strength from the Son of the Wind and glory of Rāghava' (i.e. Rama, the whole term being an allusion to Hanuman) and 'this coin bears the stamp of Maharaja Jai Singh (year) [struck at] Jayanagar'. These coins bear the mark of a club on the obverse. Both the mark and the obverse legend allude to Hanuman and compliment the devotion of Jai Singh to the god. Burn further provided a very detailed classification of these coins. Although he did provide the correct reading of the legends, his paper does leave a few lacunae. Most importantly he did not address the question of the occurrence of differentiating marks on these coins. Marks of a strung bow and arrow and a lotus bud were placed on the obverse and reverse, respectively, of these coins after the state was made into a Sindhia feudatory in 1819. These marks no doubt display a Sindhia affiliation, the strung bow and arrow in particular appearing on coins of other Sindhia mints such as Lashkar. Their occurrence on Bajranggarh coins was therefore not without a political significance. Burn, on the other hand, points to their similarity with marks of Bundi and Kotah coins, thereby ignoring the Sindhia connection.

Lingen & Wiggins rightly pointed out this Sindhia connection in their monograph *Coins of the Sindhias* (London, 1978, p. 22). But their attribution of coins in the name of Jai Singh without these marks, to the Sindhias needs reconsideration. Indeed, these coins were struck by Jai Singh as an independent ruler and therefore should be classified as issues of Bajranggarh state rather than Gwalior. Additionally they mentioned issues of copper and gold coins in a pattern similar to the silver rupees, but do not illustrate them. One such paisa (or takka) rests in the collection of the Fitzwilliam Museum, Cambridge and a quarter paisa is in the British Museum collection. Mention of an octagonal silver coin is also found in Burn's paper but none such is known to have survived. In all probability it must have been a special *Nazarana* or presentation issue. In addition to varieties listed by Burn and Lingen & Wiggins, it is evident that the arrangement of characters in the legend and the placement of symbols indicate that many minor varieties may exist for these coins. These may also reflect the fact that in the early years of the 19th century, these rupees were struck at mints located not only in Bajranggarh, but also at Shadhaura, Chanderi and Raghogarh. Those struck at Chanderi do not have the 'flower bud' and 'strung bow and arrow' marks. Instead they have a 'cannon' mark located at the end of the reverse legend, and a variation in the

obverse legend which reads 'Rāghavara Paratāpa', instead of 'Rāghava Paratāpa', apparently standing for 'Raghuvēer' an alternative name of Rama (Rāghava). It is interesting to note that the copper coins bear regnal year 11, which is the earliest known for coins struck in the name of Jai Singh. The rupees bear regnal years from 15 onwards and the Sindhia symbols appear from year 21, which corresponds to 1819, the year in which Bajranggarh was made subordinate to Gwalior. The coins, however, continue to bear the name of Jai Singh.

No coin struck in the name of Ajit Singh, the adoptive successor of Jai Singh was hitherto known. In the collections of the Heberden Coin Room, Ashmolean Museum, Oxford, I noticed this rupee, which deserves publication being the first and, so far, only one of its kind to bear a legend in the name of Ajit Singh. The coin may be described as follows:



Metal: Silver (debased); Weight: 10.52 gm

Obverse: legend in four lines 'Shri Rāghā / va Paratāpa / Té (?) Pavana Pu ((tra) Manajā (?)' There are traces of some symbols around the legend. On the left, the mark of a club is seen, almost half truncated. Towards the base, a cluster of dots and a six-pointed star are visible.

Reverse: legend in four lines 'J(é) Singh Na/ (ñ)da Ajita Bhupa / ki Yah Sikā / p(é) Chhāp 4'

The meaning of the obverse legend is not clear. It is no doubt an invocation to Hanuman as seen from the words 'Rāghava Paratāpa' ('glory of Rāghava, i.e. Rama) and 'Pavana Putra' (Son of the Wind). But certain words like 'Té' in the third line and the ending that looks like 'Manajā' are difficult to understand. It is very likely that certain characters may have been truncated and therefore the syntax of the legend may be lost. The legend on the reverse is quite clear – it means 'this coin bears the stamp of King Ajit, the son of Jai Singh'. Regnal year 4 follows at the end of it and that would date the coin to 1823-24.

The piece is interesting from several angles. Firstly even though it is struck well after Ajit Singh's subordination to the Sindhias, it does not bear any symbols of Sindhia affinity. It retains the 'club' as the main mark, which was introduced by his adoptive father when he initiated the coinage. It does not bear the mint name in any of the legends, so its attribution to Bajranggarh would be based on the similarity of legends and symbols, while the mention of Ajit Singh as the son of Jai Singh indeed provides a royal continuum in the Khichi house of Bajranggarh Estate to base this inference upon. It is, however, very likely that the coin may actually have been struck at a place other than Bajranggarh proper, but still within the estate. The execution of the characters and the alloy of the coin are very similar to the rupees struck at Chanderi. So this rupee, too, may well have been struck at Chanderi, but more research is needed to substantiate this.

Supplement to "Chinese Chops – A Bibliographic Survey of Western Publications" (published as ONS Information Sheet no. 29, January 1998)

By Wolfgang Bertsch

This supplement contains additional numismatic literature, collected between 1998 and now, relating to or discussing the subject of "Chinese Chops". For those who are interested, the Chopmark Collectors Club publishes a quarterly newsletter called Chopmark News, each issue containing 16 or more pages. The editor is Everett R Jones, 1947 Gotham St., Chula Vista, CA 91913, USA; E-mail oneerj@pacbell.net

1a. Aguilar y Biosca, F: "Legislación sobre Moneda Filipina", in *Barilla. The Central Bank Money Museum Quarterly*, vol. VI, No. 3, Manila, July 1979, pp. 115 sqq.

The author published a series of contributions in Barilla which reproduce Philippine documents relating to money of the Philippines of which I only indicate that part which relates to the chopped coins used in this country.

On pp. 122 and 123, the Spanish text of a decree (banod), dated Manila 13 September 1831 is given and the following English summary is added:

"This decree concerns the circulation of Spanish coin with Chinese marks ("chop-marks"). According to this decree, these coins are to be classified into three categories: (1) those disfigured with Chinese marks but which maintain their weight, edge, and all or most of the Spanish die designs; (2) those completely disfigured by marks and retain only the slightest vestiges of the original design; and (3) those completely disfigured with no traces of the original design and which can only be classified as metal ore.

Coins belonging in category (1) may be received in the Royal Treasury with a 1% surcharge, while coins belonging in categories (2) and (3) should not be accepted in the Treasury but should instead be deposited in Customs and treated as any other merchandise, subject to the correspondent duties of import."

3a. Anonymous (author is probably Bruce W Smith). "Major Chopmark Sale", in *Journal of East Asian Numismatics*, Vol. 4, No. 2 (issue no. 13), summer 1997, pp. 26-7.

A brief discussion of the Hal Walls Collection of World Trade Coins, Counterstamped and Chopmarked Coins, auctioned on 4 August 1997 in New York by Paul Bosco.

3b. Anonymous (author is probably Bruce W Smith): "Chopmarked US Trade Dollars" in *Journal of East Asian Numismatics*, Vol. 5, Nr. 1 (winter 1997, spring 1998), pp. 41-42.

Comments and criticism on the article "chopped Trade Dollars: Orphans of Numismatics" by Larry D. McNabb (see below).

5a. Anonymous: "To the Orient". Collector's Notebook, in *Coin World*, July 24, 1995, p. 31.

This article was reproduced in Chopmark News (I am unable to identify the volume and number; date of publication is most probably 1993).

A short article on the U. S. trade dollar which was accepted by Chinese traders only at a discount, although it is heavier than the Mexican pesos to which the Chinese were used and with which the U.S. trade dollar was meant to compete. "Many of the Trade dollars which circulated in the Orient were counterstamped with Oriental characters. These characters are known as 'chop marks'".

5b. Anonymous: "Chopmarked gold half eagle", in *Coin World*, May 15, 2000, p. 30. Reprinted in Chopmark News, Chopmark Collectors Club, Vol. 6, nr. 3, Chula Vista (USA) July 2000, p. 4.

Illustrated is a Coronet \$ 5 half eagle 1880 S with a chop consisting of one Chinese character which resembles the one for "cinnamon".

6a. Benvenuto, Marc A.: "Why were coins chopmarked?", in *Coins Magazine*, Vol. 39, no. 9, September 1992, pp. 72, 74-77. Republished in Chopmark News, Chop-mark Collectors Club, Vol. 7, no. 2, Chula Vista (USA), April 2001, pp. 8-11.

A well written introduction to the history and collecting of chopped coins with useful suggestions as to how to distinguish between genuine and fake Chinese countermarks.

11a. Bruce II, Colin and Vogt, Geo. W: *Standard Catalog of Mexican Coins, Paper Money, Stocks, Bonds and Medals*. Krause Publications. Iola, WI, 1981.

Contains a chapter entitled "8 Reales Trade Dollar to the World" that gives some space to chops.

15a. Carrera Stampa, Manuel: "El Sistema Monetario Colonial (1521-1821)" in *El Foro. Organó de la Barra Mexicana*, Colegio de Abogados. Vol. 5, no. 2, 1948, pp. 168-169.

"Se exportaba de Mexico o Filipinas, por el mercado intermediario de Acapulco y Manila, de 2 a 3 millones de [pesos de] plata acunada. En las exportaciones que las islas hacían en su comercio exterior era renglón importantísimo el envío de plata, alcanzando Bengala y Madrás, enviándose 1.000.000, y a China, 1.550.000 por año en la época de mayor bonanza. En esos países es resellaba la Moneda Mexicana."

Translation: "Via the harbours of Acapulco and Manila as mediators, from two to three millions [pesos] of coined silver were exported from Mexico [per year]. Among the exports which the islands [the Philippines] made in its foreign commerce the shipment of silver played a very important part, about 1,000,000 reaching Bengal and Madras and 1,550,000 reaching China every year in the times of the biggest bonanza. In these countries the Mexican coins were countermarked."

This passage is quoted in the Spanish version of Pradeau's work (see below).

17a. Clancy, Kevin: "The British Trade Dollar", in *Oriental Numismatic Society Newsletter*, no. 169, UK, Autumn 2001, pp. 25-29.

Historical account of the British trade dollar, which was minted between 1895 and 1935 primarily for Hongkong, North Borneo and the Straits Settlements for use in the China trade.

p. 26: "To complete the legislative framework for the coin [i.e. the British trade dollar], in August 1895 an Ordinance was issued in Hong Kong prohibiting the stamping of the new dollars and that chopped dollars of any type would no longer be legal tender in the colony."

17b. Cribb, Joe E.: "Some Hoards of Spanish Coins of the Seventeenth Century Found in Fukien Province, China", in *Coin Hoards*, Vol. III, 1977.

Discussing coin hoards which were discovered in 1972 and 1975 in the Shishan commune, Nanan county, Fukien province (published by the Quan zhou antiquities management committee and the Quan zhou Museum of Maritime Communication, the main author being Zhuang Weiji, in the Chinese journal *Kao Gu*, 1975, no. 8, pp. 373-379, PI 11 & 12), consisting of Mexican coins dated between 164? and to before 1700 (enayador Martin Lopez, 1678-1703) and most probably deposited between c1650 and c1690, the author (Joe Cribb) states:

"The remarkable feature of this hoard is the presence in it of dollars which have been "chop marked". The practice of "chop marking" foreign silver coins is well known from the 19th century coins that circulate in China. A Chinese money shop or bank upon receiving dollars would weigh and test the fineness of the coins and if satisfied would stamp their sign or "ji" ("chop" in Southern Chinese) on the coins to note their approval and to finally check the coins to see if they are plated. The "chopped" coins in this hoard are not only the earliest known examples of this practice, but predate the earliest examples known to me by about 100 years. The characters "chopped" on the dollars illustrated are Nos. 9, 10, 11 and 15 yuan (Mathews no. 7707), no. 11 wang (Mathews no. 7037), no. 13 shi (Mathews 5776) and no. 12 zheng (Mathews no. 351). All the stamped characters are incuse except that on no. 12 which is in relief in a square punch."

[The Mathews numbers refer to the following publication: Mathews, R.H.: *Mathew's Chinese English Dictionary*, Cambridge, Mass., 1943 (revised edition, reprinted 1972)]

18a. Cribb, Joe: *A Catalogue of Sycee in the British Museum: Chinese Silver Currency Ingots c. 1750-1933*. Published by the Trustees of the British Museum by British Museum Press, London 1992 (366 pp. and 71 plates).

Although this work does not contain a discussion of chops it is highly informative and well researched regarding the use of silver in the form of ingots before and during the period when chopped silver coins were current in China. The book contains indices which list Chinese place, bank and personal names as well as miscellaneous expressions found in ingot inscriptions, giving the Chinese characters and the pinyin transcription and explanatory notes.

It is quite possible that some of the issuers of or dealers in sycee were also handling and chopping silver coins.

21a. DeLorey, Tom: "Coins of Trade. The Colorful Story of Coinage Used in Worldwide Commerce", in *Coinage Magazine* (bibliographical details not available, published between 1996 and 1998). Reprinted in *Chopmark News*. Chopmark Collectors Club. Vol. 6, No. 4, Chula Vista (USA), October 2000, pp. 14-16.

A brief historical account of trade coins with emphasis on the use of the U.S. trade dollar in context with the China trade.

"These [The production of counterfeit 1778-dated 8 reales in Canton by the British East India Company] and many other counterfeit operations over the centuries led to the custom whereby each Chinese counting house would examine every coin presented to it and, after verifying its authenticity, stamp a small identifying «chop-mark» unto the surface of the coin to show that it had been approved. Naturally, the counterfeiters quickly learned to add a few counterfeit chop marks to their counterfeit coins to make it appear as if the coins had already been accepted by someone, so every coin was routinely tested and chop-marked until it was eventually obliterated."

21c. De Vos, Raymond: "Globe-Girdling Adventure. Start a World Trade Dollar Collection!", in *World Coins*, Volume published in 1967 (further details not available), pp. 536-540 and 542-544. Republished in *Chopmark News*. Chopmark Collectors Club, Vol. 7, no. 1, Chula Vista (USA), January 2001, pp. 8-11.

A useful survey of known world trade dollars with illustrations showing chopped Mexican pillar, portrait and republican eight reales coins.

22a. Dreyer, John E.: "A Hoard From the Orient", in *The Gobrecht Journal for collectors of the Liberty Seated Coin Series*, Vol. 17, issue 50.

This article was reprinted in "Chopmark News" (Vol. 1, nr. 2, January 1991?).

Discusses a group of 28 U.S. Trade dollars, nearly all of them with chops, which was sold as lot 2416 by Bowers & Merena Inc.: "Kissel and Victoria Collections Sale".

22b. Dunigan, Mike and Parker, J.B.: *Resplandores. Cap and Rays 8 Reales of the Republic of Mexico 1823-1897*. Superior Stamp & Coin, Beverly Hills 1997.

p. XIII: "In addition to Spanish overstrikes, a large number of coins bear chop-marks. Chopmarks appear in many styles and sizes. At times a chopmark may represent a name or a phrase, while at other times may simply be a mark or symbol. The Chinese applied chopmarks to many of the coins as a means of authentication. A merchant, for instance, might have applied his own chop or mark to coins that came into his possession. This 'chop' would have served as his guarantee to the person to whom he gave it that the coin was genuine (much as we might endorse a check to a bank or to another person). It is also possible to identify where some coins circulated by their chopmarks. Particularly small chopmarks are usually native to the Philippines while large chopmarks tend to come from mainland China. Some coins bear only a single chopmark, while others may be so heavily chopmarked that they are bent, with much detail of the underlying coin obliterated (see below). We know of one coin that was probably done for sport, it is so heavily chopmarked that it is cup-shaped. The study of chopmarks is a field

unto itself. An interesting work, entitled *Chopmarks*, by P.M. Rose, is recommended reading for anyone interested in this field."

For a review of this work by R. G. Doty, see: *The Numismatist*, Vol. 111, nr. 4, April 1998, p. 433.

22c. Elizondo, Carlos jr.: *Eight Reales and Pesos of the New World*. Distributed by Almanzar's Coins of the World. San Antonio, Texas, 1971, 245pp, ill.

p. 152: As nr. 91, an eight reales coin with the portrait of Fernando VII of the Lima mint, erroneously dated 1892 J.J., bearing three large chops on either side is illustrated and listed as "one known".

23a. Epps, James Vernons: "Our Most Misunderstood Coin - The U.S. Trade Dollar".

This article was reprinted in "Chopmark News" Vol. 1, nr. 2, January, 1991 (?) without bibliographical details. A good summary of the history of this coin giving also some consideration to the practice of chopping it in China.

27a. Forster, Georg: "The OLD CARLOS DOLLAR and CHINESE CHOPS - More First Hand Accounts", in *Journal of East Asian Numismatics*, Vol. 5, N.4 (Issue 18), Niskayuna, NY, Winter 1998, pp. 30-38.

Taking up the idea of looking for first hand accounts in Western languages demonstrated by Bruce W. Smith (in: *Chopmarks - An Introduction and Some First Hand Accounts*. - See below), the author quotes from three 19th century Chinese documents which were translated into English and which are to be found in: "British Parliamentary Papers: Correspondence Relating to the Supply of Silver in the Markets of China", Guild Hall Library, various dates. The first document is a Proclamation of the Superintendent of Customs in Shang-hai, dated 23rd July 1855. It disposes that the new Latin American Republican dollars should circulate at par with the older Carlos dollars, the former so far having been traded at a discount of between 20 to 30 % in relation to the latter. The second document is a Proclamation issued by the Taoutae Yang in Heenfung, March 2nd 1856. It deals with the problem that many money dealers rate chopped dollars lower than clean ones and disposes that all dollars should circulate at equal value excepting the "copper-mixed-dollar", the "inlaid-with-lead-dollar", the "light-dollar" and the "Foochow-dollar". The third document is a memorial published by the governor of Fukien, November 7th 1855. It reports that in the province of Kiang-nan foreign dollars are valued higher than sycee. Further it contains interesting details on the use and value of foreign dollars in Fuh-kien and Kwan-tung.

The article has illustrations of four chopped coins:

1. 8 Reales of Mexico, dated 1788, Assayer P.M. with several small chops.
2. 8 Reales of Mexico, Assayer J.J., dated 182X, heavily chopped with large-size marks.
3. 8 Reales of Mexico, Assayer P.P., dated 1857 with large size Chinese chops and Thai "Chakra" and "Mongut" mark and
4. 8 Reales of Lima, Assayer J.P., dated 1810 with two large chops on obv. which read "Shang-hai".

31a. Green, Paul M.: "A U.S. Coin for China" in *Coins Magazine* (further bibliographical details are not available).

This article was reprinted in "Chopmark News" (Vol.1, nr. 2, January, 1991?).

Article on the U.S. Trade Dollar with some references to the practice of chopping this coin in China.

31b. Green, Paul M.: "Chop marks reveal Oriental travels of U.S. Trade dollars".

This article was reprinted in "Chopmark News" (Vol. 1, nr. 2, January, 1991 ?). No bibliographical details are given.

Report on chopped coins, including U.S. trade dollars, which are brought out of China (in the mid 1980 's ?) via Hongkong, based on experiences of Doug Cass of Barber & Fox.

31c. Gupta, P. L.: "'Chopmark' Derived from Indian Term, Says Expert." In: *World Coin News*, Vol. 5, no. 45, November 7, 1978, pp. 6 and 12.

According to the author 'Shroff' means 'banker'. Shroff-marks (test marks) can already be found on punch-marked coins of ancient India. The word 'chop' may be derived from the Indian terms Shroff-mark or Chhapa which are almost synonymous. 'Chhapa' may have sounded in Bengal more like Chop. "And it is this 'Chop' which was carried by employees of the British East India Company from India to China and used for the countermarks on the Chinese dollar."

"The earliest use of the term chopmark dates to 1775. It may be seen in H. B. Morse's *Chronicles of the East India Company Trading to China (1635-1838)*, (...)."

32a. Hartill, David: (no title). In: *Oriental Numismatic Society Newsletter* No. 155, Winter 1998, p. 3.

In a short note Mr. Hartill reports that he has some Xian Feng 50s and 20s coins of Fujian province (c. 1854) which have been extensively chopped with Chinese characters - one specimen having no fewer than 11 chops on the obverse.

33a. Jara, Carlos and Jara M, Carlos jr.: *Monedas Chilenas Contramarcadas o Re-selladas (Version Preliminar)*. Manuscript. Santiago de Chile 1998.

Section 19 is entitled "Contramarcas orientales, principalmente chinas ('Chop-marks') sobre monedas chilenas." and includes a list of 18 Chilean coins, bearing Chinese chops (no illustrations). The coins are from the authors' or other collections; details of further examples have been extracted from Rose's "Chopmarks" or from auction catalogues and fixed price lists.

34a. Jones, Everett R.: "Chop Marked Coins of Japan", in *Chopmark News*, Vol. 1, Nr. 1, pp. 5-6.

The author reproduces Japanese coins with chops from the author's collection, the rarest being a 20 sen coin of 1875 (Y# 24, type I) with one chop on reverse. The author also reports a 10 sen coin of 1875 (Y# 23) with one chop. A brief discussion of the "Gin" countermark to be found on the Japanese Trade dollar and 1 Yen (up to 1897, Meiji 30), the position of which on the coin has no particular meaning.

36a. Kann, Edward: *Illustrated Catalog of Chinese Coins (Gold, Silver, Nickel and Aluminium)*. Mint Productions, Inc., New York, 1966.

The first edition was published in 1954. Kann mentions chops only briefly when discussing the "Old Man Dollar" of Taiwan: p. 16.

38a. Kruger, J.: "Die Verbreitung des Mexikanischen 8-Reales Stückes in China", in *Numismatische Hefte* (DDR), Nr. 36 (1987).

38b. Leeuwen, Adrian: "World Coin Roundup: Mexico-China" In: *World Coin News*, Vol. 6, No. 45, Iola, November 6, 1979, p. 26.

777e countermark "Chang" on the reverse of a Mexican 8 Reales of 1766 (MF) of type KM 105, is recorded. It is theorized to be an incompletely countermarked coin by the Imperial Army of General Tsien Kuo Tseun during the suppression of the Taiping Rebellion. Obv. and rev. of the coin are illustrated, but no reference is given.

38c. Legarda, Benito J.: "Mexican Coins In The Philippines". In: *Barilla. The Central Bank Money Museum Quarterly*. Vol. III, No. 4, Manila, October 1976, pp. 157-169.

On p. 161 the obverse of an Eight Reales coin of Carlos IV, dated 1800 is illustrated. The coin bears several small chops.

P. 163: "Mexican republican silver was entering the Philippines and being countermarked from the 1820s. and, as it circulated in the Philippines, there is every reason to suppose that it also circulated along the China coast."

38 c. Legarda de Ganzón, Angelita: *Piloncitos to Pesos. A Brief History of Coinage in the Philippines*. Bancom Development Corporation. Manila 1976.

On p. 25 both sides of an Eight Reales coin of Carlos IV, dated 1807 from the Lima mint are illustrated. Several clear and large chops are to be seen on both sides of this coin. The illustration is accompanied by the following text:

"The widespread counterfeiting of pieces-of-eight, specially in England, led to the practice by Chinese merchants of stamping a mark on the coin to attest its integrity and fineness of silver. In time the coins came to bear so many «chopmarks» as to disfigure them."

40a. Lissade, Joseph Guerdi: Letter to the compiler, dated Port-au-Prince, January 2, 1999.

This letter is accompanied by illustrations of the following three coins from Haiti which bear countermarks:

1. 15 Sols 1808, KM 6, Ag.
2. 100 Centimes 1829, KM 23, Ag.
3. 1 Gourde 1882, KM 46, Ag.

While some of the countermarks on coin 1 and 2 look similar to chops, but cannot be attributed with certainty to China, coin nr. 3 bears a large chop on the obverse which could be of Chinese origin: It may be the character "mu" ("tree"), although the stroke to the right is in a very low position. To my knowledge, Haitian coins bearing a Chinese chop have so far never been reported in numismatic literature.

45a. Morga de, Antonio: *Sucesos de las Islas Filipinas* (editado por W. E. Retana). Librería General de Victoriano Suárez, Madrid, 1909.

p. 498: "Chapa: Lámina de metal (oro 6 cobre) en la cual los reyes cambodjanos hacían escribir las cartas de cancillería, y ciertas ordenanzas. Todavía hoy, cuando le coronan, se presenta al Rey una lámina de oro en la cual se han grabado sus títulos protocolarios en lengua palidecida en, su mayor parte, compuestos por 'letrados' especiales, y que aquel ha aceptado previamente. También se hace deviar la voz chapa del original indostánico chháp, 'marca de sello ó de estampilla' y, extensión, 'documento oficial provisto de un sello'; pero la primera explicación, 'acta oficial grabada sobre una placa de metal' es muy aceptable."

Translation: "Chapa: Metal sheet (of gold or copper) onto which the Cambodian kings ordered official letters and certain decrees to be written. Even nowadays at coronations, the king is presented with a gold sheet on which his official titles, mostly in polite(?) language are engraved, composed by special scribes and which the king has previously accepted. The word chapa can also be derived from the original hindoostani chháp, 'mark of seal or stamp' and, in a wider sense, 'official document provided with a seal imprint'; but the first explanation 'official document engraved on a metal plate' is very acceptable."

47a. Mukharji, Birendra Nath: (no title). In: *World Coin News*, Vol. 6, no. 23, Iola, June 5, 1979, p. 4.

A letter commenting on P.L. Gupta's article which had appeared in the same journal, November 7, 1978 (see above) regarding the etymology of the word "chopmark" (pidgin English) and "Chop."

"In Bengali there are three words – Chhap, Chhapa or Chhop. All a's are long and the words mean impression (stamp), print and stain, respectively. There is a remote possibility that any of the above words with long A could become O in Bengali. However, the word 'chop' is of Indian origin as the 'Shorter Oxford Dictionary' states that it is an adaptation of the Hindi word 'Chhap' (long A), which may mean stamp or brand in English, a seal in India and China."

47b. Munoz, Miguel L.: "El Peso Mexicano de Plata en Asia", in *El Galeon de Acapulco*. Institute Nacional de Antropología e Historia - Museo Nacional de Historia. México, November 1988, pp. 98-104.

p. 101: "A partir de 1772 el Peso mexicano, también llamado 'de Busto', era la moneda más abundante en el Lejano Oriente. Como tenía la efigie del rey Carlos III y la leyenda en latín 'Carlos III Dei Gratia', 'Carlos III por la gracia de Diós', se le conocía como 'Peso Caroline'. Los ingleses le llamaban Spanish milled dollar. Los chinos le llamaban Pan-Mirn, cara de extranjero (foreign face); o Khri-Mirn, cara de diablo (devil's face). En los archivos de la East India Company aparecen registrados como Carlos Dollars o, simplemente, Head o Face Dollars.

El medio de cambio preferido en China y Japón fue siempre el Peso mexicano de plata ya fuese llamado de Busto o Caroline. Era la moneda mas uniforme y la que tenía sus marcas de ceca (No) [sic, for (Mo)] y mejor grabadas. El peso mexicano de 1787 con la efigie de Carlos III pudo haberse convertido en la Moneda de Comercio (trade dollar) al igual que la austriaca de Maria Teresa fechada 1780.

Veamos que pasó. Como la East India Company cometió un grave error. Dejó la casa de moneda en manos de los nativos. Estos con las ansias de ganar algo para sus propios bolsillos, empezaron a agregar más liga de cobre al metal. Su ambición llegó a tal grado que las monedas estaban saliendo a circulación en una ley de .600 milésimas de plata en vez de la correcta de 902.7 milésimas. Como podemos apreciar, esto era un fraude muy fuerte. Pero los asiáticos estaban acostumbrados a revisar sus monedas y pronto se dieron cuenta y las identificaban fácilmente. La fecha 1778 que las monedas [102] llevaban estampada ayudaba mucho para identificar la moneda mala. La flamante casa de moneda de la East India Company quebró y cerró sus puertas.

El incidente de Canton sumado a la gran demanda de Pesos mexicanos de plata legítimas, abrió el apetito de muchos imitadores, algunos de ellos con la ayuda de autoridades locales. Debido a la falta de medios para fabricar moneda, algunos chinos ordenaban a sus joyeros que las fabricaran y únicamente les ordenaban que agregaran más de 10 % de liga (cobre). Con tantos artesanos trabajando independiente y aisladamente y todos con ganas de ganar algo para su propio bolsillo pronto se vió el mercado inundado de monedas 'de plata' falsas causando confusiones y pérdidas a mucha gente pobre.

Se les suspendió el trabajo a los joyeros pero las falsificaciones particulares continuaron por algun tiempo. Al final de cuentas los comerciantes mismos idearon un medio que al mismo tiempo les protegía. Cada comerciante estaba obligado a garan-tizar la moneda que daba de cambio. Está lo hacía estampando su propia marca, con un cuño de metal, en la cara de la moneda: A estas marcas les llamaron Chops y aún hoy en día, los numismáticos así lo llaman. Parece ser que esta práctica se originó en el sur de China, pero pronto 'cundió' a todo el Oriente incluyendo a las Filipinas y Japón."

Translation: "From 1772 the Mexican Peso, also called 'bust' coin was the most widely used coin in the Far East. As it had the portrait of Charles III and the latin legend 'Carlos III Dei Gratia', 'Charles III, by the Grace of God' it was known as 'Carlos Peso'. The English called it Spanish milled dollar. The Chinese called it Pan-Mirn (foreign face); or Khri-Mirn (devil's face). In the

archives of the East India Company they were registered as Carlos Dollars or simply as head or face Dollars.

The medium of exchange in China and Japan always was the Mexican Peso whether it was called Bust or Carlos. It was the most uniform coin and had a mintmark (Mo) and was the best engraved. The Mexican Peso of 1787 with the portrait of Charles III could have become a trade dollar competing with the Austrian Maria Teresa dollar dated 1780.

But let us see what happened and how the East India Company made a big mistake. It left the mint in the hands of natives. These, anxious to earn something for their own pockets, started to add more copper alloy to the metal. Their ambition reached such a degree that the coins which were put into circulation had a silver fineness of .600 instead of the correct 902.7. As we can see, this was a huge fraud. But the Asians were accustomed to check their coins and were soon aware of this fraud and easily identified the bad coins. The date 1778 which was stamped on these coins helped a lot in identifying the bad ones. The flamboyant mint of the East India Company went bankrupt and closed its doors.

The incident in Canton, added to the great demand which existed for legal silver Pesos, generated the greed of many imitators, some of whom were helped by local authorities. As they did not have the means to produce coins, some Chinese placed orders with their jewelers for the production of coins and only ordered them to add more than 10% of alloy (copper). With so many artisans working independently and in isolation and all wanting to earn something for their own pockets, the market was soon flooded with fake 'silver' coins causing confusion and loss to many poor people.

The jewellers were prohibited from continuing to produce coins, but the private forgeries went on for some time. In the end the merchants themselves figured out a measure which at the same time protected themselves. Every merchant was obliged to guarantee the coin which he gave as change. He did this by stamping his own mark with a punch on the obverse of the coin: they called these marks Chops and nowadays numismatists still call them this. It seems that this practice originated in Southern China but soon spread to the whole Far East including the Philippines and Japan."

49a. Oliveira Cesar, Eduardo de: *La Sigilografía*. Institute Bonaerense de Numismática y Antigüedades. Buenos Aires 1992.

Contains a brief reference to the countermarking of Spanish, American 8 Reales coins.

52b. Quintin Oropilla y Fortich, M.D.: *Philippine Counterstamped Coins 1828-1839. History and Mintage. With Original Archival Documents*. Numisma-Economic History Research Publishing Company. Quezon City, Manila, 2001 (193 pages, illustr. and appendix consisting of 10 plates with reproductions of original documents).

Chapter IV is entitled "The Chopmarked Coins" (pp. 64-75) and includes English translations of passages from several Spanish documents of the Philippines which deal with chopped coins. Unfortunately the English translations are not always intelligible and the author would have been well advised to include the original Spanish texts along with his translations, as the appendix only reproduces a selection of documents in their original form. Still a very useful contribution, although many of the documents were published previously by Tomas Dasi (see nr. 20 above) and by F. Aguilar y Biosca in a series of articles which were published in "Barilla" (see nr. 1a above).

52c. Reis, Bob: "Cobs get hammered, punched and clipped", in *World Coin News*, Iola, Wisconsin.

This article was reprinted in "Chopmark News", Vol. 1, nr. 2, January, 1991 (?) without further bibliographical details.

The author discusses and illustrates a group of 9 Mexican cobs of the mid 17th century, all of which bear, mostly tiny chops. The author argues that, as there was no Mexico-China trade in the 1650's, these cobs must have entered China some time after 1778 and received their test marks and tiny chops at that time in Canton.

In the next number of "World Coin News" (reprinted in the same number of "Chopmark News" again, no further bibliographical details available) Dr. John Whittaker published a letter to the editor in which he writes: "I speculate that these coins went to China circa 1630-50 in the normal course of trade, were chop-marked during that period by various merchants, and then buried outside or hidden in a building by their worried owners during the prolonged disorder which accompanied the fall of the Ming Empire at mid-century."

Comment: I am inclined to favour Mr. Whittaker's arguments, as in the 17th century China did have indirect trade relations with Mexico via Manila (see also the article by Joe Cribb, published in "Coin Hoards" and commented upon above and the one by Bruce W. Smith: "Chopmarks — An Introduction and Some First Hand Accounts", commented upon below).

53a. Russo, Arnaldo: *Livro das Moedas do Brazil*. 2a edição Paulo 1981, p. 380.

A 960 Reis of João VI, dated 1820 (B = Bahia Mint) bearing small Chinese chops on both sides is illustrated.

Comment: Very few Brazilian coins with chops seem to exist.

57. Smith, Bruce W: "Chopmarked U.S. Trade Dollars", in *The Journal of East Asian Numismatics*, Vol. 5, No. 1, Niskayuna Winter 1997, Spring 1998 (issue 14/15), pp. 41-42.

Gives a summary of the article "Chopped Trade Dollars: Orphans of Numismatics" by Lary D. McNabb (The Numismatist, May 1996). Criticises the table explaining meanings of chops which is given by McNabb. The "chop book" which some collectors believe must exist somewhere in China and which would allow to associate the chops to particular companies is a myth according to Smith.

57b. Smith, Bruce W: "Notes on Old Man Dollar", in *Journal of East Asian Numismatics*, Vol. 5, no. 3, Fall 1998 (Issue 17), pp. 12-18.

Discussing the late 19th century Chinese dollar with the portrait of the god of longevity on the obverse, most probably originating in Taiwan, the author writes:

p. 14: "Virtually all genuine Old Man dollars are found chopmarked. Some have only a few chops while others are covered with dozens on each side. Dr. Che-lu Tseng studied the chopmarks on Old Man dollars and published a list of them in the first issue of *Journal of East Asian Numismatics* (Summer 1994). He recorded 68 different chopmarks on Old Man dollars, some of which are Chinese characters, some are geometric symbols, and some are western letters. The letters he noted include: A, K, O, S, T, V, X, Y and the number 8. The letter S, by the way, is a common chopmark on Spanish-American coins."

57c. Sneddon, James: "The U.S. Trade Dollar. One Man's Opinion", in *Chopmark News*. Chopmark Collectors Club, Vol. 7, no. 1, Chula Vista (USA), January 2001, p. 7.

57d. Sneddon, James: "The 1876-P U.S. Trade Dollar", in *Chopmark News*. Chop-mark Collectors Club, Vol. 7, no. 2, Chula Vista (USA), April 2001, pp. 3-5.

57e. Sneddon, James: "Chopmarked 1878-CC Analysis", in *Chopmark News*. Chop-mark Collectors Club, Vol. 7, no. 3, Chula Vista (USA), July 2001, pp. 10-11.

57f. Sneddon, James: "The 1876 US. Trade Dollar", in *Chopmark News*. Chopmark Collectors Club, Vol. 7, no. 3, Chula Vista (USA), July 2001, pp. 13-16.

57g. Sneddon, James: "The U.S. 1876-CC Trade Dollar. Analysis", in *Chopmark News*. Chopmark Collectors Club, Vol. 7, no. 4, Chula Vista (USA), October 2001, pp. 5-7.

57h. Sneddon, James: "The U.S. 1875-CC Trade Dollar. Analysis", in *Chopmark News*. Chopmark Collectors Club, Vol. 8, no. 1, Chula Vista (USA), January 2002, pp. 5-6.

57i. Sneddon, James: "U.S. Trade Dollar - The two different type II reverse and obverse hubs", in *Chopmark News*. Chopmark Collectors Club, Vol. 8, no. 2, Chula Vista (USA), April 2002, pp. 14-18.

The series of articles listed as 57c - 57i, authored by James Sneddon, includes discussions and illustrations of many and often rare chopped specimens of the U.S. trade dollar.

57j. Spalding, William R: *Eastern Exchange Currency and Finance*, third Edition. London 1920 (411 pp. ill.) (first edition: London 1917), pp. 323-325.

"There remain to be mentioned the "chopped" dollars. The difference between a clean dollar and one that has been chopped is this: The Chinese stamp¹ or place their seal on all dollars coming into their possession, and the object of their placing this form of trade mark on the coins is to guarantee that the dollar is a proper dollar; in other words, when a Chinaman finds his own seal or "chop" on a coin he is sure that it is what it purports to be - a good dollar. John Chinaman will generally think twice before accepting a chopped coin on which his own particular mark cannot be distinguished. Each time this chopping or punching takes place, the effect is to remove a minute portion of the dollar; although it is done in order to "prove" that the dollar contains something more than a mere silver casing, the ultimate effect is to deface the coins and to cause them to lose in time an appreciable part of their value.

A dollar without any of these marks is termed a "clean" dollar; and when it is realised that dollars which have been stamped many times lose their "ring", in addition to a part of their original worth, it will be readily understood that they are inferior in value to clean dollars, which for that reason command a premium in Hong-Kong. Correctly speaking, clean Mexican dollars are no longer currency, and do not circulate: they are bought and sold as a commodity - silver. For the rest, it may be stated that heavily chopped dollars will generally drive from circulation clean dollars; even in China we get the inexorable working of Gresham's Law.

Chopped dollars, it must be remembered, are legal tender money in the Colony: they were recognized as such as long ago as 1865, under the Government's Proclamation, published in the Hong-Kong Gazette of 21st October of that year. However, although chopping" might almost be said to have legal sanction, chopped coins are not taken [324] by count: they are measured by weight, and 717 Canton tael weights are said to be equal to 1,000 dollars.

The legal money in Hong-Kong at the present day, is, then, the Mexican, British, and chopped dollars. Why chopped Mexican dollars were ever allowed to become legal tender it is difficult to say: it is certainly true that they had been in use as currency in the Province of Canton for many years, more particularly for the purposes of foreign trade; and equally certain that the Government of Hong-Kong did its best to get the Chinese to prohibit the practice of chopping at the time the Canton coinage was introduced in 1890. The Chinese could, or would, do nothing; and from that time it appears to have been the policy of the Colonial Government to maintain a currency system as closely allied as possible with that in force in South China. Canton being the trade centre, and Hongkong its deep sea port, there was good reason to suppose that a divorce between the currency of the two places could be prevented, but other conditions have arisen to nullify the efforts of the Government in this direction.

They did, as it happens, endeavour to replace the "chopped" Mexican dollars by good sound British coins, for, in virtue of an Order in Council of 2nd February, 1895, we find that another British dollar was coined of the same weight and fineness as the former Hong-Kong dollars, viz., 416 gr. 900 fine. The new coins

were struck at the Royal Mints in Bombay and Calcutta. They were stated to be for use in Hong-Kong and the Straits Settlements, and this is the dollar which, as we saw, is no longer current in Singapore.

It has not served, however, to discredit "chopped" Mexicans, which continue to circulate alongside the British dollars of 1895; it should be noted that the chopped coins are still dealt in by weight and not, as in the case of the British dollars, by count. In the circumstances, one would naturally expect this to be essentially the case [325] where the sole basis of exchange was the value of silver in terms of gold; but, as it turns out, this is one of those curious cases which now and again crop up in exchange, and although rates are always governed to a considerable degree by variations in the price of the metal on the London market, we have here another factor with which to contend."

The book contains photographs of either obverse or reverse of two chopped colonial Mexican dollars and two Mexican Pesos (opposite p. 355).

57k. Sobrino, Jose Manuel: "Una Moneda Internacional". In: *Memorias de la Academia Mexicana de Numismática*. Vol. 1, Nr. 2, Mexico, October-December 1970, pp. 53-76.

(This article was subsequently included as chapter 11, in the following publication! Sobrino, Jose Manuel and Reyes Bernal, Roberto: *La Moneda Mexicana. Su Historia*. Banco de Mexico S.A., Mexico 1971, pp. 287-315.)

The author reports that the British had Carlos dollars minted by the Canton Mint. These had the date 1778 and the intention was to have them struck at the same weight and fineness as their Mexican prototypes, but the Chinese soon deviated from this and ended up striking Carlos dollars which had 6 parts of silver and 4 parts of alloy. This was soon discovered and these coins were then accepted only according to their real silver content, thus terminating this official intent to forge Mexican dollars. The Chinese imitated the British experiment, mainly silver smiths being involved in producing forged Carlos dollars. Also silver was taken out of genuine dollars and replaced by lead. These practices lead to the custom of chopping genuine silver coins.

"Esta práctica era seguida por cada comerciante a medida que pasaba la moneda por sus manos y se extendió a las islas de las Indias Orientales y a las Filipinas. Si bien con esta medida se demostraba que el interior de la moneda era de plata, a cada impresión perdió un poco de metal, de manera que quedaba reducida a un pedazo informe de plata, útil solo para fundir.

Esta costumbre de los chops subsistió durante muchos años en el sur de China, en Cantón, y fue sancionada legalmente en Hong Kong por disposición del 21 de octubre de 1865. Con el gran auge del siglo XIX, comenzó la prosperidad de Shanghai, al norte de China, y la decadencia de Cantón. Los mercaderes del Norte no gustaban de las piezas con chops, pues el pagar con ellas les significaban dar premio que quedaba a beneficio de los cambistas locales."

Translation: "This practice was followed by every merchant whenever a coin passed through his hands, and it spread to the East Indian Islands and to the Philippines. Although one could demonstrate with this measure that the interior of a coin was of silver, with each punch some metal was lost, in such a way that the coin was reduced to a shapeless piece, only good for melting.

This custom of chopping lasted for many years in Southern China, in Canton, and was legally sanctioned in Hongkong by a decree of 21 October, 1865. With the progress of the 19th century the prosperity of Shanghai in Northern China and the decadence of Canton were initiated. The merchants of the North did not like chopped pieces, since, when paying with these, they had to give a premium which remained as profit for the local moneychangers."

61a. Thompson, David: (title?) In *Coin World*.

This article was reprinted without exact bibliographical details in "Chopmark News, Vol. 3, Issue 1, January 1993. It discusses the

U.S. trade dollar and contains some remarks on "chopping" in China.

p. 36: "The purpose of the chopmark was to reassure the Chinese public that a particular coin had been assayed and was found to be of the correct standard. Contrary to popular belief, it was not confined to precious metals, and a considerable quantity of chopmarked U.S. (and other foreign) coppers are well-known, placed into circulation by visiting merchant seamen."

62a. Waddell, Ron: "Are «Chops» Being Faked???" In: *Chopmark News*. Chopmark Collectors Club. Vol. 5, No. 2, Chula Vista (USA), Sept. 1999, pp. 3-9.

Discusses forged chops, primarily those found on Maria Theresa Talers. With many illustrations.

62b. Wadell, Ron: "Coins from my Collection. Brazil 960 Reis 1815 (Bahia. Cr-94; Eliz-18; KM 307.1 with Chopmarks. Is this a unique Coin? Is there another somewhere?", in *Chopmark News*. Chopmark Collectors Club, Vol. 6, Nr. 1, Chula Vista (USA), January 2000, pp. 6-7.

The author illustrates the Brazilian coin mentioned in the title, bearing two fairly large chops, and reports that this is the first coin of its kind he has found in 30 years.

Comment: Brazilian coins with chops are indeed rare, but the compiler has seen several chopped specimens in the numismatic collection of the Museu Historico Nacional in Rio de Janeiro, but so far could not obtain the photographs which he has asked to be made of the coins.

64a. Willem, John M. Jr.: *The U.S. Trade Dollar. America's Only Unwanted, Unhonored Coin*. Privately Printed, Marchbanks Press, New York 1959 (12 pp).

This article was submitted for republication in "Chopmark News" (Vol. 1, nr. 2, January 1991?) by Mark Benvenuto.

Contains details on the problems related to chopped U.S. trade dollars, when these coins could be redeemed in the U.S. Treasury. After the Treasury had specified that it would only receive trade dollars "if not defaced, mutilated, or stamped" huge amounts of these "defaced" dollars which had reached the U.S.A. between 1879 and 1882 were re-exported from the United States in the years between 1884 and 1886.

64b. Young, Ray: "The «Chop-Marked» Trade Dollar", in *Coins Magazine*, September 1970, pp. 66-68. Reprinted in *Chopmark News*. Chopmark Collectors Club, Vol. 7, no. 4, Chula Vista (USA), October 2001, pp. 8-10.

The author argues that chopped U.S. trade dollars are not necessarily worth more than their unchopped counterparts, since they were abundant in the East, but scarce in the U.S.A., as few people would have liked to take back mutilated coins from China to the U.S.A.

ZHONGGUO QIANBI / CHINA NUMISMATICS (72) 2001/1

SUMMARY OF CONTENTS

Helen Wang

Zhongguo Qianbi has been published quarterly by the China Numismatic Society since 1983, and is the leading periodical on Chinese numismatics.

ARTICLES

DUAN Yinling, **On the new 100 yuan plastic commemorative note**, (p.3). (in colour on back cover) China's first plastic note was issued on 28 Nov 2000, to welcome the new millenium. Colour: orange. Obverse features a dragon (from the famous Nine Dragon Wall, Beihai Park, Beijing); and, in the transparent window, the Temple of Heaven; background pattern of repeated Chinese lanterns. Reverse features China's Millenium Monument, with a flying apsara from Dunhuang above it; background based on a panel from the Dunhuang caves. These themes are intended to celebrate the

millenium, political stability, national unity and progress. Duan also considers the history, advantages and disadvantages of plastic notes.

CHEN Baoshan, **The movement of M₀: tracking, risk assessment and management**, (pp.4-12). A discussion on money (M₀), with special reference to China.

LIU Xuchuan, **The security features of the 20 yuan note of the 5th series of renminbi**, (pp.13-14). The new 20 yuan note is comparable with the paper currencies of other countries. The eight security measures are: (1) watermark: traditional Chinese flower painting; (2) red and blue fibres; (3) security strip appears as intermittent line; (4) sculpted relief of Mao Zedong; (5) '20' hidden in decorative element below denomination; (6) micro-printed 'RMB 20'; (7) relief printing of issuer, national symbol, portrait, denomination, and braille; (8) dual colour serial number.

HU Fuqing and HAN Weiye, **Precious metal coins: design, production and circulation**, (p.14). [reprinted from *Zhongguo jinbi* (China's gold coins), no.1].

WANG Shenglong, **China's millenium gold coin: the largest, heaviest gold coin in the world**, (pp.15-16). [in colour on front cover] Commissioned by the China Gold Coin Co., under the direction of the China Banknote Printing and Coin Minting Co., made by the Shenyang Mint. Only 20 pieces issued: each one is 10 kg, 99.99% gold, diameter 180 mm, 24.3 mm thick, 380 teeth on rim, face value 30,000 yuan. Obverse shows China's Millenium Monument, against background of nine dragons, and symbolises the rise of the Chinese people. Reverse has eye design 'looking to the future'; the 12 symbols around the edge indicate environmental awareness and the wish for scientific advancement [design on 50 yuan coin, back cover of ZGQB 2000/4].

WANG Zhe, **Adjustment to China's gold coins**, (p.16). With effect from 2001, the China Gold Coin Co (under the People's Bank of China) made the following adjustment: 1 ounce gold = 400 RMB yuan (on the basis that US\$50 = 1 ounce of gold, and US\$1 = 8.3 RMB yuan). The previous rate, set in the 1980s, was 1 ounce of gold = 100 RMB yuan (when US\$50 = 1 ounce of gold, but US\$1 = 2 RMB yuan). [reprinted from *Jinrong shibao* 29-10-2000].

ZHAO Yujun, **China's modern gold and silver commemorative coins**, (pp.17-18). Considers commemoratives since 1949, including the first commemorative: '30th anniversary of the founding of the PRC' (gold, 1979). Usual themes: historical events, outstanding people. Also important: ethnic minorities, Chinese history, people, antiquities, landscapes, customs, endangered species, sport. Many have won international prizes. China has issued 1,400 commemorative coins since 1979.

WU Zhenqiang, **People's Bank of China travellers' cheques**, (p.19). [in colour on inside back cover] In March 1999 some People's Bank of China travellers' cheques turned up in Harbin. No records, so author investigated. He noted: (1) 4 denominations: 10, 20, 50, 100 yuan; (2) similar in size and colour to RMB 2nd series; (3) same design on all 4 notes: bilingual: 10, 20, 50 in Chinese/Russian; 100 in Chinese/English; (4) dated between 1958-61; (5) very rare, never published before.

ZHOU Kunning, **A study of Huichang Kaiyuan coins**, (pp.20-24). Name refers to Kaiyuan tongbao with a mint name on the reverse, issued from AD 845. Over 20 mints known. Main differences from previous Kaiyuan are (1) Huichang Kaiyuan are smaller, (2) calligraphy no longer resembles that of calligrapher Ouyang Xun, (3) mint name on reverse. Much of the bronze came from melted down Buddhist statues and bells. Author considers (1) the attack on Buddhism ordered by Emperor Wuzong and the requirement that the bronze from destroyed statues (and other items) be put to good use, (2) production of Huichang Kaiyuan coins, (3) (with table) 15 types were cast at new mints, 8 types were cast at old mints, the mints were located close to Buddhist temples and monasteries, (4) discussions about the mints, (5) 'new' types and fakes.

HUO Hongwei and DONG Liugen, **An investigation into the gold and silver Kaiyuan tongbao coins unearthed in Luoyang**, (pp.25-29). Gold and silver Kaiyuan coins are mostly found in Luoyang and Xi'an, which were the Eastern and Western capitals of the Tang dynasty. The authors consider examples found since 1949: (1) details of 12 important finds 1955-1997, mostly from Tang tombs, over 30 specimens recovered; (2) typology; (3) matters relevant to gold and silver Kaiyuan coins from Luoyang.

FAN Wenhai, JIANG Jiuru, FANG Chaochao, **Dating the large iron Kaiyuan tongbao coins with a large dot on the reverse**, (pp.30-34, 38). The authors challenge the view that these coins were made during the Five Dynasties. They considered accidental finds and scientific excavations, examined the coins themselves, and established the date of the coins. They conclude that large iron Kaiyuan tongbao coins with a large dot on reverse were cast in Fujian during the Southern Tang.

WANG Jian, **The birth of the Kaiyuan tongbao and the formation of the tongbao system of placing the reign period in the coin inscription**, (pp.35-38). Wang considers (1) the historical background; (2) the start of the Kaiyuan tongbao coinage and the meaning of the inscription; (3) the change from weight inscription to commemorative inscription; (4) the tongbao system in Chinese monetary history.

YUN Xuewen, **The currency system of the Five Dynasties**, (pp.39-41). The Five Dynasties and Ten Kingdoms Period is generally regarded as a chaotic period of coinage. Yun examined the historical and numismatic evidence, and concluded that coinage during the Ten Kingdoms was chaotic (inferior metals used for coins; disparity of value as seen in large face values and debasement), but was under control during the Five Dynasties (quality metals used for coins; no large denominations; generally one coin-type per administration).

WANG Jianping and LIU Bo, **The coin collection at the Tianjin Museum of History**, (p.41). Formerly known as the Tianjin Museum, created in 1918, and one of China's first museums. In 1952, the Tianjin 1st and 2nd Museum merged with the the Tianjin Art Gallery to form the Tianjin Museum of History. The coin collection totals over 20,000 pieces, and houses unique and rare pieces: Ju Bang knife money, Liao gold coin worth-10,000, trial pieces from the Tianjin Mint (eg 1907 kuping 1 tael gold coin). [Reprinted from *Wenwu Tiandi*, 2000/3].

DU Jin'e, **Rare coins of the Tang dynasty, Five Dynasties and Ten Kingdoms in the Tianjin Museum of History**, (pp.42-45). Rubbings of 14 coins from this important collection.

LIU Jianping, **A small Kaiyuan type cast at the same time as the small Tangguo coins**, (p.46). Liu considers small Kaiyuan tongbao to be Southern Tang coins, and gives the following reasons: (1) similarity of calligraphy; (2) rims on reverse indistinguishable from those of Tangguo tongbao; (3) the yuan is similar to that on Baoda yuanbao coin; (4) small Kaiyuan are found with Southern Tang coins.

TU Yanzhi, **Coin-casting remains of the Wu state (Three Kingdoms period) found by the Western Lake, Hangzhou** (pp.47-49). During dredging of the Western Lake in 2000, the following coin-casting remains were found: 34 pieces of clay moulds for Daquan wubai coins, 7 pieces of cast bronze gullies, 1 coin-tree, and 13 Daquan wubai coins. Tu considers relevant archaeological and historical evidence.

YU Lianggen, **Report on the hoard of Kaiyuan tongbao coins found at the Xiyuan site, Luoyang** (pp.50-51). Hoard of Tang coins found 800 metres east of Sui and Tang eastern capital, Huangcheng. Total of 8,019 coins (33.3 kg), on hemp-strings, most likely deposited c.755 (An Lushan rebellion). Yu examines the different varieties.

WANG Changqi and GAO Man, **Tang dynasty silver ingots found in the western suburbs of Xi'an** (p.56). Three bar ingots with

inscriptions (now in Xi'an Institute of Archaeology) found in 1989 at site of the Jinsheng Temple.

Hunan sheng qianbi xuehui mishu chu [Secretariat of the Hunan Numismatic Society], **Iron Qianfeng quanbao coins discovered in Changsha** (p.57). In May 2000, over 3,000 iron coins were found by the Xiang river, Changsha. All have obverse inscription Qianfeng quanbao. Reverse inscriptions include: tianfu, tian, tiance, tian, ce, and some have dots, crescents, dragon-&-phoenix. This is the largest known hoard of coins of the Chu king, MA Yin.

Anon, **American notes are made of rubbish!** (p.57). Describing how US notes are made of recycled materials. [reprinted from *Anhui Qianbi* 2000/3].

HAN Liwei, **The sudden rise of plastic notes** (pp.58-62). Han considers (1) development of plastic notes; (2) Australian plastic notes; (3) special features of plastic notes; (4) effectiveness of plastic notes; (5) the many countries using or considering plastic notes; (6) plastic notes not appropriate for China at the moment.

JIN Cheng, **The fake 2 jiao and 5 jiao metal subsidiary coins of the Sichuan-Shaanxi Soviet**, (pp.63-64). Jin considers that these jiao-denominations are fantasy pieces, for the following reasons: (1) not known to people collecting in the 30s and 40s; (2) not listed in publications up to the 1980s; (3) the designs are adapted from the 1 yuan piece; (4) the copper coin denomination on the SSS notes is not *jiao*, but *chuan*, and in documents *wen* or *diao*; (5) all known specimens have come straight from dealers, never from old collections.

ZHANG Yigang, **Printing plate for the South-eastern Guangdong Workers, Farmers and Soldiers Bank, 1931**, (p.65). Discovered in Wuhan in 1994. Denomination: '1 string of coins'.

CHEN Danong, **Fragment of Lin'an plaque money discovered in Huzhou** (p.65). [reprinted from *Hangzhou qianbi*, no.40]

LI Tiesheng, **Collecting world coins (2)** (pp.66-68). Key features (name of country/region, denomination, metal/material, date, size and weight, design, inscription, rim/edge, special marks, obverse and reverse, type/variety, grading, quantity issued, value) and legends. With special reference to US \$1 coin.

LI Tiesheng, **Krause Publications, USA** (p.68). [reprinted from *World Coin News*, Mar-Apr 2000].

FU Weiqun, **Shanghai coin shops and the notes they issued (part 2)** (pp.69-72). The second, and concluding part, considers (1) ranks of coin shops; and (2) the notes they issued.

YU Zhanyong, **The coins of French Indo-China** (pp.73-74). Outline history of the subject with rubbings.

YE Changqing (Hong Kong), **The new, more secure, Hong Kong 1000 dollar note** (p.76). Ye considers: (1) the background (serious problems with forgeries, probably made in Taiwan); (2) emergency measures (communication with police, new higher security notes issued); (3) the new 1,000 dollar notes (issued by HSBC, 40 million note issue, cost of research into security 180,000 dollars, each note cost 7 jiao to produce [10% more than previously]); (4) special features (the complex security strip, watermark, and coloured fibres are visible under ultra-violet light).

DAI Jianbing and YAO Shuomin, **Letters to the Editor about the Japanese 'puppet banks' in China** (pp.77-78). Discussion arising from KATO's (Japan) suggestion that the term 'wei' (puppet/illegal) applied to Japanese banks in China should also be applied to other foreign banks in China. Yao and Dai counter that the foreign banks were legal, the Japanese were not.

NEW PUBLICATIONS

(p.12) **Shijie yinbi de shoucang he jianshang / Collecting and appreciating world coins**, by WANG Chuanjin, Shanghai keji jiaoyu chubanshe, Shanghai 2000. 10 chapters: (1-7) collecting

coins and general knowledge; (8) ancient coins; (9) modern coins; (10) coin names. 340 pp. [ISBN: 7-5428-1938-0].

(p.29) **Renminbi zhishi tonglan** [All about renminbi], by Kaifeng qianbi xuehui [Kaifeng Numismatic Society], Zhongguo xian zhen nianjian chubanshe, Kaifeng, 2000?. Covers general knowledge, the name 'renminbi', RMB paper money (series 1-5), RMB coins, RMB commemoratives, gold and silver RMB commemoratives, security measures, RMB and the law, RMB in circulation, foreign exchange certificates, government bonds. In 10 chapters, 320 items, 350+ pp.

(p.46) **Changzhou diqu linshi liutongbi** [Tokens of the Changzhou region], by YUAN Tao, Xianggang dongfang wenhua zhongxin [Hong Kong Centre of Oriental Culture], 2000?. Comprises text and 991 rubbings of metal, bone and bamboo tokens, 370pp.

(p.72) **Tushuo Zhongguo qianbi** [Illustrated catalogue of Chinese coins], ed. by FU Weiqun, Shanghai guji chubanshe, 2000?. In the Shanghai Numismatic Society series. A popular book on the origins, development and evolution of Chinese coins. 261 pages, 200+ illustrations.

NEWS

(p.18) **DAI Zhiqiang chairs the 7th ICOMON meeting.** DAI Zhiqiang, ZHOU Weirong and GONG Baiqing chaired the 7th ICOMON meeting Buenos Aires, 10-13 Oct 2000. Representatives from 23 countries, and from 67 specialist money museums. Topics included: (1) the status and function of a money museum in central banks and merchant banks, (2) internal management and publicity in money museums, (3) the challenges facing money (bank) museums in the credit age. Next ICOMON meetings: 2001 in Madrid, 2002 in Beijing.

(p.45) **The China Numismatic Association meeting of the Board of Directors, 17 Jan 2001.** LI Baohua (Honorary Director), TONG Cengyin (Consultant), TANG Shuangning and XIA Liping (Deputy Directors) presided. The CNA Secretariat reported on their work and schedule for 2001. Schedule: to link the work of numismatic societies and People's Bank of China, and make the most of the good work done by the CNA and local numismatic societies.

(p.62) **Guangzhou to host the 2001 International Festival of Stamps and Coins, opening 30 October 2001.** With approval from the People's Bank of China and the Chinese Post Office, and organised by China Gold Coin Co, Chinese Philately Co, China Note-printing and Coin-minting Co, and China Numismatic Museum. Four themed days: coin-collecting; stamp-collecting; Beijing-Shanghai-Guangdong day; welcoming the 21st century. Special feature on China Gold Coin Co website. People's Bank of China issuing a commemorative silver panda medal as a souvenir.

(p.62) **China Numismatics website** [<http://www.cnm.com.cn>] is managed by the China Numismatic Museum and the China Numismatic Association, and features information about the Museum and Association, virtual exhibitions, rare pieces, news, *China Numismatics*.

(p.72) **Second Members' Congress of the Guangdong Numismatic Society held in Guangzhou, 10-12 January 2001.** 150 representatives attended. Elected LI Dongrong (Head of Society), KE Kasheng (Deputy Head of Council), ZHOU Yifan (Deputy Head of Society), LIANG Gongchun (Secretary), FENG Jinhan (Deputy Secretary).

(p.75) **The People's Bank of China issues commemorative note and coin welcoming the new century.** [in colour on back cover] Issued 28 Nov 2000, both are for general circulation. RMB 100 yuan note: obverse features a dragon (from the famous Nine Dragon Wall, Beihai Park, Beijing) with fireball (auspicious symbol) to left; Temple of Heaven in the transparent window. Reverse features China's Millennium Monument, with a flying apsara from Dunhuang above it, also People's Bank of China written in pinyin, Mongolian, Tibetan, Uighur and Zhuang. Dimensions: 165 x 80 mm, plastic, total of 10 million issued.

10 yuan coin design features on the obverse: the wheel of history moving forward, and rocket and skyscrapers in the background. Reverse: rays of sun in the background, then globe, ribbon and eye (symbolising year 2000). Diameter 25.5 mm. Bimetallic coin. Total of 100 million issued.

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ARTICLES

DAI Zhiqiang, **Chinese numismatics at the turn of the century: looking back and looking forward**, (pp.3-7). Looking back over the last century of (1) Chinese money, (2) Chinese numismatics, and (3) the bright future ahead. The year 2002 will see the ICOMON meeting in Beijing, the 10th anniversary of the China Numismatic Museum, and the 20th anniversary of the China Numismatic Society.

HUANG Xiquan and ZHAO Renjiu, **Recent discoveries of early period ming knives and sharp-pointed knives**, (pp.8-17). In recent years, many early ming knives and sharp-pointed knives have been unearthed, often small finds, and often in pots. The authors bring together the evidence from 9 hoards (1998-2000), identifying 14 obverse inscriptions, and establishing the characteristics and distribution of the various types.

WANG Xuenong, **How the writing and carving techniques on banliang coins can help in dating these coins**, (pp.18-24, 60). The author concludes that on early period banliang the writing is executed in the same way as the hand-written seal-script style of calligraphy, with little attention paid to the appearance of the coin. On later period banliang coins it is possible to identify particular patterns of writing.

DU Weizhan (= Roger Wai-san Doo, Canada), **A preliminary study of Southern Qi wuzhu**, (pp.25-26). Author acquired two specimens, but saw none in archaeological reports, so went to Sichuan to investigate, and found that most specimens of Southern Qi wuzhu were unearthed at three places between Miannyang and Santai (ie Jingjiasi in Licheng, Muyushan in Zunsheng, and Huanglianzui in Xinde). They are mostly found with small unscrubbed coins, corroded and illegible.

HUANG Xiquan, **The 'jianyi': the weight unit of the Chu state**, (p.27). Woodslips from the Chu state unearthed at Baoshan indicate that there were three weight terms for Chu gold: the yi, the liang, and a previously unknown term, the jianyi (= banyi, half-yi). In 1945 a set of 10 weights was found in Changsha, nine of which had inscriptions. These can now be read correctly; the jianyi weight weighed 124.4g. Huang concludes that the Chu weights were as follows: 1 shi = 4 jun, 1 jun = 30 yi, 1 jianyi = 8 liang, 1 liang = 24 zhu, where 1 zhu = 0.65g. [Reprinted from *Jiang-Han kaogu*, 2000/1].

Anon, **Copper printing plates for the journal *Qianbi* found in Shanghai Museum**, (p.27). Found during clearing of the stores, mostly in good condition and still useable. Part of LUO Bozhao's collection donated to the Museum in the early 1960s. The journal ran from July 1940 to September 1945 (total of 32 issues). [Reprinted from *Qianbi bolan*, 2000/4].

KONG Fangang, **A summary of the Warring States period currency in southeastern Shandong**, (pp.28-29, 7). The borders of the Qi, Lu and Chu states met in south-eastern Shandong. Kong considers (1) the types of currency found there: (a) cowries, imitation cowries in bone, stone, bronze and clay, also ant-nose money; (b) knife money; (c) spade money and round coins; (d) other forms: Chu gold plate money, also bridge money, jade, stone, pottery and bronze. Details of major finds and references given. (2) the historical records, which indicate that this region had many important centres (known as guan and shi) for collection and distribution of goods. Most Qi finds were made in the northern part; most Chu finds in the southern part.

MA Juncai and XIN Yingjun, **An investigation of the clipped coins in the wuzhu hoard found in Suiping, Henan province**, (pp.30-37). (in colour at front of journal). In January 1996, villagers digging 10 km southeast of Suiping found 0.6m below surface level a grey clay pot containing 2,127 coins (none are standard issues). A selection of the finds are discussed as (1) 7 wuzhu coins; (2) 2 clipped rim wuzhu; (3) 46 clipped centre wuzhu, (4) 1 clipped centre buquan, (5) privately cast wuzhu; (6) coin-casting remains; (7) the date and nature of the hoard. Pot is late Eastern Han to Wei-Jin. Coins are late Eastern Han or later. Authors discuss clipped coins, privately cast coins, and private casting techniques.

ZHANG Peilin, **A new hoard of clipped coins**, (p.38). Author discusses 456 clipped coins acquired at Nanhu market, Shenyang, comprising: 2 sizhu banliang, 435 clipped Han wuzhu, 14 clipped huquan, 1 clipped daquan wushi, 3 zhibai wuzhu, 1 daquan dang qian. All specimens are the outer part of the clipped coin (ie where the square hole has been cut away).

CHEN Xu, **Moulds for ming knives found in Linzi, Shandong province**, (pp.39-43). (in colour at front of journal). In July 2000, Chen acquired moulds for dozens of Yan state ming knives (he was able to get all but five that were on offer). Found 0.5km north of the ancient Qi city, near modern-day Linzi, along with scorched earth, charcoal, and other objects made of clay, ie an ancient mint site. Nine moulds intact, rectangular, 240 mm long. Five knife impressions per mould. Marks at the pouring neck of each mould (see tables). Author concludes the knives were made 284-279 BC when Le Yi of Yan attacked Qi, making this the first discovery of Yan ming knife moulds in Qi territory.

HU Lingui and YIN Xiaqing, **A great hoard of Western Han gold cake-ingots found in the north-eastern suburbs of Xi'an**, (pp.44-45). (in colour at front of journal). In November 1999, 219 Western Han gold cake-ingots (many with stamped symbols) were found northeast of Xi'an. (The only similar find was of 216 ingots in 1985.) Found 4m below ground, in two wells 3m apart. Most ingots measured 56-65mm in diameter, and weighed approx. 247g; 30 weighed over 250g; 1 weighed less than 240g. This accords with *Cambridge History of China: Qin-Han periods*, which gives the Han jin = 246g. The ingots were probably presented to the imperial court, ended up in Wang Mang's treasury, and were dispersed when he was assassinated.

XU Guofu, **Letter to the editor**, (p.45). Xu clarifies metallurgical terms in YUN Xuewen's article, The currency system of the Five Dynasties, (*Zhongguo Qianbi*, 2001/1, pp.39-41).

DANG Shunmin, **Two wuzhu moulds found in Xi'an**, (p.46). Author has two 'master-moulds': (1) for Sanguan wuzhu: fragmentary, measuring 360 x 200mm, 30mm thick, with 60 coin-impressions, each with diameter 26mm, central hole 10mm. Came from the Western Han mint at Huilipu, Xi'an. It is the largest known Western Han coin mould. (2) for small wuzhu, fragmentary, measuring 110 x 100mm, 30mm thick, with 6 coin-impressions, each with diameter 12mm, hole 4mm. Came from Western Han mint at Xiangjiaxiang, Xi'an. Has character 'gong' at top of mould. Rare.

WANG Guizhi, **On the small bronze daggers discovered in the Yuguo cemetery**, (pp.47-49). The cemetery is near Baoji, an important communications centre. Between 1974-1981, the excavation of 27 tombs, 2 horse and chariot pits, and 4 horse pits yielded 2,675 objects. The author wrote previously of money-finds (*Zhongguo Qianbi* 1993/2) but did not mention the small bronze daggers, as he believed they were burial goods. But further discoveries of similar pieces have forced him to reconsider (cf *Zhongguo Qianbi* 1996/4) that they may be Western Zhou money. Tomb 2 at Rujiazhuang is particularly interesting - it yielded a string of 121 cowries, on which were 13 small jade daggers, with one at every 4th and 7th cowrie.

ZHENG Gang (Hong Kong), **DING Fubao's seal**, (p.48). Carved by Ding Fubao himself.

WU Chouzhong, **Commemorating the 90th anniversary of the Xinhai Revolution: a selection of contemporary notes**, (pp.51-54). Featuring eight rare notes: (1) Chinese Revolutionary Government, 100 yuan, 1908; (2) Zhonghua minguo jinbi (gold note), 1000 yuan; (3) Zhonghua minguo lujun bujun shiyong piao [military note], 5 yuan; (4) Zhonghua minguo Nanjing junyong chaopiao (military note, Nanjing), 5 yuan; (5) Gansheng minguo yinhang jiuwu chaopiao (Jiangxi); (6) Gansheng yinhang silver note and (7) copper note; (8) Zhongyang geming zhaiwu diaocha weiyuanhui (China Central Revolutionary debt adjustment committee) certificate.

XU Yizong (Taiwan), **The preparation and design of notes issued by the Hua-E Daosheng Yinhang**, (pp.55-57). Author considers (1) the history and development of the bank (Russo-Chinese Bank 1895-1920; merged in 1910 with Banque du Nord to form Russo-Asiatic Bank 1910-26); (2) the notes: (a) location not specified; (b) Harbin; (c) Ningyuan, Kashgar and Tacheng; (d) Shanghai; (e) Tianjin; (f) Hankou; (g) Beijing; (h) Niuzhuang (=Yingkou); (3) comparable notes in other publications; (5) author's note and acknowledgements.

HU Fuqing and MA Tao, **A few words on the coloured gold and silver commemorative coins**, (pp.58-60). (in colour on back cover of journal). China's first examples were issued in 1977, designed in China and produced by a Swiss company. In 2001, the first examples produced in China were issued from the Shenzhen guobao jinbi zhizaochang [Shenzhen national treasure gold coin plant]. The authors discuss how these coins are made.

XIONG Handong, **The earliest small resistance notes of the Yanfu region: notes of the Fudong county People's Co-operative**, (p.61). (in colour at front of journal). Two notes (1 jiao and 2 jiao) were brought to author for identification - details given. Fudong was a new county created during the War of Resistance against Japan.

WU Zhenqiang, **Collecting Renminbi (1)**, (pp.62-67). Full of details on the first series of renminbi, issued from 1 December 1948: (1) in the name of the people (RMB = 'people's money'), to help the economy recover, printed at over 20 different plants (list given), the system of serial numbers, the system of specimen notes, total amount in circulation. (2) is a long table with details of the notes and their rarity. (3) looks at the different plates used to make the notes.

LI Tiesheng, **Collecting world coins (3)**, (pp.68-71). Considering (2) denominations; and (3) the metals/materials used to make coins.

WANG Chuanjin, **Ancient and modern Jewish coins**, (pp.72-74). Author considers (1) history of the Jewish people; (2) Judaism; (3) coins of Judaea (Israel).

JIN Deping, **How to write articles on numismatics**, (pp.75-76).

Shaanxi sheng kaogu yanjiusuo beijiao kaogudui [Shaanxi provincial archaeological research institute: northern suburbs team], **The round coin found in a burial at the Xi'an base of the Changqing oilfield**, (p.76). In March 1996, in the northern suburbs of Xi'an, archaeologists cleared over 20 Qin tombs (Warring States period), and over 400 Han tombs. Tomb M1282 yielded a Qin (Warring States period) round coin with round hole, inscription 'zhu zhong yi liang 14'. Diameter 37-39mm, hole 9-10mm, weight 13.3g. Tomb occupant was 30-40 year old man; burial goods included pottery, bronze, iron and jade objects, ie typical Warring States period Qin burial. [Reprinted from *Shaanxi Qianbi lunwenji* 2000/11].

Anon, **The final days of the world's oldest coinage**, (p.77). On the demise of the drachma as the Bank of Greece and the Athens stock exchange prepare to use the euro from 3 Jan 2001, at the fixed rate of 1 euro to 340.75 drachma. [Reprinted from *Cankao xiaoxi* 31 Dec 2000].

Anon, **Commemorative coins of 2001 and issuing details**, (p.78). Table giving details to September 2001, supplied by the Zhongguo jinbi zong gongsi.

A HOARD OF HORSE-TYPE LEAD COINS FROM THE SOUTHERN DECCAN

by Wilfried Pieper and Alan VanArsdale

Early this year a hoard of 824 lead coins, with the main device of a standing horse, was found in a pot in southern India. Coins of this type are known from several findspots in the south-eastern Deccan, mostly from the regions of the river Penner. The standard obverse design of this series is a horse standing to right on a straight bottom line. In front of the horse's breast is a round ball-like object, and above the horse a *srivatsa* symbol. The reverse design has a railed tree to the right of a six-arched hill, and a wavy bottom line between two straight parallel lines, with dots placed in the bends of the wavy line, probably representing a river symbol. Inside each arch of the hill symbol is a dot, with the top of the hill crowned by a crescent. A circular enclosure surrounds the whole reverse design. Apart from the horse coins, two worn lead coins of the Banavasi series with hill on obverse and tree on reverse were in the hoard. All the coins of the hoard were found in a clay pot, and we have been assured that all coins found, were delivered to us as an intact hoard. It is thanks to the efforts and to the numismatic interest of Alan VanArsdale that this hoard has not been dispersed and that a representative selection of 166 pieces, sorted by type, could be studied and published in detail. This group of 166 coins is a representative sample containing all major stylistic variants, including the important pieces with clearly identifiable legends. The pieces with good inscriptions are of particular interest because only a few such coins have come to light so far. Each new inscribed and readable specimen is welcome because it might shed some light on the largely unknown history of the issuers of this series.

Coinages of the Deccan 'lead coin dynasties'

After the decline of the Mauryan Empire at about 200 BC, more than elsewhere in ancient India, the people of the southern Deccan developed a particular preference for lead as a coin metal. The easy availability of this metal through natural resources was the main reason for this preference for lead. We observe an increased output of lead coins and a tendency for relatively large and heavy specimens in the southern Deccan, during the first two centuries AD. After the breakdown of Mauryan power, former Deccan province governors of the Mauryan kings assumed independence, and members of their families later began to strike their own coins. The family members maintained the administrative titles which had been given to their families during Mauryan times such as Mahatalavara, Maharathi, Mahasenapati, Mahagramika etc., and they sometimes inscribed these titles on their coins. Along with these inscribed, large lead coins they also issued uninscribed lead coins, which probably preceded the former but which continued to circulate side by side with their inscribed counterparts, as archaeological evidence has shown.

Taking the river Krishna as the natural borderline between

northern and southern Deccan, one finds as a general rule that the dynasties of the south-western Deccan favoured somewhat larger and heavier lead coins, than the dynasties of the south-eastern Deccan. Even before the wide-spread use of large lead coins in the southern Deccan, the people of these regions liked large coins, as the large anonymous cast coppers from the Hampi region demonstrate.¹

Looking at the coinages of these 'lead-dynasties', each of the coin-issuing ruling families of the Deccan had a distinctive long-lasting dynastic coin type. These dynastic coin types were characterized by the depiction of an animal on the obverse and a symbolic device on the reverse, or by the depiction of symbolic devices on both sides of the coin. A related but more northern series of rare lead coins was issued by the Sakas of the Junnar region in the first century AD. Their large lion lead coins with railed tree and hill, or with railed tree besides bow and arrow as reverse designs, had been issued under Nahapana and successive rulers like Isamahisa and Isamulasa. The most important 'lead-dynasties' of south-western Deccan with prolific coinages were the dynasty with ruler names ending in *nanda* and who have conventionally been called the "Chutu" Dynasty with their hill/ tree in railing coins, the *Kuras* of Kolhapur with their bow & arrow/ hill & tree in railing over river coins and the *Sadakanas* of Chandravalli in modern Chitradurga district, who favoured a bull/ tree in railing & hill coinage. The 'lead-dynasties' of south-eastern Deccan favoured an animal as their respective family badge. Thus we have the *elephant* coins of an unknown dynasty from the river Tungabhadra with a railed tree as reverse design and the *elephant* coins of the 'Hasti' rulers from Veerapuram in the Krishna valley with a hill in a square frame as reverse design. Then we have the *lion* coins of the Sada kings from the south-eastern coastlands in the Amaravati region which have a hill in a square frame on their reverse. Finally there are the different series of *horse* coins from Telangana districts north of the river Krishna and the typological different *horse* coins from the river Penner regions south of the river Krishna.

If one looks at all these coinages, one thing seems to be clear: these issues, as different as they are, are related in style, choice of metal, choice of design and hence most probably also time of issue. But what can we say about the commencement of these coins? The first independent coinages of the Deccan were anonymous post-Mauryan, pre-Satavahana cast and die-struck coins. Such pieces without legends are known in copper and lead. In the southern parts of the Deccan the first independent coinages appear later than in the Deccan regions north of the river Krishna. The northern Deccan regions were in closer contact with the Narmada valley of Central India, which after the decline of Mauryan supremacy in the early 2nd century BC began to develop a rich local coinage. Local coins of southern Deccan

countries probably only began to appear in the 1st century BC.

Evidence for the commencement of one class of large Deccan lead coins, those of the Sadakanas of Chandravalli, is provided by an inscription of the Satavahana ruler, Satakarni, and his wife, Naganika, who calls herself "daughter of Kalalaya Maharathi". Mitchiner assumed this Kalalaya Maharathi to be Maharathi Sadakana Kalalaya. According to Mitchiner, Sadakana coinage commenced around 30 BC with this ruler, whose name is found on the series of lead bull coins. In his unpublished thesis on Satavahana coinage, Shailendra Bhandare re-examines the relevant numismatic material from Chitradurga and related inscriptional evidence. He concludes "... that the Chitradurga Maharathis and the father of Naganika were both 'of Kalala'. We do not know what 'Kalala' means but it may stand for a variant feudal authority. The Naneghat epigraph mentions that the father of Naganika belonged to the 'Angiya' family, whereas the rendering of the legend on the Maharathi coins indicates that they were members of the 'Sidaka' family. It is evident that, although the father of Naganika and the Chitradurga Maharathis were both 'Kalala Maharathis', they did not belong to the same family." Despite this, there would seem to be justification in determining a similar chronological position for Naganika's 'Kalalaya' father and for the 'Kalalaya' issuer of the bull coins bearing the legend *Sadakana Kalalaya Maharathisa*. In this way it can be assumed that the Sadakana lead bull coin series commenced in the 1st century BC.

For the commencement of the lead coinages of the south-eastern Deccan we do not have comparable evidence. One can observe that in the Veerapuram excavations² the elephant lead coins of the Hasti Maharathis were chronologically followed by a few late Satavahana lead coins which cannot be attributed to any particular king, and by Ikshvaku coins, but we cannot say anything about the start of this coin series. Mitchiner assumes these coins and also the 'Sada' lion lead coins of the Eastern Coast to have started as early as the lead coin issues of south-western Deccan, about 30 BC, and he regards them to have ended in the last decades of the 1st century AD with the Satavahana conquest. As for the river Penner region, the land of the horse coins with tree & hill reverse type, Mitchiner dates the Satavahana conquest somewhat later but "probably well before Sri Yajna Satakarni began issuing his horse type lead coins", which would mean around 150 AD.³

Comparing the western and eastern Deccan lead coins, some general differences are obvious. These differences might be of only typological, but perhaps also of chronological importance. As a general rule the south-western Deccan lead coins are of better workmanship than those of south-eastern Deccan regions and they are larger and heavier. They have good and complete legends in contrast particularly to the Tungabhadra elephant coins, and the Penner horse/ tree & hill coins, which either show no legends at all, or have incomplete and hardly identifiable legends. Specimens with complete legends within the horse/ tree & hill series are very rare and should perhaps be regarded as issues celebrating special events. The horse coin published by Reddy and Reddy maybe a good example for this assumption.⁴ It has the standard design of the series but an exceptionally well

preserved legend running completely around the obverse margin. Furthermore the number of arches of the reverse hill-symbol has been increased from 6 to 10, the size of the coin at 3.2 cm is unusually large, and the weight of 44.20 grams exceptionally high.

Another striking difference between the lead coin series of western and eastern Deccan concerns their reverse sides. On average western Deccan coins have good reverses, eastern Deccan coins have bad reverses. Probably due to the technique of manufacture, the reverse sides of the western lead issues also in most cases are somewhat weaker in strike and design than the obverse sides. Particularly on the horse pieces of tree & hill type, the difference is dramatic. Most of these specimens have a completely effaced reverse design, whereas specimens with clearly identifiable reverse designs are scarce. The occurrence of very weak or completely effaced reverse designs has also been reported by the excavators of the ancient site of Vaddamanu near Amaravati. They described many of the 24 Sada coins from the excavations as having a blank reverse. This suggests a similar minting technique, and a similar time frame for the horse coins and the Sada coins.

As for the end of the 'lead coin dynasties' of the Deccan a number of excavations have shown that towards the end of the 2nd century AD the Satavahanas crossed the river Krishna and brought lands south of the Krishna under their direct control. Before this date Gautamiputra Satakarni had already occupied south-western Deccan territories around 70 AD as is known from inscriptional evidence. While the coinages of the Sadakanas and Kuras had probably already ended by the end of the 1st century AD, one series of the hill/tree coins, inscribed in the name of King Sivalananda was issued until at least 278 AD. We know this from the Nagarjunikonda inscription of an Abhira king, which mentions King Sivalananda to have been reigning at this date. The second invasion of the Deccan by the Satavahanas came at the middle of the 2nd century AD, and lasted until the end of the Satavahana empire. Most Satavahana coins excavated at archaeological sites like Brahmapuri (Kolhapur) or Chandravelli are of late kings of the second part of the 2nd century AD, and the stratigraphic results show that these Satavahana coins overlaid the lead coins of the former ruling 'lead-dynasties'. Archaeological evidence for south-eastern Deccan is less clear, but here as well a Satavahana occupation in the second half of the 2nd century AD is probable from numismatic and inscriptional evidence. It is likely some inland territories remained out of Satavahana control. There is for example, no archeological evidence that the Penner-Hagari plateau was ever occupied by the Satavahanas. After the end of Satavahana reign in the early 3rd century AD, the south-western parts of the Deccan fell to the Abhiras, who have left an inscription mentioning the first year of their era as 248 AD. The south-eastern parts of the Deccan fell to the Ikshvakus at about the same time. We know from inscriptions that around AD 227 they established their capital at Nagarjunikonda, on the eastern course of the river Krishna. During the 3rd century AD, control over territories in south-eastern Deccan seems to have changed between Ikshvakus and Abhiras. So we know that during the reign of the Ikshvaku king Chantamula, Nagarjunikonda was

temporarily lost to the Abhiras, as can be concluded from an Abhira inscription which was engraved at Nagarjunikonda in 278 AD.

Horse coins of the tree & hill reverse type and other series of Deccan lead coins with horse design

Lead coins with a horse standing right facing a thick circular object, and a srivatsa-symbol above the horse as obverse design, and railed tree besides a six-arched hill all in a circular enclosure as reverse design had first been published by Rapson in 1908.⁵ *The BMC coins of this type had river Penner provenances with findspots in Anantapur and Cuddapah districts.*

The same applies to a pot-hoard of coins of this same type unearthed in 1978 at Adampur in the Cuddapah district. The archaeological objects which were brought to light together with the coins emphasized the Buddhist importance of the place. These hoard coins were mentioned by Sarma⁶, but he misattributed them to the Satavahana king Vasishtiputra Satakarni.

In his presidential address at the annual conference of the Numismatic Society of India in 1981, Ajay Mitra Shastri informs us about another hoard of these coins⁷: "Quite recently my friend K.K.Maheshwari acquired at **Hyderabad** a hoard of over two hundred round lead coins, all die-struck, bearing a horse standing facing right on a platform with a round ball-like object (food) under its mouth and srivatsa on back on the obverse and six-peaked hill with a pellet in each of its arches over a platform and tree within railing in a row from left to right and a zigzag line (river) with pellets in loops indicating aquatic creatures below on the reverse. There are numerous variations within the general framework of this type on both sides." And in a footnote Shastri mentions that his statements are "based on personal observations of the drawings of these coins kindly made available by Shri Maheshwari." Unfortunately no further information about these hoard coins is available. It is possible that they came from the pot-find made in 1978 in the Cuddapah district, and that they were brought to Hyderabad by way of trade. It would be of greater interest if this hoard in fact had surfaced north of the river Krishna, because this would shed some more light on the circulation and economic importance of these coins.

A small paper containing valuable information about another hoard of these coins from **Chitradurga district in Karnataka**⁸ was presented at the conference of the South Indian Numismatic Society early 2002. Krishnamuthy Ganesh was kind enough to make this paper available to us. The authors inform about this find as follows: "Recently a pot hoard of lead coins surfaced at Tore-Obenahalli, a hamlet 20 kms from Hiriyur in Chitradurga district in Karnataka. Tore-Obenahalli is on the bank of river Vedavathy, which joins river Agri near Brahmagiri. The pot was found during tilling by the farmers. This is not the first time, a hoard has been found in this village. According to the villagers, similar hoard surfaced two years ago. From the villagers' account, the hoard should have contained about 500 coins, of which about 25% were in worn out condition. However, we could see only about 10-15 coins in reasonably good condition and about 10-15 coins in completely worn out condition. The rest should

have found their way to the market."

Taking all this information together it becomes clear, that the circulation of these coins covered wider regions of Andhra and Karnataka than assumed until now. The findspots of all these above mentioned hoards shows these coins circulated not only in the river Penner regions from Anantapur to Cuddapah, but also the upper Hagari-Penner plateau and within the ancient Chandravalli region. This last region was ruled by the Sadakanas. The recent Chitradurga finds of horse/ tree & hill coins may indicate, that after the extinction of the Sadakanas their eastern domains fell to the "horse kings" from the Penner-Hagari regions. This, however, is not supported by the results of the excavations conducted at Chandravalli, where no horse coins came to light. Most likely the horse coins came to the Chitradurga districts by way of trade in ancient times, which underlines the commercial importance of this coin series.

Already Rapson had clearly distinguished the above type from another type of eastern Deccan horse motif lead coins with findspots in **Telangana districts** between the river Godavari in the north and the river Krishna in the south. The specimens described by Rapson have a horse to left facing a symbol consisting of a central dot within a circle on the obverse, and an Ujjain-symbol on the reverse⁹. Like the horse / tree & hill coins these horse / Ujjain-symbol coins are without legible inscriptions and hence unattributable. A related horse type coin turned up which had the same 'horse to left' obverse, but a different reverse design: a three-arched-hill above a wavy line in a square double frame. This type was firstly published by Mirashi¹⁰ in 1946. The exact provenance of that piece was not known, but being from the Hyderabad collection of Mr. Hurmuz Kaus, it was assumed to have been found somewhere in Hyderabad. The incomplete legend could clearly be read as SASIVA SEBAKASA, conjecturally restored by Mirashi as (PRAKA)SASIVA SEBAKASA. Therefore Mirashi discussed a dynastical relationship to the king Sebaka who had issued a series of square copper coins with bull design (later also elephant copper coins with the legend Sebaka turned up), but mainly for palaeographical reasons he placed this Prakasa Siva Sebaka considerably later "some time after Yajna Satakarni". Later Mitchiner¹¹ illustrated and described this specimen and in the same context he attributed the river Penner coins of the type horse right/ tree & hill to the Sebaka dynasty as his coin-type 1396 commenting "legend not legible but probably as previous issue." In recent years a number of further specimens of the type horse left/ three-arched hill surfaced and their good legends made it clear that these are **Mahatalavara** coins which also include the word Sebaka in their legend. The best Mahatalavara inscription is preserved on a seal from Peddabunkar excavations in Karimnagar district of Andhra Pradesh¹². This seal has a beautiful horse standing left and a complete legend reading 'MAHATALAVARASA MAJA SAMIKASA SIVA SEBAKASA'. This reading was slightly corrected by S.J.Mangalam insofar, as he read VAJI instead of MAJA¹³. Some years later a coin turned up with exactly the same horse as the seal shows it, and with exactly the same complete legend¹⁴. The reverse of this coin is the same as that on Mirashi's specimen, i.e. a three-arched hill in a square double

frame. Along with these pieces Reddy and Reddy published some other varieties of the Mahatalavara horse coin series in the cited references¹⁵: some of these coins have the horse to left, others to right and as reverse design varieties we find a three-arched hill, a six-arched hill and sometimes an Ujjain-symbol. But they all have the inscription 'Mahatalavara' in common, either as part of the complete legend, as on the pieces cited above, or as the only word. And thus it is clear that these 'Mahatalavara-Sebaka horse coins' form a distinct class of their own. And it is the only class of the Deccan horse coins which have the name 'Sebaka' in their legends which may either be the name of a ruler, or more probably, a family name. The findspots of these Mahatalavara coins are all located in Telangana territories such as Panigiri, Polakonda, Peddabunkur, Vardamonakota, Deveruppall, Dulikatta, Kotalingala, Hyderabad and Jangaon. This distinguishes them clearly from the horse/ tree & hill coins which, as mentioned above, have known provenances from the far more southern river Penner territories.

A further series of Deccan lead coins with horse design was issued by Satavahana kings

in the second half of the 2nd century AD, and the beginning of the 3rd century AD. The end of Satavahana rule in the Deccan is generally dated around 220 AD. Satavahana kings who had issued such Deccan horse coins with inscriptions citing their own name are Vasisthiputra Satakarni, Gautamiputra Sri Yajna Satakarni and Sri Candra Satakarni. Among these Satavahana horse coins some specimens depict the horse as standing to right, others have the horse to left. One type has a crescent above the horse, another type a kind of altar in front of the animal and on other specimens there is only the horse and no additional obverse symbols at all. The most characteristic Satavahana symbol, the Ujjain-symbol, is boldly placed on all the reverse sides of these specimens. Certain horse coins with tree & hill reverse, which Sarma¹⁶ had attributed to Vasisthiputra Satakarni are certainly nothing else than usual 'Penner horse coins' as can easily be seen from the plate photos. A coin, the attribution of which is doubtful, had been catalogued by Sarma under Gautamiputra Satakarni¹⁷. Sarma himself admitted "the legend is not clear to be decisive on its attribution"¹⁸. The coin has a horse to right over a platform, in front a kind of altar and a srivatsa above the horse. To its left is a triangular-headed standard, and according to Sarma, a small tree-in-railing which cannot be seen on the plate photo. The legend is unclear. The reverse has a ten-arched hill on right and a railed tree on left above a river-symbol. It might well be that this is not a Satavahana coin at all, but a coin belonging to or related to the Mahatalavara series.

The Satavahana horse coins certainly copied the horse design from locally circulating coins in regions, which they had brought under their direct control. At around 150 AD the Deccan districts north of the river Krishna were part of the Satavahana empire. The eastern Deccan lands between the rivers Krishna and Godavari were those districts, where the Mahatalavara horse coins circulated, and it is clear that they were copied by the Satavahana mint masters. It is however not clear, whether the Satavahanas ever had a direct control over the river Penner regions.

Published horse coins of the tree & hill reverse type with legends and coins of this hoard with legends

Now, that we have distinguished the different classes of Deccan horse lead coins, let's return to the horse / tree & hill type. As mentioned above this series suffers from non-existing or illegible legends. The vast majority of the known specimens doesn't show any legend. If at all, there sometimes are traces of a legend with only one or two characters on the coin. Only in recent years a few rare specimens surfaced with good legends. One such specimen has been published from the cabinet of Reddy and Reddy¹⁹. We mentioned already that this piece is a special one with an unusual high weight of 44.20 grams and a reverse design variety insofar, as the number of the arches of the hill symbol is increased from six to ten. But its particular importance without any doubt lies in its complete legend running around the obverse in 23 characters. Reddy and Reddy interpreted the legend as 'RANO KOSIKIPUTASA HIRANNAKA(SA) SIRI KAMTHARAKAM DA KAMASA' and commented: "The king's name is 'Scandakam' whose father is Srikanth and whose dynastic or family name is Hiranna." Shailendra Bhandare had examined this coin personally and he kindly shared valuable information from his still unpublished thesis²⁰. He interpreted the inscription ascribing it to king Kausikiputra of Hiranyaka family, commenting that the Hiranyakas were feudatories to the Ikshvakus with whom they had a matrimonial alliance, as is known from inscriptions at Amaravati. Inscriptions inform us also that the domains of the Hiranyakas had been called 'Hiranya Rashtra'. Welcome support for the connection of this coin series with the Hiranyaka dynasty comes also from one of our hoard coins (coin 3) which in an exceptional state of preservation renders the complete inscription 'HIRANJAKA' followed by two more characters which can be read as 'TIMA'. A number of further specimens among our hoard coins have only two characters visible. These two characters in most cases are HIRA, as the first part of the dynastic name, and they are placed in a prominent position at the top of the coin, thus providing further evidence for the importance, which the legend part Hiranjaka was granted by the engravers.

Two other horse/ tree & hill specimens with good legends were presented in 1996 by A.H.Siddiqui²¹. Siddiqui's coin 3 has a horse to left with legend around and a srivatsa above the horse on the obverse, and a six-arched hill besides a railed tree over a wavy line on the reverse. The reverse design is enclosed in a square frame which is differing from the usual reverse enclosure for this series which is circular. Unusual for the series is also the position of the horse to left. However, among our hoard specimens there are a few which have the horse to left as well, so that this now can be regarded as a rare but not unique variety in the obverse design of the series. Only a part of the legend of Siddiqui's coin 3 is on the flan and, like the whole style of the coin, the inscription as well is somewhat crude and carelessly done. Siddiqui reads it as follows: 'MAHASENAPATISA HARANAKA SIRI MAHA GA(MAKASA)'. Dependent on the quality of the inscription, it is possible that some diacritical marks do not come out well on the coin and that for example a HI can easily be misread as a HA. Even so it is obvious that the word

HARANAKA corresponds well to the HIRANJAKA of the specimens cited above.

The other of Siddiqui's coins, his coin 2, has a quite different inscription and a different design as well. It bears the standard design of the Penner horse type, i.e. horse to right/ tree & hill over river. There is the usual *śrīvatsa* above the horse, but the ball-like object in front of the animal is divided into two parts which may be due to carelessness of the die-engraver, which would match well with the stylistically bad disproportionate depiction of the horse. On the reverse hill and tree change places, so that, contrasting to the standard position, the tree is left and the hill right, and the hill is 10-arched instead of 6-arched. The legend runs completely around the obverse design in as much as 24 letters. Siddiqui's reading is 'RAJNO KANA BHADASA MANA SEVA MAHASENAPATISA VASATHIPU(TASA)' and his interpretation as follows: "The legend of this coin indicates that the issuer of this coin had a title Mahasenapati and he bore the name Kana bhada mana with metronym Vasathi." It is difficult to be sure about the validity of this reading from the available photo. But what seems to be clear is that we are confronted with different coin inscriptions within the Penner horse coin series, probably issued by different rulers of the Hiranjaka dynasty.

There is another coin with a good legend among our hoard specimens which deserves special attention (**coin 1**). This coin has the best style of all the hoard specimens, with the depiction of a strong and artistically impressive horse. The quality of the engraving, the style and the careful choice of a perfectly round flan are superior to most specimens of the series. The legend part which appears on the flan is running from 8 to 1 o'clock and can clearly be read as ...KHADHA KAMASA IDRA...recalling at once the similar legend part ...KAMDA KAMASA... of the coin published by Reddy and Reddy. KHADA, meaning Skandā, is a legend part occurring quite frequently on the elephant lead coins of the Hasti Maharathis. And the legend part KAMASA as well is known from at least two seals from eastern Deccan. So we know of an ivory seal bearing the legend SAMARA VALI KAMASA SEBAKA²². And a stone seal from Peddabunkur excavations has exclusively the legend KAMASA together with a symbolic device²³. In a personal communication Shailendra Bhandare kindly informed us that the coin published by Reddy and Reddy meanwhile rests in a private US collection, where he had the opportunity to examine it again and to read the legend as KAUSIKIPUTRA KUTU(or TI)RA KHADA KAMA. In contrast to that legend, it can be clearly seen, that on our hoard specimen the character following KAMASA is an 'I' and not a 'KA'. The character following the initial 'I' is somewhat weakly engraved in its lower part. Nevertheless one can clearly see how it takes the characteristic zig-zag movement, before turning to left in its lower course, thus clearly forming the letter DRA. If one assumes, that this legend position is reserved for the personal name of the coin issuer, then our hoard coin had been issued by a ruler whose name started with IDRA. The writing of the initial character 'I' in earlier times had been done as a composition of three dots. If one looks for example at the Junnar lead specimens of the successors of Nahapana, Isamahisa and Isamula, it becomes clear that this writing was still en vogue in the 2nd

part of the 1st century AD. The way of writing the initial 'I' as a vertical stroke with a dot placed on both sides, like on our specimen, occurs for example on coins of Isvaradatta around 250 AD. Isvaradatta was a king of the Abhira dynasty in western Deccan. From this dynasty we also know of a certain Isvarasena. It was about the same time when the Ikshvakus assumed independence from the Satavahanas in the eastern Deccan and established their capital at Nagarjunikonda at 227 AD. Returning to our coin we can say that palaeography in this case makes a dating to a time not earlier than the second part of the 2nd century AD probable. Such a dating is confirmed on palaeographical grounds by the long-ended way of writing the characters of the legend HIRANJAKA on one of the hoard specimens (**coin 3**).

Classification of the hoard coins

There is a striking stylistic diversity of the coins within this hoard. Though there are certain transitional types it is nevertheless possible to distinguish a number of different types, characterized by different depictions of the horse. As for the degree of wear among the hoard coins there are specimens which have seen only a bit of circulation alongside heavily worn pieces. One should be cautious in drawing conclusions from these different degrees of wear, because we don't know how the hoard was composed. The owner or the owners, merchants, traders, bandits or whoever might have stored these coins as wealth, could have taken them out of circulation at one defined time or over a certain period of time. Or the hoard could also have been the property of a family, collected over one or two generations. Such a family could have constantly enlarged its treasure by adding coins to the hoard, or the family members could have taken coins from the hoard, when they needed cash and added coins to the hoard, when they had a surplus of money. Coins entering the hoard may not have reflected their age by wear (some coming from hoards, others circulating after striking, and before entering the hoard). Such a practise of accumulating wealth in cash was popular in all parts of ancient and medieval India due to the non-existence of savings-banks, and due to the insecurity of the times.

What seems to be clear from this hoard is, that at least the main type of the series, the 'large horse type', was a long-running coin type. Particularly of this type we have many highly worn specimens in the hoard alongside specimens which have seen only little circulation. And it seems also to be clear that stylistically very different coins of the series circulated at one and the same time, probably as issues of different mints. Perhaps there was a central mint, a kind of royal court mint. And the good style issues of this central mint could have been copied in more remote, provincial places. It might be that such provincial mints had at their disposal lower technology and less skilled engravers, which would easily explain the inferior quality of certain crude imitative coin types.

TYPE 1: Specimens with clear legends

Because of their special numismatic importance we have summarized the specimens with clearly identifiable legends as a class of its own. Though this approach is not in accordance with the otherwise typological classification, one

can observe that nearly all specimens with legends on them at the same time are specimens of good style, with depictions of well proportioned horses. The different legends and their importance have already been discussed above. Apart from its exceptional inscription, the specimen bearing the legend ...KHADA KAMASA IDRA...at the same time is exceptional because of its special style. It has the best style in the hoard and is superior to most specimens of the entire series. It shows an artistically impressing horse, not flat in the high parts, unlike most of the rest in the hoard. The horse is drawn in a lifelike style with carefully worked out details of the tail, mane and eye. The horse stands on a full bottom-line with a sharp *srivatsa* symbol above. The characters around the horse are carefully engraved, and clearly readable. It is interesting to see how this superb obverse contrasts with the reverse. The reverse shows only traces of a railed tree in a circle, as a part of the reverse design. So like other comparable specimens with strong obverse and weak reverse, this one supports the impression that the weak reverse designs on most specimens of the series are not caused by coin wear, but instead are from weakly cut or worn reverse dies. This is also evidenced by the lack of signs of wear on many flat reverse coins.

TYPE 2: Large horse

When classifying according to stylistic features, a fairly extensive group is made up of specimens featuring a nicely styled large horse. Position and size of the *srivatsa* above the horse, the ball-like object in front of it and the straight bottom-line, on which the horse is standing, is carefully maintained on the specimens of this type. In one class of this type we see *graceful horses* (coins 10-16).. The horse, though stylised, is in most cases anatomically correctly drawn, with life-like proportions between legs, body, neck and head. The mane is depicted as a curved line running for a short distance, parallel to the horse's neck. The tail hangs down as a thin line of about the same thickness as the mane, and the legs are in most examples thin, with clearly executed joints and hooves on less stylised specimens. Another class is of *more stocky horses* with thicker legs which, at the same time, show a thicker body of the horse (coins 21-28). On some specimens of this variety, the body of the horse becomes as thick as that of a pregnant mare. One coin of this class (coin 26) seems to bear a countermark on its obverse. Upon examination the "countermark" is caused by doublestriking, the effects of which can also be seen on the more complete than usual but off centre reverse.

Besides the large horse specimens of good style we find stylistically inferior mint products. These are cruder issues with a *rectangular shaped body* and clumsy head of the horse (coins 29-32).. In the end the body is nothing more than a square box with only indications of attached legs, or even no legs at all. Either these are crude issues of less talented mintmasters or late degenerate issues of a long-running series. These crude imitative pieces are on average in a similar state of preservation as their better-style counterparts. Therefore we have reason to assume that at least some of them were contemporary copies, probably of some outlying or unofficial manufacture. It might also be possible that some of the crude looking types are from recut worn dies, or from dies made by

some crude casting or outline cutting process from the originals.

TYPE 3: Crude smaller, lanky horse

The same applies to another cruder type which is characterized by smaller, lanky horse depictions. The size of the horse in relation to the size of the flan decreases, and there is a tendency for the horse to be struck off-centre. In the beginning (coin 42) the horse is still of quite good style, though the engraving has been done somewhat carelessly. In the further development one can observe a progressive stylistic deterioration and simplification. Details like the horse's mane are lost, and the head shows a tendency to become thinner and longer like the beak of a bird (coins 45-47), in its most extreme form even resembling the trunk of an elephant (coin 48). This last specimen has another unique feature: its reverse has a kind of cross-hatch pattern. It can well be that this happened by chance during the striking process when the coin was lying on something like woven metal or ceramic moulded in cloth.

TYPE 4: Pony type

A small group of only four specimens has been called the pony type. (coins 49-52). The proportions between the horse's head, legs and length of the body differ from those on the 'large horse type' and are rather more appropriate to the depiction of a pony. The pieces of this type have a special attractiveness due to their good, lifelike style, with fuller mane and tail, than on most of the 'large horse' specimens. A characteristic feature of the reverse design of the 'pony type' seems to be an unusual large tree-in-railing. Because no specimen of this type with complete reverse design is available, it cannot be determined without any doubt, whether this constitutes a reverse design variety without a hill, or whether the hill is only invisible due to weak strike. However, because the tree is unusually large and centrally placed, one should rather assume that the hill had been omitted on this variety.

TYPE 5: Small compact horse

A further type quite distinct from the above is the small compact horse type. The animal appears clumsy and coarse, and with its thick, misshapen body, short legs and compact, shortened neck it might even be difficult to identify it as a horse. This certainly holds true for some particularly crude specimens of the type (coins 53-57)..

TYPE 6: Elk-horse type

Stylistically different, but also crude and stylised, are the strange looking specimens of the 'elk-horse type'. Its most striking feature is the elongated mouth of the horse appearing in fact more elk- than horselike, and the depiction of the animal's mane. The thorny zig-zag shape of the mane invokes an impression of wildness and movement, and in this form it is unknown on the other specimens of the series. Though of crude fabrication, the specimens of this type are in an excellent state of preservation and it is unusual for the series that so much of the reverse design can be identified (coins 58-64).

Some specimens, attributed also to this type because of

the characteristic, elklike appearance of the horse, are of cruder craftsmanship. The animal on them has no mane and the bottom-line on which the horse is standing has been omitted (coins 61-64). The crude manufacture of these coins corresponds with the fact that only ½ units of this type occur. This could make their attribution to an official mint doubtful.

TYPE 7: Lion-horse type

Another stylistically distinct type has been called 'lion-horse type' (coins 65-67). The depiction of the horse on the few specimens of this type with its relatively short legs, the longer neck, and the opened mouth gives the impression of a lion. This animal bears some resemblance to the depiction of the lion on the 'Sada' lead coins from the eastern Deccan coastlands. The die-engraver might have been inspired by such Sada coins, and this could sufficiently explain the similarity of the depicted animals. Further conclusions, such as a possible dynastic relationship, cannot be drawn from this observation. Another characteristic feature of the 'lion-horse' coins is the thick, bold engraving of the srivatsa symbol. As far as the reverses are concerned, two of the four specimens of this type clearly show parts of the reverse design.

TYPE 8: Seahorse type

One could regard the 'seahorse type' (coins 68-71) as the result of a progressive stylistic deterioration of the 'lion-horse' coins. In contrast to the correct shape of a horse's neck, the neck of the 'lion-horse' already takes a significant S-like course, which in a further exaggeration and elongation makes the animal look like a dinosaur or sea-monster. As for the reverse design, three of the four seahorse specimens have clearly visible elements of the standard reverse design.

TYPE 9: Horse to left

A few rare pieces in the hoard have the horse to left (coins 72-77). This typological variant is known from other series of Deccan horse lead coins. Within the Mahatalavara horse series, and among the Satavahana horse coins, which copied the horse designs from regionally circulating specimens, we find specimens with the horse to right and others with the horse to left as typological variants. On the Mahatalavara coins the horse to left design was the standard design and the depiction of the horse as standing to right rather an exception. In contrast to these coins, the horse coins from the Penner regions only rarely show the horse to left, and it may be that these cases mean nothing more than a typological variant. One could, however, also discuss a certain form of conservatism in maintaining the production of horse to left coins against the horse to right type, which had established itself as the main type. A certain kind of political rivalry could have played a role, and the issuers of the horse to left coins could have tried to assert their continuing autonomy in some sense. The hoard pieces with horse to left design are very few, and before this publication this type had only been known from a single inscribed specimen published by Reddy and Reddy. This coin has already been mentioned above. The six pieces, which are catalogued here, are all very crude and there is no uniformity in style within the group, which would allow us to regard them as stylistically all belonging to one single type. Only two of them are of the same style, and seem

to have been created by the same hand. Due to their degree of barbarisation it is not possible to decide whether some of the horse to left coins match stylistically with certain horse to right types of the series. Five of them have blank reverses and only one, that piece with the highest weight and of the best style, has a reverse design. It is interesting and perhaps indicative for the unofficial status of the horse to left coins that this reverse design differs from the standard. It seems to have a large crudely depicted tree without hill in circular enclosure (coin 72). The assumption of an unofficial status for these coins could be further supported by their deviation from the usual weight standard of the series.

Weight patterns of the hoard coins

As a general rule with ancient Indian, base metal coins, one can in most cases observe generous fluctuations concerning the weights of the different denominations. This has to be taken into account when analysing the weights of the hoard coins. Such fluctuations are partly due to the fact that the weight of the Indian karshapana is based on a natural product, i.e. the seed of a certain Indian plant, *Abrus precatorius*. The weight of one seed of this plant, i.e. one ratti, can vary according to its content of humidity. Thus it is understandable that the standard weight of the Indian copper karshapana, which is equivalent to 80 rattis, has a range between 8.32 and 9.36 grams. However again and again we observe that the weight of Indian, base metal coins differs in a far greater amount from their hypothetical weight range. This can neither be sufficiently explained with the fluctuations in the weight of the above mentioned seed nor with weight loss by wear. One simply has to state that the mint-masters in the case of ancient Indian, base metal coins did not strive to maintain exact weight standards. A possible reason for this could be that the coins in question were not traded according to their metal content but traded for a token value. ON the other hand, another reason could be that such coins were not traded by counting the single coins but by determining their total weight.

Analysing the weights of the hoard coins we find a certain standard weight between 10-11 grams. Even if lead is an especially soft metal suffering easily from wear, the hoard selection catalogued here is composed of well-preserved specimens close to their original weight. The weight analysis of the catalogued coins results in the following average weights for the different types: for the 'large horse' specimens it is 10.28 grams, for the 'small compact horse type' 10.46 grams, for the 'lion-horse' pieces 10.07 grams, the average weight of the nine specimens with identifiable legends is 11.42 grams, for the 'smaller lanky horse' specimens it is 10.60 grams, for the 'seahorse type' 9.78 grams and for the 'pony type' 10.03 grams. If we take all these pieces together their average weight is 10.30 grams. Against our expectations we thus find an astonishingly clear metrological pattern within this series. The weight of the single coins has been quite exactly maintained between 10-11 grams within the whole series and within the different types as well. We do not have reliable information about the ancient exchange-rate between lead and copper, but one can assume that copper had a higher metal value. What, however, the exact relation between such a lead coin and a copper

karshapana was, is uncertain. As we do not know what this lead coin was called by its issuers, it will be best if we just call it a 'unit'.

Among the specimens of the 'large horse type' there are a few with an unusually small flan and low weight. These specimens and also the 'elk-horse' and the 'horse to left' types have been left out of consideration until now, because they differ significantly from the described weight standard. A look at the individual weights of the pieces in question makes this clear. Among the 'large horse type' four coins have been listed as a subtype, characterized by small weights but normal flan-size between 24-25mm. The average weight of this subtype is 6.90 grams. Another subtype, characterized by coins of low weight and small flan-size between 19-22mm, comprises five specimens: their average weight is 6.16 grams. The weights of the six 'horse to left' coins are 11.7g, 7.9g, 6.9g, 6.4g, 5.7g and 5.4g. The 11.7 grams specimen, which at the same time shows the best style within the group, is the only piece which was struck as a full unit. The average weight of the other five horse to left coins is 6.46 grams. Looking at the 'elk-horse' coins (7.1g, 7.1g, 6.7g, 6.4g, 5.7g, 4.3g, 3.9g) the resulting average weight for this type is 5.89 grams. Even if the weight reduction against a full unit is not exactly 50%, both types nevertheless seem to have been struck according to a ½ unit standard. This observation could be supported by the turning up of a greater number of such specimens in the future. Gresham's law could be applied to explaining why these subunits, which we regard as ½ units, are overweight: our hoarder could have taken out those pieces from circulation which were accidentally struck too heavy while those which were not too heavy he spent.

The validity of the ascertained weight standard is supported when also analysing the 84 hoard coins which are not individually catalogued here. Even if these pieces are crudely struck and somewhat more worn than the illustrated specimens, the degree of weight loss by wear is not very high for most of them. The conformity concerning the result of their metrological analysis is astonishing: the average weight of these 84 coins is 10.38 grams thus almost exactly supporting the above determined weight for a 'unit' of this series. Breaking down the weights of these 84 pieces into weight groups, we get the following picture: 9 coins were 8-9g, 17 coins were 9-10g, 28 coins were 10-11g, 24 coins were 11-12g, 3 coins were 12-13g, 2 coins were 13-14g and 1 coin was 14-15 grams. We thus find a clear maximum between 9.5 grams and 11.5 grams matching almost exactly the weight distribution of the illustrated hoard specimens. When using these coins as currency one could trust in a reliable average weight of 10.3 - 10.4 grams for a single coin on the premises that the payment did not consist of a selection of low weight specimens. We do not know whether a weight control was necessary to prevent such occurrences or whether the official authorities guaranteed an identical value for each coin regardless of its deviation from the standard weight.

Reverses of the hoard coins

The complete reverse design can only rarely be seen on specimens of the series, a state of affairs which also applies for the specimens within the present hoard. In most cases only a part of the reverse devices or no design at all is visible,

and what can be seen is weakly struck. This weakness must have to do with the striking or die-engraving process. The anvil-die, which can be assumed to have been the reverse die, either did not press its design strongly enough into the coin metal or the design was too weakly or not engraved at all on the reverse die. Unlike the reverse design, the obverse design comes out strong and clear, frequently in an irregularly shaped round incuse, suggesting a considerable force of strike on the obverse die. One could try to explain the weak reverse designs by the prolonged use of worn reverse dies due to a high output of coins. Taking into consideration that even soft iron dies will serve well to strike such a very soft metal like lead, without fast breakage or wear of the die, one could imagine that these dies were used for very long periods to strike a vast number of coins. However, the prolonged use of worn reverse dies alone can not explain the weakness of the reverse designs. Because, in that case a good number of specimens, those which had been struck with fresh dies, should show strong reverses, which however seems not to be the case at least for later issues of the series, such as the coins within this hoard. Even if we sometimes encounter specimens with identifiable reverse designs, these nevertheless are weakly struck and flat compared with the obverse designs. There are, however, specimens with perfect reverse designs, struck as strong and clear as the obverse designs, but they seem to be of an earlier phase of the lifespan of this coin-series. A good example is **coin 83**, a coin which is not from this hoard. It seems to be that coins like this one are among the first coins in the series, and that later the reverse dies were being copied from worn reverse dies. Doing this again and again could explain the progressive deterioration and weakness over time. The recutting of worn reverse dies would have saved time and efforts, and would certainly have been done to allow the striking of a great number of coins with less effort. This is evidence for the commercial importance of these coins in times of busy trading activities. The diversity of these coins in general and the fact, that no die-matches could be found among the hoard coins, indeed supports the assumption of a high output. These coins seem to have existed in vast numbers, with only a tiny fraction of them escaping melting and deterioration in the ground.

Among the hoard specimens are some interesting reverse design varieties, which have already been mentioned above, and which are summarised here. One specimen of type 3 has a kind of criss-cross pattern, which seems to have been caused by something like woven metal or a ceramic anvil moulded with cloth, on which the coin was laying during the striking process (**coin 48**). A characteristic feature of the reverse design of the 'pony type' seems to have been an unusually large tree-in-railing, which is centrally placed covering most of the reverse (**coins 50 and 52**). It looks as if, on this design variety, the hill was omitted. Another design variety can be observed among the low-weight specimens of type 2e. Here one specimen has a reverse motif similar to that appearing on the Sada coins: a large six-arched hill in a square frame, contrasting with the circular enclosure, which is characteristic for the series (**coin 38**). Then we have a specimen on which hill and tree change places: in contrast to the standard reverse design with tree on right and hill on left, here the tree is placed on the left side and the hill on the right

side (coins 78 and 85). Coin 78 (just mentioned) bears on the other side a highly stylised design with only a simplified hill symbol consisting of some rows of dots. And finally there is one specimen of the 'seahorse type', which has an unusual reverse design looking like a tree on a platform (coin 68). Together with the technical deterioration of the reverse designs, these design varieties could also be regarded as evidence of a progressive stylisation.

To complete the hitherto known reverse design varieties of the series, one should also include the two inscribed coins, which were published by Siddiqui. One of them, Siddiqui's coin 3, has a horse to left with legend around and a reverse design which is enclosed in a square frame. Siddiqui's coin 2 has a reverse on which tree and hill change sides and, as a further derivation from the standard, on this coin the hill is ten-arched.

In related coinages, the reverse design of the Sadakana coins also has a railed tree and a hill. There the tree is placed on the left side and the hill on the right. Furthermore, depiction and style of tree and hill on the Sadakana coins are very different from that on the horse coins and are obviously related to the designs on the Banavasi lead coin series with hill on obverse and tree on reverse. Both series have the hill-symbol in the peculiar form with three arches over four arches and one bigger arch at the top. The hill on the horse coin series is completely different and can be best compared with the hill on the reverse sides of the Sada lion coins. On both coinages we find the same six-arched hill with a dot in each arch and a crescent on top of the hill. Another feature, common to both, the Hiranjaka and the Sada coins, is the typical weakness of the reverse design, probably due to the same techniques of coin production. So it seems to be justified to regard the Hiranjakas as contemporaries of the Sada kings. This finds further support by the hoard coin mentioned above, which has a reverse design very similar to that of the Sada coins and by the 'lion-horse' coins within the hoard. Concerning the reverse designs, the Hasti Maharathi coins also used the same type of hill in a double-lined square enclosure, and they also might be seen in a comparable chronological context.

Trade activities and the commercial importance of lead in the Deccan in the first centuries AD

Direct trade between Rome and the Eastern World had received a strong impetus since the Roman conquest of Egypt in 30 BC and since the discovery and the mastering of the monsoon winds around the middle of the 1st century AD. It is proved by archaeological finds that India's trade with western countries as far as Rome and with eastern countries as far as China flourished in Satavahana times and reached a peak in the 2nd century AD. In Northern India foreign trade was mainly via overland routes. The Deccan and the very south of India had long seacoasts, which favoured an intensive sea-trade with western and eastern trade partners. An example throwing light on this searade is Kottapatnam, a coastal village in Nellore district in Andhra Pradesh. This site is of particular importance in our context, as it is situated exactly in that region where the river Penner flows into the sea. Archaeological excavations at this site conducted by K.P.Rao have yielded evidence of trade contacts with the

Mediterranean world and with China, at least from the 1st-2nd centuries BC²⁴. Trade at this site flourished during the Satavahana period, as is proved by the occurrence of Roman Rouletted ware, similar to that found at Arikamedu²⁵, which has been assigned to the 1st-2nd centuries AD. Imitations of Roman amphora have been found at several sites in the Chittoor and Nellore districts. Trade contacts with China are proved by several other findings at Kottapatnam such as stamped pottery, kaolin pottery, glazed ware and a Chinese coin. According to K.P.Rao²⁶ the stamped pottery suggests that Kottapatnam was an active trade-port already during the pre-Christian era. Evidence of the intensity of trade activities at Kottapatnam is also provided by the detection of an artificial channel, and other facilities used for berthing and loading of a greater number of ships simultaneously²⁷.

Different inland chieftains, among them the Hiranjaka kings from the river Penner, tried to participate in these trade activities as much as they could. A question is: how did they bring their goods to the seacoast? It seems probable that they followed the natural course of the river Penner flowing in an easterly direction through the Eastern Ghats into the Bay of Bengal not far from the important seaport of Kottapatnam. Archaeological survivals of fortified towns along the banks of such rivers as the Krishna, Godavari and Tungabhadra demonstrate the importance of the river-trade in the region²⁸, and it is a characteristic observation that the ancient ports along the South Indian and Sri Lankan coasts were situated at the estuaries of rivers²⁹. Looking at the great stylistic diversity of the hoard coins with no die-matches among them, one gets an idea of how prolific the coinage of the river Penner dynasty must have been, implying rich commercial activities. And when looking for desirable goods these people could have offered for sale or exchange, one can reasonably think of spices, precious stones, valuable woods and other things, well known among the Indian export products of the first centuries AD.

But we also could think of the metal which they used for their coin-production. Lead was a metal which obviously was easily available in the region and it might even have been that the Hiranjaka rulers were in possession of lead mines within their own territories. Although, for the Penner region, we do not have archaeological or literary evidence, we know for example "that the Zawar mines in the Malwa region were rich and economically viable as a result of lead and zinc occurring together in the form of their sulphides, namely galena (PbS) and sphalerite (ZnS) respectively, and that this area was economically exploited from quite an ancient period...The copper and lead mining processes have, as their resultant scrap metal, the potin which was another popular medium of Satavahana currency"³⁰. I.K.Sarma further mentions ancient lead mines from Kurnool, Agnigundala in district Guntur and others from Baraula (Kashmir) and Almora (UP)³¹. As far as Andhra is concerned lead mines also existed around Vinukonda in Guntur district, and at Karampudi. His study of Satavahana coinage, culture and commerce brings Sarma to the statement "the later Satavahanas and their successors may have tapped these mineral sources not only for their coinage but as a wider commercial product for exchange"³². It seems that lead production in itself, considering also such by-products as potin, was an important local resource at the time

of the later Satavahanas. We have literary evidence that seems to indicate, that at least in the early 1st century AD, demand for lead in the Deccan regions had been higher than supply. In any case we hear in the *Periplus*³³ of imports of lead into the region, and one has discussed the possibility that this lead together with tin came from countries like Burma and Thailand³⁴. It is possible that, somewhat later, an intensified and successful search for Deccan lead resources resulted in a surplus, which enabled the local dynasties of the late 1st and 2nd century AD to use lead as a profitable commercial product. Demand for lead was very high in Rome in the 2nd and 3rd century AD – for example in this period Roman ceramic glazes increased in lead content, and in general from the second to the fifth century AD it was high. The same seems to have applied for China. And also Sri Lanka had considerable demand for lead because no lead mines are known from that island, and the ancient Sri Lankan industry used lead for example in glazes. Discussing this question, with regard to the manifold series of lead coins and lead objects found at Tissamaharama, Osmund Boparachchi holds the view that “it is not excluded that lead was brought to the southern coast of Sri Lanka, from India, through the same maritime route”³⁵. It is interesting to observe, how the production of lead and the amount of its use during the period in question is reflected in its concentration in the Greenland ice pack. The 3rd century AD is when there is the highest concentration of lead in the Greenland ice pack until the 19th century.

We already mentioned that Kottapatnam was an important sea-port on the coast of south-eastern Deccan not far from the mouth of the river Penner. This trade port can be safely assumed to have been the place to which the merchants of the Penner region brought their goods. We think that among these goods lead played an important part, but one can not assume that the lead coins themselves were going to sea for export. It would be more convenient to ship lead as standardised bars than as coins. The lead coins rather could have been for the local economy. It is not surprising that we have no material evidence of a possible lead trade. Lead coins or bars, brought to the seacoast, cannot be expected to have survived the centuries in an identifiable form due to corrosion and oxidation.

Dating of the hoard coins and general chronology of the series

Two coins other than the horse type coins are included in the hoard. Both are worn lead coins of the Banavasi series with hill on obverse and three on reverse. One of them (**coin 79**) has its devices nearly rubbed off, only the silhouette of the obverse hill-symbol and that of the tree in a four-compartment railing on the reverse with associated nandipada symbol being still identifiable. The legend has disappeared completely, so that we cannot decide whether this coin belongs to the Chutukulananda or to the Mulananda series. The second specimen is also worn and corroded, but still identifiable as a coin of the Chutukulananda class with a twelve-compartment railing of the tree on the reverse (**coin 80**). Hoard evidence has shown the continued circulation of Chutukulananda specimens long after their production had stopped. From their degree of wear it is likely that these two

coins had circulated a long time before someone took them out of circulation.

Palaeographical evidence for the chronological placement of the hoard coins is provided by the hoard coin with the legend part IDRA (**coin 1**). We have already discussed that the manner of writing the initial letter ‘I’, as a vertical stroke with a dot placed on either side, is a writing form in any case later than the 1st or early 2nd century AD. The importance of the legend part HIRANJAKA has been emphasized above. The hoard specimen with the best preserved Hiranjaka legend (**coin 3**) shows this legend written with long-ended, curved characters, as they are used for inscriptions from the late 2nd century onwards.

Before trying to set up a chronological frame for the horse/ tree & hill lead coins, it seems to be useful to look at *archaeological evidence* concerning geographically related coin series of south-eastern Deccan. Archaeological excavations were carried out near *Veerapuram* in the Kurnool district of Andhra Pradesh during 1978-1980. The results of these excavations suggested that the later Satavahanas might have succeeded the Hasti Maharathis in this region³⁶. P.L.Gupta³⁷, analysing the numismatic evidence from Veerapuram, is of the opinion that the Hasti rulers existed in this region up to the end of the 2nd century AD. Only very few Satavahana coins, illegible and of the type elephant/Ujjain symbol, were found at Veerapuram. They might have come to the site through trading activities and are not sufficient evidence to assume a Satavahana succession after the Hasti Maharathis.

The *Vaddamanu* excavations near Amaravati in the coastal Guntur region of eastern Andhra Pradesh brought to light the until then unknown lion lead coins of the Sada kings. Apart from some surviving Mauryan punch-marked coins and uninscribed copper and lead coins, the Sada coins were associated with Satavahana, Ikshvaku and Vishnukundin coins. P.L.Gupta interpreted the stratigraphical context of these coins in that the Sadas were directly followed by the Ikshvakus³⁸. The coins of the Satavahanas at this site were not found exclusively in any layer nor along with the Sada coins, apart from one exception in a single layer, which does however not change the overall picture. From this numismatic evidence one could get the impression that the Sadas never came in direct conflict with the Satavahanas. The Satavahana coins at this site are few, and their presence could be explained by trade. On the contrary, Ikshvaku coins are of far greater number, and they are found in all layers with the coins of the Sadas. The unscripted copper and lead coins generally have the lion motif, as it is also found on the inscribed Sada lead coins. Their position in the different layers suggests that they were circulating at this site before the inscribed Sada coins, and that they circulated together with them until the site was overtaken by the Ikshvakus. The political changes in the Amaravati region are, however, not clear, because, on the other hand, we have inscriptional evidence which suggests a Satavahana occupation after the Sadas and before the Ikshvakus. Even if such a late Satavahana occupation of south-eastern Deccan really had taken place in the second half of the 2nd century AD, it cannot be said beyond doubt that it also included all inland regions. Regions like the upper Hagari-Penner plateau may have

remained out of Satavahana control.

The horse / tree & hill coins from the Penner region can be assumed to have circulated at around the same time as the Vaddamanu and the Veerapuram coins. They are closely related in terms of their reverse designs and particularly the Sada coins share the same weak reverse striking as is typical for the Penner horse coins. We have no evidence of direct Satavahana rule over the Penner region. On the premise that this region remained out of Satavahana control, we could assume that the local Penner rulers maintained their independence until they came under the overlordship of the Ikshvakus sometime in the 3rd century AD. Or, as feudatories, they may have been allowed the issue of base metal coins at least for a while, possibly until the Ikshvakus had gained full control over the region. We know that the Ikshvakus were the predominant power in south-eastern Deccan in the 3rd century AD. Inscriptional evidence tells us that they established their capital at Nagarjunikonda in 227 AD. And with the rise of their power, the independent status of the Hiranjaka rulers was restricted to that of feudatories, who had a matrimonial alliance with the Ikshvakus, as we know from inscriptions at Amaravati³⁹. That the horse type coins from this hoard can in fact be regarded as issues of the Hiranjaka dynasty is supported by the inscribed coins in the hoard, which either show the complete family name or parts of it. It is reasonable to assume that the issue of the Penner region horse coins stopped at the latest with the full establishment of Ikshvaku power in the region in the middle of the 3rd century AD.

Whereas the 1st and the 2nd century AD was a period of flourishing trade, the 3rd century AD saw a decline in local and foreign trade activities. This is reflected in the coinages. The 1st and 2nd century was the time when the Satavahanas and their contemporaries in the Deccan issued a plenitude of different and large coinages. The 3rd century saw a decline in the coinages of the Deccan. The Ikshvaku coins themselves decreased in size and weight copying popular motifs from coins that circulated earlier in the region, such as lion, elephant, ship and horse. With the decrease of Roman trade in the 3rd century AD due to an internal crisis within the Roman Empire, a vital part of the Deccan trade activities was affected. Obviously it did not take long for the local industry and local trade activities to be considerably reduced. Archaeological evidence indicates deurbanisation and decline in the post-Satavahana period. Many sites in Central India and the Deccan were abandoned after the third century AD. Excavations have shown that at sites like Nasik, Nevasa, Ter, Bhokardan, Paithan and also at many sites in Andhra Pradesh and Karnataka, there was a break in occupation after the Satavahana period⁴⁰. With this economic situation of the post-Satavahana period in mind, the decline of coinages in the post-Satavahana period can easily be understood. This was the time of small, light coins like those of the Ikshvakus. The time of the large and heavy Deccan coinages was over.

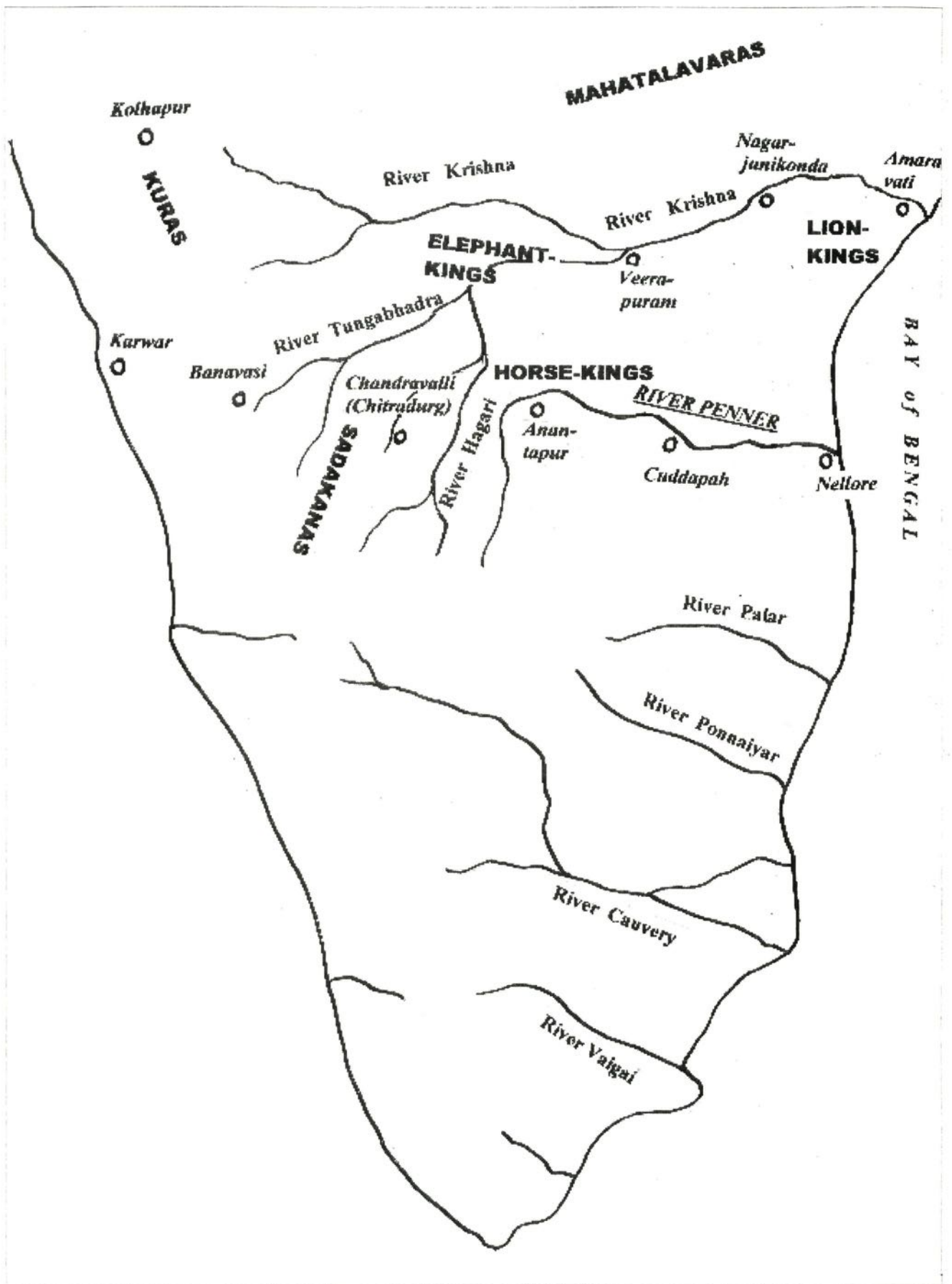
CONCLUSIONS

1. The hoard specimens show a great stylistic diversity with no die-matches among them. According to the stylistic differences, it is possible to distinguish distinct types which seem to have circulated at the same time, probably as issues of different mints. We therefore can assume a large output of the coins of the series, a view which is also strengthened by the probable use of recut, worn reverse dies.
2. The metrological analysis of the hoard results in a reliable weight of 10-11 grams for a 'unit'. The hoard also proved the existence of a subunit, though considerably rarer.
3. Nearly all the hoard coins have weakly struck or completely effaced reverse designs, contrasting with well-struck obverse designs. In most cases, where the reverse design can be identified, it is the standard design of the series. A few coins, however, show typological varieties of the reverse designs. The progressive deterioration of the reverse quality could be explained by the use of recut, worn reverse dies.
4. The hoard can be dated to the late 2nd / early 3rd century AD. For the whole series a time frame from the late 1st/early 2nd until the early 3rd century AD seems to be probable.
5. The Hiranyakas are known as an important ruling family of south-eastern Deccan from Ikshvaku inscriptions. The view that these Hiranyakas were the issuers of the coin series discussed here is supported by several hoard specimens which bear this name or parts of it.
6. Sometimes the horse/ tree & hill type have been misidentified as a Sebaka coinage, although Rapson already clearly distinguished this series from other horse-type coins with findspots in Telangana districts north of the river Krishna. Neither this hoard nor any of the relevant publications could present any specimen of the tree & hill type with a 'Sebaka' inscription. It is meanwhile clear that the 'Sebaka' inscribed horse-type coins belong to the Mahatalavara series, as recently published specimens have proved.
7. One hoard specimen shows a hitherto unknown inscription. The name of the ruler who issued this coin is only partly inscribed and begins with the letters IDRA. The legend part that appears on the coin reads KHADA KAMASA IDRA.
8. Several ancient lead mines are known to have been exploited in ancient Andhra Pradesh. We hold the view that the Hiranyakas not only used large amounts of lead for their coinage, but that they traded with the metal itself.
9. Recent hoard finds suggest that the territories where the horse/ tree & hill coins circulated might have been larger than previously thought. According to the provenances of the hoards, these coins circulated at least from Cuddapah in the east to Chitradurga districts in the west, thus underlining their economical importance.

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Many thanks to a number of colleagues and friends who in one or the other way kindly contributed to this paper: to Jan Lingen and to K.P.Rao, who both spent some time consulting their Indian maps and atlases to help find the location of some ancient Indian sites. To Krishnamuthy Ganesh for sending his paper presented at the 2002 conference of the South Indian Numismatic Society. To K.Rajan for providing some useful addresses and to Shailendra Bhandare who willingly shared valuable information from his unpublished thesis. Thanks also to our good friend, Wolfgang Sokalla, for his generous help in providing all the coin photos for this paper. And last but not least thanks to Osmund Bopearachchi for always lending me an open ear and for helping with his experience and advice.



CATALOGUE:

The total number of hoard coins was 824. A sample of 166 specimens, 100 of them a random group and 66 sort-typed specimens, formed the basis of this paper. Out of these 166 coins a number of 82 was selected because of their state of preservation and numismatic importance. These 82 coins are described and catalogued here. The fact that these lead coins survived the times, sealed in a clay pot, explains their relatively good condition without much corrosion and oxidation. The coins are of weak strike and flat in the high parts of the design, but the degree of wear on average is not very high. 84 specimens from the study group of 164 coins have not been illustrated or described in detail, because this would not have been of significant additional benefit. Roughly, one can say that about 50% of this group of 84 specimens show considerable wear, comparable to the small selection of worn specimens which have been catalogued and illustrated below. Most coins in this group of 84 specimens can be attributed to the 'large horse type', two coins belong to the 'lion-horse' type, two coins to the 'seahorse' type, three coins to the 'elk' type and three coins to the 'small compact' type.

TYPE 1: Specimens with clearly identifiable legends

- 1) Horse in superb style, legend around from 8 to 2 o'clock ...KHADA KAMASA IDRA.../ traces of tree on r., hill on l. and circle around. 11.0g, 25mm
- 2) Horse in good style, unread legend from 3 to 8 o'clock/ reverse blank. 12.5g, 24mm
- 3) Small, thin horse, legend above from 11 to 2 o'clock...SA HIRANJAKA TIMA...
obverse design roundly incuse/ faint traces of reverse design. 11.0g, 24mm
- 4) Thick horse, legend above from 12 to 2 o'clock ...RANJAKA...obverse design roundly incuse; reverse design blank, round reverse incuse. 11.5g, 25mm
- 5) Obverse design roundly incuse, legend above horse from 11 to 2 o'clock..(MA)SA HIRA(NJA); faint traces of reverse design. 12.7g, 26mm
- 6) Legend above horse from 12 to 3 o'clock ...HI(RA)NJAKA?; reverse blank. 12.4g, 27mm
- 7) Obv.design in round incuse, legend above horse from 11 to 3 o'clock..HIRANJAKA...; reverse blank. 10.7g, 25mm
- 8) Higher degree of wear, legend above horse from 12 to 3 o'clock..HIRANJAKA...; reverse blank. 9.6g, 25mm
- 9) Weak legend above horse from 3 to 4 o'clock .DRAVA(or VI).; rev.blank. 11.5g,25mm

TYPE 2: Large horse

- a) subtype with thin, graceful legs and body
- 10) 8.5g, 25mm unusual complete and strong reverse design
 - 11) 10.6g, 28mm obv.design roundly incuse; parts of rev.design off-centre in round incuse
 - 12) 10.0g, 25mm tree and circle on reverse visible
 - 13) 10.2g, 26mm obv.design roundly incuse; part of circle on reverse
 - 14) 10.6g, 25mm traces of tree on reverse
 - 15) 9.5g, 25mm obv.design roundly incuse
 - 16) 10.8g, 25mm hill, river and circle visible on reverse

Some irregularly shaped, worn specimens

- 17) 9.8g, 33x26mm reverse blank
- 18) 11.1g, 29x22mm reverse blank
- 19) 10.1g, 28x20mm reverse blank
- 20) 11.0g, 27x22mm reverse blank

b) Subtype with thicker legs and thicker body

- 21) 9.7g, 26mm reverse blank
- 22) 10.2g, 25mm hill, river and circle visible on reverse
- 23) 11.0, 26mm reverse blank
- 24) 9.0g, 28mm obv.design roundly incuse, HIRA above horse; reverse blank
- 25) 12.2g, 26mm HI above horse; reverse blank
- 26) 11.2g, 26mm above horse back part of second horse caused by doublestrike; hill, tree and circle off-centre, part of second circle caused by doublestriking
- 27) 10.2g, 28x22mm highly worn, unreadable legend around horse; reverse blank
- 28) 11.1g, 24mm highly worn; reverse blank

c) Subtype with rectangular shaped body, sometimes without legs

- 29) 10.9g, 27mm reverse blank
- 30) 8.8g, 27mm reverse blank
- 31) 10.4g, 25mm obv.design roundly incuse; reverse blank
- 32) 9.6g, 24mm strong, almost complete reverse design

d) Low weight specimens of large flan size (1/2 units)

- 33) 7.7g, 24mm parts of tree, hill, river and circle on reverse
- 34) 7.0g, 25mm reverse blank
- 35) 6.6g, 25mm unusual small and thin tree as part of reverse design
- 36) 6.3g, 24mm reverse blank

e) Low weight specimens of small flan size (1/2 units)

- 37) 7.2g, 20mm river on reverse visible
- 38) 6.5g, 22mm reverse hill centrally placed over river in square frame, no tree!
- 39) 6.3g, 22mm reverse blank
- 40) 5.7g, 22mm reverse blank
- 41) 5.1g, 19mm reverse blank

TYPE 3: Smaller, lanky horse

- 42) 9.8g, 25mm horse still depicted is with mane; traces of tree as part of reverse design
- 43) 10.9g, 27mm obverse design roundly incuse, horse without mane; reverse blank
- 44) 10.1g, 26mm horse without mane, forelegs weakly engraved; reverse blank
- 45) 10.6g, 28mm thin, elongated, beak-like mouth; river on reverse visible

- 46) 10.2g, 22mm three-partitioned body of horse, no legs visible; river and circle on reverse visible
- 47) 11.7g, 24mm bee-like, elongated mouth; reverse blank
- 48) 10.9g, 24mm elongated mouth with some resemblance to the trunk of an elephant; chequered cross-pattern on reverse

TYPE 4: Pony type

- 49) 11.3g, 23mm lifelike pony with bushy tail and full mane; traces of tree
- 50) 9.3g, 22mm pony in good style; reverse has large tree centrally placed with circle around
- 51) 9.8g, 25mm lifelike pony with bushy tail; reverse blank
- 52) 9.7g, 25mm pony more stylised; tree visible on reverse

TYPE 5: Small compact horse

- 53) 10.4g, 24mm clumsy and compact body with short legs and short neck; reverse blank
- 54) 8.9g, 22mm reverse blank
- 55) 10.2g, 25mm parts of river, hill and circle on reverse
- 56) 11.2g, 25mm reverse blank
- 57) 11.6g, 24mm most simplified depiction of the horse for this type; reverse blank

TYPE 6: 'Elk-horse' type

- 58) 7.1g, 25mm elongated mouth, thorny mane, double bottom-line; river and circle as parts of reverse design
- 59) 7.1g, 25mm thorny mane; large hill and tree on reverse
- 60) 5.7g, 24mm thorny mane; hill, tree and river visible on reverse
- 61) 6.7g, 25mm no mane, round object in front of horse unusually small; reverse blank
- 62) 6.4g, 24mm crude; part of circle visible on reverse
- 63) 4.3g, 25mm crude; reverse blank
- 64) 3.9g, 24mm very crude, tail uplifted; reverse blank

TYPE 7: 'Lion-horse' type

- 65) 9.1g, 23mm horse with long neck and open mouth; reverse blank
- 66) 10.2g, 24mm tree, hill and circle on reverse partly visible
- 67) 10.9g, 23mm hill on reverse visible

TYPE 8: 'Sea-horse' type

- 68) 10.6g, 26mm grotesquely elongated S-like bent neck; unusual reverse design, looks like tree on a platform
- 69) 10.2g, 24mm tree, hill and circular border visible on reverse
- 70) 9.7g, 24mm blank reverse
- 71) 8.6g, 25mm tree, circle and traces of hill on reverse

TYPE 9: Horse to left

- 72) 11.7g, 27mm relatively best styled horse of all horse to left specimens; uncertain reverse design looking like a large tree
- 73) 7.9g, 24mm/ stylised horse over double, slightly curved bottom-line, giving the impression of a rocking-horse; reverse blank
- 74) 6.9g, 25mm same as no.73; reverse blank
- 75) 5.4g, 22mm crude horse with a little hump; reverse blank
- 76) 5.7g, 22mm crude horse; reverse blank
- 77) 6.4g, 25mm crudest depiction of all horse to left specimens, horse looks like a little dinosaur playing ball; reverse blank

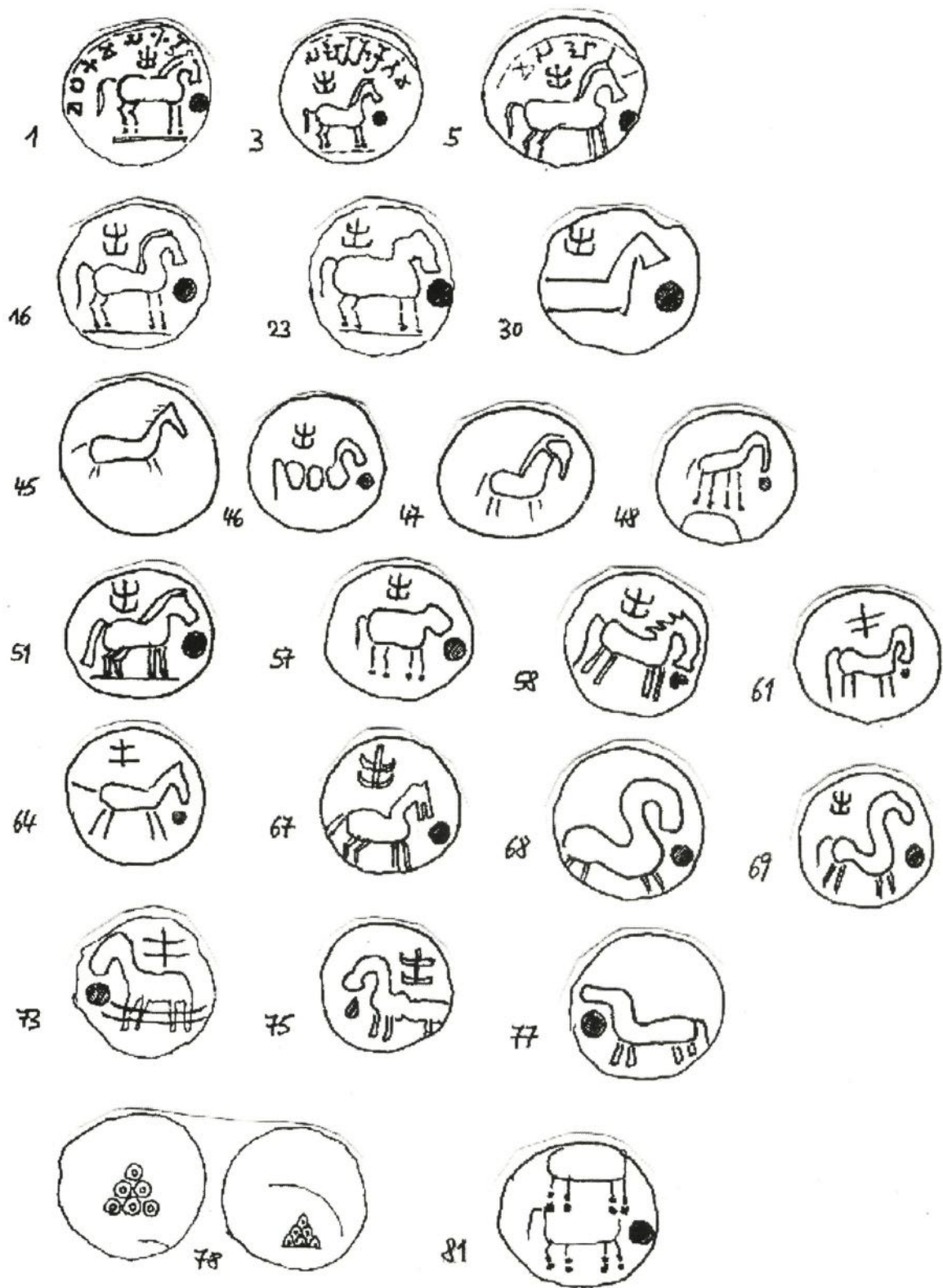
MISCELLANEOUS:

- 78) 12.0g, 24mm a pile of six circles, each circle having a central hole, looks like a simplified version of the hill-symbol; standard reverse design of the series but hill is placed on the right side
- 79) 14.9g, 27mm highly worn coin of the Banavasi hill/tree series, silhouette of hill-symbol with traces of unreadable legend around worn out railed tree, railing has four compartments
- 80) 12.5g, 27mm worn and corroded coin of the Banavasi hill/tree series of Chutukulananda type, hill-symbol with legend around; tree in railing with 12 compartments, Nandipada on right
- 81) 10.8g, 25mm doublestruck obverse, horse can be seen twice; reverse blank
- 82) 8.7g, 26mm obverse design highly worn; reverse design unusually clear

ADDITIONAL NON-HOARD COINS:

Coins 83-86 are not from this hoard. They already belonged to the collection of one of the authors before this hoard turned up. They are listed here because of their numismatic importance. Coin 83 is a superb specimen which was acquired through the kindness of Uno Barner Jensen. The coin has a beautiful dark patina and a strong high relief design on both sides. It is unusual to find specimens within the series which give such a complete and strong impression of the reverse design. Coin 84 is of a very different style, showing a neat little horse and also an unusually good reverse design. On the reverse of coin 85, tree and hill change places and on coin 86 we find a partially preserved legend, which seems to read ...KHARA KAMASA.

- 83) 10.9g, 24mm high relief design on obverse and reverse; superb complete reverse design
- 84) 8.6g, 22mm obverse design of good style; strong and complete reverse design
- 85) 9.7g, 24mm horse partly off-centre; good reverse design with unusual positioning of tree on left and hill on right side
- 86) 11.4g, 25mm legend above the horse from 8 to 12 o'clock reading KHARA KAMASA; nice and complete reverse design



Drawings of the various coin types



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Enlargements



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