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Front cover: Photo of the Alexander tetradrachm, no. 68 (see article of Lloyd Taylor Fig 1 page 52)

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NUMISMATIC ASSOCIATION OF AUSTRALIA INC

President's Report

With COVID-19 now endemic, the Association has not been able to hold a conference because of the upsurge this year of the virus Australia-wide, but nevertheless the NAA has continued to function with an upgraded website and the publication of this double volume JNAA31, which is available for free download at the NAA website. We plan to hold a conference next year in Adelaide, 19 – 20th October 2023, hosted by the Numismatic Society of South Australia.

I am delighted to announce the award of the Ray Jewell Silver Medal to our Managing Editor, Associate Professor Gillan Davis for his services to the NAA, and his numismatic work both in Australia and overseas for which he has an international reputation. Congratulations Gil from all of us.

The NAA continues to enjoy sponsorship at a sustainable level, with Noble Numismatics (Gold), Coinworks, Downies (Silver), Coins & Collectables Victoria, Drake Sterling, Mowbray Collectables, Sterling & Currency and Vintage Coins & Banknotes (Bronze) all contributing to ensure the Association's continued success. Membership is being maintained, and with the contributions by sponsors and members, the Association can function in these difficult times.

The NAA now has a new Secretary, Bridget McClean, and a new address in Nunawading, Victoria. This is convenient as the NAA is incorporated in Victoria. Much time has been spent changing bank signatories and updating Consumer Affairs Victoria; nothing happens quickly these days!

The Numismatic Association of Australia now has a functioning PayPal account linked to president@numismatics.org.au. This is very convenient for payments coming from overseas and avoids most international bank fees. Like with banking, setting up a PayPal account is not a five-minute exercise, but well worthwhile.

I am impressed with the considerable work our Managing Editor Gil Davis has put into this volume notwithstanding his being extraordinarily busy transferring between universities and setting up new programmes at the Australian Catholic University. Also, I am grateful to Barrie Newman for his on-going work in getting the journal set up and printed, taking on the tasks of both layout and copy editor.

Council continues to meet by ZOOM, hosted by David Galt at Mowbray Collectables.

Finally, the Association cannot function without the dedication of its secretary and its treasurer (Lyn Bloom); thank you both Bridget and Lyn.

Professor Walter R. Bloom
President, NAA
www.numismatics.org.au
3rd August 2022

Editor's note

This volume has been a long time in the making. Usually, an issue is based around the NAA annual conference, but COVID-19 made that impossible. More importantly, as the peak body for numismatics in the country, we are focussed on making each volume wide ranging, interesting and impactful. So, we waited on the completion of a couple of key contributions and have brought out a combined two-year issue which I have dubbed 'the professors' volume' on account of the academic attainment of most of the authors. I trust you will agree that the results justify the decision, because here we offer a splendid collection of eleven articles on an eclectic range of topics with some of the best numismatic analysis and writing I have read. Personally, I have learnt a lot, and I expect that you will too. The collection is rounded out by an obituary by NAA stalwart Peter Lane of the late Maurice B Keain, a real character on the Australian scene.

There are two articles on Australian topics. Vincent Verheyen offers a forensic scrutiny of 'proofs' and 'specimens' from the Melbourne and Perth mints issued in just two years, 1955 and 1956 and seeks to differentiate between them. Walter Bloom provides an interesting study of Western Australian numismatic medallions and badges with an emphasis on the Castellorizian Brotherhood which represented the émigrés from that Greek island.

Lloyd Taylor gives us a Hellenistic trilogy which is a tour de force in numismatic analysis. He starts with a brief but compelling argument correcting one of Hersh's additions to Price's Alexander typology showing that it was already in the corpus. Next, he reattributes Macedonian imperial coinage attributed to Berytos to Byblos. Finally, he shows that an issue of tetradrachms struck in the name of Philip III was in fact a posthumous issue of Seleukos.

There are four articles on a Roman theme:

- Bruce Marshall moves us into the turbulent period of the late Roman Republic with a study of 'labels' on a small number of denarii which he contends fed into the contemporary political discourse.
- Graeme Stephens and John McDonald offer us something unusual and valuable. They document and analyse an unpublished hoard of fourth and fifth centuries AD Roman coins and local imitations from Sri Lanka.
- Andrew Chugg explores the veracity of commemorative medallions of Antinous, paramour of the emperor Hadrian who was deified after his death in the Nile, arguing that there are ways of distinguishing between genuine and fake examples.
- John Melville-Jones offers us a magnificent work listing the names of Roman coins as used by the Romans themselves and sometimes just by modern numismatists.

Written in John's inimitable style, this is an invaluable reference for collectors, students and scholars.

The next article by Emy Kim and Cristiana Zaccagnino takes us into the fascinating world of a numismatic collection of some 600 Greek and Roman coins housed at Queen's University in Canada that is being used in teaching and research. They show just how valuable coins can be when treated as artefacts used to inform historical and scientific understanding. This represents a welcome trend in modern scholarship to integrate numismatics into cross-disciplinary studies.

Finally, we publish a long autobiographical article by Maria Caltabiano. This is justified by the profound impact which she has made on numismatics in a lifetime as professor of numismatics at the University of Messina in Sicily. Along the way, she describes many of her projects with a particularly fascinating exposition of an example of iconic programmatic minting in late fifth century BC Kamarina in the period of the 'signing masters' – some of the most exquisite ancient coinage ever struck. Sadly, we tend not to know enough about numismatics in early Europe, and this article goes some way towards filling the gap.

I sincerely thank the many diligent anonymous reviewers who have done so much to improve the papers. Likewise, I thank the members of the editorial board who stand ready and willing to help when called upon, and John Melville-Jones who happily proofreads the articles. Above all, I pay tribute to Barrie Newman without whose tireless efforts across the years, these volumes would not see the light of day.

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Managing Editor

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Proof, specimen and selected coins from the Melbourne and Perth Mints in 1955-56

T. Vincent Verheyen

Abstract

At the start of the collector proof series in the mid-1950s, the Perth and Melbourne branch mints revived the production of specially prepared coins for sale to the public. The Mints issued these coins at a premium according to their quality and the time involved in their manufacture using the terms proof, specimen and selected coins. Premiums above face value ranged from two shillings for proof to sixpence for the others. Their differentiation based on quality has become obscured over time, with all coins now marketed as proofs. The Perth Mint used the term 'specimen' to describe their 1955-56 proof issues in Mint reports. In contrast, Melbourne used the terms 'proof' and 'specimen' to describe different strikes for their 1955 issues and differences in quality for 1956. Melbourne did strike 1955 dated proof (circa 320) and specimen coins circa 850) from separate dies. Melbourne 1955 dated coins that can be categorised as high-quality proofs, rather than specimens, were struck in similar mintages to those from Perth, making them much rarer than published catalogues suggest. Separate production of proof and specimen coins at Melbourne creates the opportunity to use die markers and population studies to differentiate between them. Responding to demand, Melbourne tripled the 1956 dated proof issue (1000 sets) and halved the specimens to 500 sets. Die marker investigation to distinguish between proof and specimen 1956 dated coins proved inconclusive. No markers were found for the 1d, 6d, and 2/-; differences in the 3d and 1/- may reflect die states than different dies. This suggests that the Melbourne specimen 1956 issues were likely inferior proofs.

Keywords

[die marker] [cameo] [Royal Mint] [blank] [strike] [quality]

Introduction

Definitions of the terms 'proof' and 'specimen', when applied to predecimal coins produced by The Royal Mint London and its Australian branches, are problematic. Much of the confusion stems from the terms being interchangeable up to the mid-20th century.[1] They indicate individually prepared coins struck from specially crafted dies and blanks.[2]

Proof coins

Mints produce proof coinage to represent their best quality issues. The 'quality' (finish on and appearance of proof strikes,) varies markedly depending on the minting technology, metallurgy, amount of skilled labor and time available. The same production standards were not necessarily adhered to between the different issues e.g. Perth Mint changes between 1957-8.[3;4] In the 140 years between 1826 – 1965, Royal Mint proof coins (Table 1) were issued in either cameo, reverse cameo, full mirror, or completely matte finishes. Depending on the year and particular Mint, their designs are not always fully struck, and the rims are not necessarily broad and flat. These coins were struck for appreciation by the unaided eye and not microscopic examination.

Table 1 Royal Mint Proof Coinage finishes

Finish	Proof/Specimen Examples
Cameo (Acid etched relief with mirror fields)	1826, 1831,1839,1853,1887,1893 London*
Reverse Cameo (sandblasted fields with mirror relief (effigy and design)	1957-1963 Perth
Matte (acid-etched or sandblasted dies)	1902 London
Full Mirror (polished dies) and blanks	1937, 1938, 1939, 1955-63 Melbourne

*later London proof years 1911,1927,1937, 1950-51, 1953 reveal varying degrees of cameo contrast due to die wear and infill.

The branch Mints did not prepare proof coins for collectors after the start of World War II, given the pressure of work to issue regular coinage and change to quaternary alloy.[2;5] Both Perth and Melbourne Mints started cautiously in 1955-6 with the meagre production of just over 300 proof coins of each denomination (Table 2). Market demand was uncertain,[1] and the Mints did not know if the steep 2/- premium on each coin would be too much of an impost.[6] I expect Melbourne thought they could better cater for collectors by offering a cheaper option by providing specimen quality coins for 6d premium. Both proof and specimen struck coins were available individually; however, nearly all purchasers required complete sets. The specimen coins did not sell well, and Melbourne dramatically reduced their mintage in 1956 (Table 2).

Specimen coins

By the 1950s, the word specimen coin had taken on a new meaning in the Royal Mint and described an inferior quality to a proof. Specimen coins are struck from (preferably fresh) regular dies and taken from normal production runs before they have excessive contact with other coins.[2] As specimen coins were struck from different dies, the opportunity arises to use die markers to distinguish them from proof. However, it

would be impossible to determine specimen coins from gem business strikes struck in the same run.

The rest of Melbourne's 1955 dated premium collector coins,[7] between 733-1105 pieces depending on which denomination, were called specimen coins (Table 2). These were carefully prepared when the Mint was undertaking production runs. The Mint responded to the rapid sell-out of the 1955 proofs and lack of demand for their selected coins by striking 1000 proof sets in 1956[7] and reducing specimen coins to a nominal 500 each.

Selected coins

The Perth Mint used selected as their term to describe inferior coins issued at a 6d premium to collectors. Paul Holland published a seminal paper in this journal on the Perth proof coinage in which he concluded that the Perth Mint did not discard 1957-1963 dated proofs that did not pass quality checks; they were sold as selected coins.[3] This difference in approach between the sister branches may be explained by the difficulties the Perth Mint experienced in striking quality proof coins.[3] I expect sourcing premium coins from regular production was also problematic. These difficulties, coupled with a supply of rejected proof struck bronze, became the drivers for Perth to issue imperfect proofs as selected coins. Thus, collectors would receive a superior coin, and the Mint was spared the trouble of choosing additional coinage. Given the same dies were used with these selected coins, it would be impossible to distinguish them from mishandled original proof strikes.

In contrast to Perth, the Melbourne Mint Specimen register entries for 1955 dated coins confirm that specimen coinage was available in late 1955,[7] several months before the proof strikes were entered in February 1956. This interval between register entries is evidence that the Melbourne Mint did not pass off inferior proof strikes as selected coins. Typically, proofs were struck at the end of the year's production runs, concurring with the registry entries.

Table 2 Mintages for the various types of premium collector coins struck by the Branch Mints

Coin Date Denomination	**Melbourne Branch Mint***			**Perth Branch Mint#**		
1955	Proof	Specimen	Total	Proof / Specimen	Specimen/ Selected**	Total
1/2d	n/a	n/a	n/a	301	32	333
1d	319	1105	1424	301	30	331
3d	311	733	1044	n/a	n/a	n/a
6d	329	880	1209	n/a	n/a	n/a

1/-	350	851	1201	n/a	n/a	n/a
1956						
1d	1008	508	1516	417	36	453
3d	1007	508; 504*	1515	n/a	n/a	n/a
6d	1000	506	1506	n/a	n/a	n/a
1/-	1000	507	1507	n/a	n/a	n/a
2/-	1000	500	1500	n/a	n/a	n/a

- *504 coins sold from 508 struck; all other numbers are indicated as sold in the Melbourne Specimen Coins Register[7]
- # transcribed[3] and sourced from Annual reports of the Deputy Master and Comptroller of the Royal Mint London 1955-57
- **note that several of these coins are listed in the 1957 RM Perth report as "selected".
- the Perth Mint used the term specimen coins in its 1956-57 RM reports and these coins are accepted as being the same as record proofs sent to various musuems.[3]

Discussion

Differences in quality of the Melbourne 1955-56 proof and specimen coins in terms of their finish and appearance are not readily apparent to the naked eye. This close similarity has led to them all being classified as proofs by the numismatic market.[8] The rims are generally higher and cleaner on proof coins, and the mirror finish in the fields is slightly better due to extra polishing of the blanks and dies. Surprisingly except for the 6d and less so the 1d, the strike quality of both types is comparable. Die markers for the proof and specimen coins are listed in Table 3 and illustrated in Appendix -1. During the examination of between 14 and 20 'proof' coins of each denomination, only one separate pair of dies has been discovered for each proof and specimen coin type.

Despite careful examination of approximately 15 Melbourne 'proof' sets dated 1956, no difference in the dies for their 1d, 6d and 2/- coins have been observed. The 3d and 1/- denominations reveal slight die differences, but these require more study to ensure they are not simply differences due to die age and wear. The identification of 1956 dated proof and specimen coins is problematic. Given this die equivalence, the Royal Melbourne Mint likely adopted the practice of its Perth sibling and issued inferior proofs as specimens.

The die markers for the Perth Mint 1955-56 proof and selected strikes are identical and published.[3;9] Each issue, i.e. 1955 1/2d, 1d and 1956 1d, is found with one of two obverse dies but only one reverse die resulting in a complete set requiring six coins.

The Perth Mint transferred their proof 1955-6 penny dies to the coining department to strike circulation coinage.[3] The fate of the Melbourne Mint proof dies is unknown; further examination of die destruction and press records may shed light on whether they were also used for regular strikes. In addition, Melbourne specimen dies will have struck further circulation coinage given their specimen coins were prepared during coin production.

Conclusions

While both Mints used the term proof to describe their best quality coins, confusion arises as Perth also used the term specimen to distinguish these in their official reports. Melbourne and Perth used the words specimen quite differently, with Melbourne using it to describe lower-quality pieces that are almost indistinguishable from proofs. Perth used the term selected to represent lower-quality proof pieces. Microscopic examination of a large number of these special 1955-56 dated coins struck for collectors by the Royal Mint Melbourne reveals numismatically interesting die markers. These markers have enabled the discrimination of proof and specimen strikes for 1955; however, this approach failed with 1956 dated coins suggesting the same dies may have been used for both types.

References

1. VPRS 10219/P00001/6 Misc. Files. 1954-1958 41/8 (B) Specimen coins QEII coinage Hagley correspondence

2. Mullett, William J. Melbourne Mint Branch of the ROYAL MINT - The Establishment, *self publication ISBN 0 646 10577 9*, 1st Edition 1992, p. 34, 44.

3. "Perth Mint Proof Coins 1955-1963" by Paul M. Holland. Journal of the Numismatic Association of Australia, volume 16, 2005, pages 3-48.

4. Verheyen, T. Vincent. "The 57 Perth proof penny under the microscope" *The Australasian Coin & Banknote Magazine, Vol. 9 (11) December* 2006; pp. 26-29.

5. "A Metallurgical Origin for Surface Impairments Found on Australia's Larger Silver Q-Alloy Proof Coins" by T. Vincent Verheyen. Journal of the Numismatic Association of Australia, volume 16, 2005, pages 141-53.

6. VPRS outward correspondence files 644/P000/44; Webb letter to Brand striking non issues Letters between Treasury & both Mints, Acceptance of costs, Treasury instigated program hand written costing for proof production etc

7. VPRS files 6670/P0000/1 Specimen Coins Register

8. Renniks Australian Coin and Banknote Values 28th Edn. 2019 M.Pitt editor. p. 65

9. Verheyen T. Vincent. 'The 1955-1956 Perth Bronze Proofs- Just what is a tarted up die?' *The Australasian Coin and Banknote Magazine Vol 9. No. 10, November 2006* pp. 30-35.

Author

Dr T. Vincent Verheyen leads the Carbon Technology Research group at Federation University Australia. His numismatic interests are focused on the Royal Mint predecimal issues specially struck for collectors.

Acknowledgement

Dr Paul Holland is thanked for his suggested improvements and corrections.

Table 3 1955 Melbourne Mint Die Markers for Proof and Specimen Coins

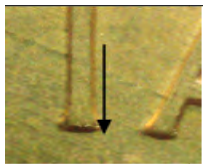
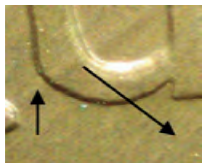
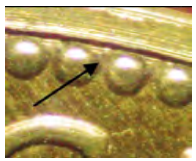
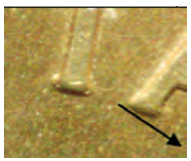
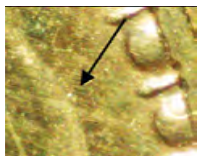
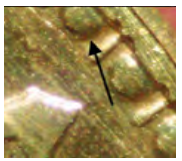
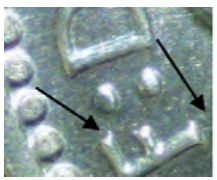
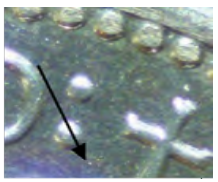
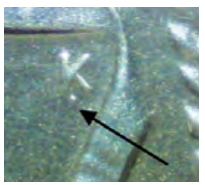
Denomination	Proof Strike	Specimen Strike
1d	General Observations: the proof rims are devoid of concentric lathe lines while the specimen has multiple concentric lathe lines Proofs have icy smooth fields and typically deeper orange colour, while specimen has good mirrors but the fields are not as smooth as proof	
	Obverse:	
	• rim has full raised "wire" edge • rim beads well formed weakest 10:00 to 12:00] • small raised dot in field just below RHS of I in gratIa • small raised dot in field just above LHS of G in Gratia lining up between beads	• Minimal wire out from lathe lines • Rim beads generally weak particularly inner edge indent out on rim from G in reGina • Line through top of beads above REGina • Raised small dot below RHS of A in gratiA also raised pair of small lines to upper left of this dot
	Reverse:	
	• partial wire on rim between 12:00 to 9:00 • rim decoration of darts and denticles well formed denticles (particularly inner curved edge) and sharp darts	• negligible wire on outer edge of rim • Strike quality to denticles and darts is inferior

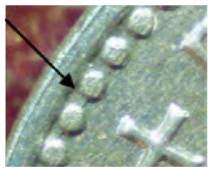
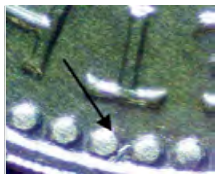
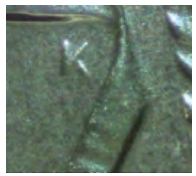
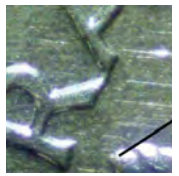
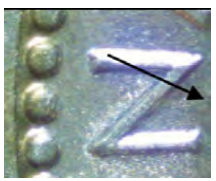
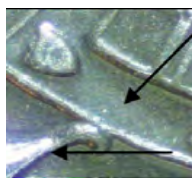
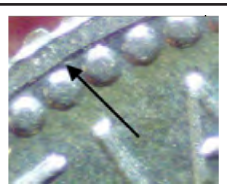
	• small raised dot in front of roo's chest centered close under forearm • Small raised dots one just beside left arm of U and a pair under its right arm aUstralia	
3d	General Observations – these are very difficult to tell apart from denticles and bead definition and need microscopic examination	
	Obverse	
	• No lathe lines on rim between outer wire and inner edge • F in F:d has a bar along its top RHS stroke • Tiny raised dots to bottom right (just above hair) of second colon in f:d:+	• Microscopic lathe lines on rim between outer wire and inner edge • Line joining rim beads adjacent +Eliz • Multiple lines between beads adjacent elizabeTH these lead to intrusions from wire edge on rim i.e. minor rim cud out from right edge of T and leading vertical of H • Central rim bead out from E in dEi –multiple lines back to inner rim. • Bead out from . in dei. Single thick line with wire intrusion
	Reverse	
	• Trace of lathe line 3-5 oclock • Raised metal on left side of AU letters and top of curved base stroke in 9 • Raised dot below K in designers initial	• Feint shallow part wire 12 to 5 O'clock • Mark under vertical line of E in three • Striations below sTRALIa heading towards R.H. corner of ribbon

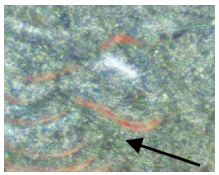
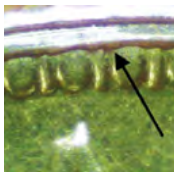
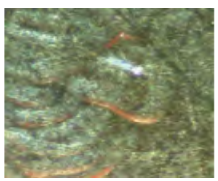
<table>
<tr><td rowspan="6">6d</td><td colspan="2">General – Proof reverse denticles near rim are better struck as are beads on obverse. Line between bead and rim directly adjacent I in gratIa for both versions</td></tr>
<tr><td colspan="2">Obverse</td></tr>
<tr><td>• Dot below N in regiNa</td><td>• Dot in bottom section of E in dEi</td></tr>
<tr><td colspan="2">Reverse</td></tr>
<tr><td>• Raised metal edge to side of arm, back and tail of roo
• Raised dot in shield near right (lower) paw
• Well struck AUSTRalia in scroll</td><td>• Symmetrical edges on roo's right paw, leg and tail
• Raised dot in top right corner of inner shield
• Weakly struck AUSTRalia in scroll</td></tr>
<tr><td rowspan="6">1/-</td><td colspan="2">General – this die paring though more common in my survey has the dot below ear and as it was also used in 1956 it has been designated the proof. Beads and denticles are not perfect on either version

Various raised lines thru the obverse beads (above GRATIA and ZABETH) are identical between both versions</td></tr>
<tr><td colspan="2">Obverse</td></tr>
<tr><td>• Minimal lathe lines on rim next to partial wire
• Rim adjacent GRATia has many raised intrusions from the wire edge back into the broad flat rim.
• Small dot below ear - between lobe and hair</td><td>• Wire on outer edge of rim has band of concentric lathe lines next to it, e.g. adjacent REGINA.
• No raised intrusions on rim
• Note dot below ear</td></tr>
<tr><td colspan="2">Reverse</td></tr>
<tr><td>• Rim has strong outer wire and many concentric lathe lines.
• Multiple lathe lines on rim adjacent AL of austrALia</td><td>• Rims reveal weak partial wire and fewer lathe lines
• Small blob on base of 2nd denticle clockwise from left side of S of Shilling
• No lathe lines on rim adjacent AL of austrALia</td></tr>
</table>

APPENDIX-1 OUTLINE OF THE DIE MARKERS FOR 1955 MELBOURNE PROOF AND SPECIMEN COINS

Die Pair Number of coins surveyed	Obverse die key features photomicrograph		Obverse die Description	Reverse die key features photomicrograph		Reverse die Description
Proof 1d 6			Smooth surface on rims below wire edge Dot below right side of I between gratIA Blunt rim beads i.e. reGIna			Raised dots beside and below U in aUstralia Weak denticles Dot in field in front of roo's chest/ upper arm
Specimen 1d 10			rims displaying concentric lathe lines, Raised dot below A in gratiA Line above sharp beads reGIna			rims displaying concentric lathe lines, Raised dot outside roo's tail Strong denticles
Proof 3d 5			Flat rims prominent wire. Lines through the F of F:D Raised dots below right of the base of colon in d :+			Thin rims partial wire, Raised metal edge on left side of AU on base stroke of 9. Raised dot below K of designers initial

Specimen 3d 8			Flat rims prominent wire. Line joining beads above + Eliz Multiple lines between beads above elizabeTh			Thin uneven width rims partial wire. Many raised lines (striations) between wheat ears and below stRAliA
Proof 6d 10			Smooth rims and strong beads. Lump below N in regiNa			smooth rims Strong lettering in scroll Small raised Dot in shield near roo's paw Raised metal edge to side of arm, back and tail of roo
Specimen 6d 17			textured rims and weak beads. Dot in bottom section of E in dEi			rough rims partial wire. Dot in right quadrant of shield Dot before A, weak auSTRAlia in scroll

Proof 1/- 8			Minimal lathe lines on rim Very small raised dot below ear. This dot is also found on 1956 obverse proofs Dots below and inside A in reginA			Un-ground, strong wire and many concentric lathe lines on rims. Multiple lathe lines on rim adjacent AL of austrALia
Specimen 1/- 6			Concentric lathe lines on rim adjacent to regINA, elizaBETH II			weak wire and less lathe lines Small blob on base of 2nd denticle clockwise from left side of S of Shilling Small, raised lines between right star and denticles

Note none of the rims on the 1955 Melbourne collector coins were ground flat so all display at least a partial thin raised 'wire' on the outer edge of their rims. This results from misalignment between the dies and collar pushing up metal during striking. The die markers shown here are best observed with a 20X lense or a microscope.

Numismatic evidence of the Castellorizian Brotherhood and early Greek settlement in Western Australia

Walter R. Bloom

Abstract

This paper studies numismatic medallions and badges in Western Australia that have a strong Greek connection, and places them in the context of such objects Australia-wide. The medallions and badges are tracked through the history of Greek settlement in Western Australia from the early part of the 20th century. A substantial listing (but necessarily incomplete) of corresponding Greek-Australian objects is also provided, primarily related to major historical events in Greece.

Keywords

[Greek badge] [Greek medallion] [Sheridan's] [Athanasius Auguste] [Castellorizian Association] [appeal badge]

Introduction

The motivation for this paper lies in a 1914 medalet of the Castellorizian Brotherhood of Western Australia which was illustrated (from an old photograph) in a 1996 book,[3] but for which no example was known. Recently, the author obtained an example which turned out to be a numismatic item of significant local historical interest. The medallion highlights the role of the Kastellorizians in establishing the Greek community in Perth from the arrival in 1886 in Fremantle of Athanasios Avgoustis to his eventual settling in Perth after 10 years working in Broome and Adelaide. Avgoustis was instrumental in establishing the Castellorizian Brotherhood of Western Australia in 1912 and played a large role in the development of the local Greek community.

Castellorizian Brotherhood Medalet

(25.7mm, not to scale)

The (obverse) legends read

Η.ΕΝΩΣΙΣ ΚΑΣΤΕΛΛΟΡΙΖΙΑΚΗ ΑΔΕΛΦΩΤΗΣ/ΠΕΡΘΗ/W.A./1914

which transliterate as (but see comments on the corrected Greek below)

THE UNION, KASTELLORIZIO BROTHERHOOD/PERTH/W.A./1914

The design shows the Greek and Australian flags, with two hands joined in friendship underneath. The Greek flag is a revolutionary pre-WWII version and refers to the uprising of 14th March 1913 (see the next paragraph) to form a union between Kastellorizo and Greece. The clasped hands were an early symbol of the Castellorizian Brotherhood of Western Australia as indicated in the Association's seal described below. The medalet is 25.7mm in diameter and made from bronze. On the blank reverse there are traces of solder between 12 and 1 o'clock indicating that this had been made into a pin; it could have been sold as an appeal badge or, alternatively, it could have been a membership pin for the Brotherhood.

Greek flag of the revolution [6][7]

In 1911, Italy declared war on the Ottoman Empire and in 1912 conquered Rhodes. It also occupied the Southern Sporades (which it renamed the Dodecanese) except for Kastellorizo. In 1912, during the Libyan war between Italy and the Ottoman Empire, the Kastellorizians asked Giovanni Battista Ameglio, chief of the Italian occupation forces in Rhodes, for their island to be annexed to Italy. This was refused, and on 14th March 1913 the local population imprisoned the governor and his Ottoman garrison and proclaimed a provisional government. In July 1913, the Treaty of Lausanne recognised Italy's possession of the Dodecanese, but in August 1913, the Greek government sent a provisional governor supported by gendarmes from Samos. However, in early 1914 in Florence it was decided to return the island to the Ottoman Empire; the provisional governor left in October 1915.[20] This meant that the link with Greece established by the uprising was quite brief, but it did encompass the period when the medalet was designed and issued.

There does not seem to be any mention of this medalet in the Western Australian newspapers, or of any related appeal, although the Kastellorizian Associations around

the world did send funds to support the uprising.[9] So it could easily have been an appeal pin.

It is not clear who struck the medalet, but the only plausible local candidate was Richard Stanley Cumpston. The other main badge manufacturer Sheridan's (initially Austral Engraving Co) did not commence operation until 1915 and there were no other makers in Perth capable of producing such a piece other than the Perth Mint which demonstrated much finer die sinking skills. The contract could have been sent interstate or even overseas as was done quite often in the early part of the 19th century with the striking of both dog registration discs and the many medallions circulating in the State (the firm Stokes & Sons, Melbourne was regularly used for the latter). However, it is unlikely that this would have happened during the start of WWI and organised relatively quickly after news of the uprising reached Australia.

The next step is to look for similarities in the die work with other Cumpston products of that year. The closest candidate seems to be:

(23.43mm, not to scale)

and comparing the date fields:

there are certain similarities in style, especially the '914'. The same could be said about the shapes of the various letters used in the legends, but this brief analysis is far from conclusive. The fabrics of the medallions are quite similar.

It is apparent that the die sinker did not have any Greek letter punches as various Greek letters have been constructed from English letters or other symbols, for example TT rather than Π and the peculiar Θ (theta) in ΠΕΡΘΗ. Also, the 'dot' after the article Η (the) at the beginning of the obverse legend makes no sense. These failings suggest a non-specialist die sinker in Perth rather than an item prepared elsewhere. Even using W.A. rather than Δ.Α. (*Δυτική Αυστραλία* is Greek for Western Australia) is inconsistent. Note that ΑΔΕΛΦΩΤΗΣ is incorrectly spelled; it should be ΑΔΕΛΦΟΤΗΣ, which indicates that the person who gave the text to the die sinker was not fully literate in the written Greek language.

The Greeks in Western Australia

Greek settlement in Australia has been well documented in a range of publications, including the two-volume work by Hugh Gilchrist,[9] and the 2011 *Sydney Journal* article by Panayiotis Diamadis.[10] The latter contains an interesting overview of Greek settlement in Australia with mention of seven young Greek men, who had been convicted of piracy, arriving in Port Jackson aboard *Norfolk* on 27th August 1829; the Greek Orthodox Community of New South Wales (GOC), Sydney's oldest Hellenic organisation established in 1898; the first Orthodox Church in the southern hemisphere: Agia Triada (Holy Trinity), in Bourke Street, Surrey Hills; and the steady flow of migrants, mostly from Kastellorizo, Kythera and other islands of the Aegean and Ionian seas, who arrived in Sydney but largely scattered to rural centres around New South Wales and Queensland.

A listing of Greek organisations in Australia [11] from the Hellenic Resources Network (HRN) in Boston shows over 170 associations in the country, but by its very nature (it is kept up to date by volunteers relying on information provided by other sources) the list is not complete. For Western Australia HRN shows just nine organisations:

AHEPA-Archimedes Chapter No 10 (http://www.ahepa.org.au/lodges-and-chapters/)
Council of Hellenic Associations of WA
Floreat Athena Soccer Club (Inc) (https://floreatathenafc.com.au/)
Greek Parents and Citizens Association
Greek-Australian Professional & Business Association of WA (https://www.hacciwa.com.au/)
Hellenic Association of Western Australia (Inc) (http://hellenicclubwa.com.au/about-us/)
Hellenic Institute of Students Society Curtin University
Hellenic Youth Association of WA (Inc)
Olympic Kingsway Sports Club (Inc) (https://olympic-kingsway.com.au/)

and those listed without website URLs appear no longer to exist. There are also long-established organisations missing from the list including the Castellorizian Association

of Western Australia (Inc) (Est 1912), and the Hellenic Community of WA (Inc) which was founded in 1923 and incorporated the following year; both are to this day very active. There are many more not listed, but this is not the point here. What is surprising is that with likely well over 200 such organisations across the country, relatively few Australian badges and medallions are known with a Greek connection.

From Megisti to Perth

The island of Kastellorizo (Καστελλόριζο), officially Megisti (Μεγίστη) lies in the Dodecanese in

Image courtesy of https://en.wikipedia.org/wiki/Kastellorizo

the Eastern Mediterranean approximately halfway between the cities of Rhodes and Antalya (in Turkey). The Greek islands spread over the Mediterranean have their individual charm and beauty, but Kastellorizo is of particular interest in that a large portion of its 10,000 strong population at the end of the 19th century ended up in Australia, predominately in Perth and Sydney. For an overview see reference [2], and for more details reference [1].

One of the difficulties researching the various Greek names is the range of spellings and nicknames assigned. The first is in part due to different transliterations, the second arising either from settling into a new society and/or assigned by workmates and friends; many of these differences appear also in official documentation. This holds true for Athanasios Avgoustis, one of the key Greek settlers in the West, and his wife and children, where sources include reference [1] and reference [3] together with

a. various issues of the (Western Australian) *Mejisti Newsletter* (*MN*)
b. Western Australia's Birth, Deaths and Marriages https://bdm.justice.wa.gov.au/_apps/pioneersindex/default.aspx
c. Perth Metropolitan Cemeteries Board https://portal.mcb.wa.gov.au/name-search
d. Ancestry https://www.ancestry.com.au/family-tree/person/tree/156938401/person/212086461172.

The Museum of Perth provides a detailed biography where he is listed as Athanase Auguste.[14]

Athanasios Avgoustis (Athanasius Auguste, Athanases [George] Auguste also known as Peter Angelo [4]) was born 14th January 1870 and emigrated from Kastellorizo in 1886 (*MN* 21) when the former was still under Turkish rule. He landed in Fremantle, travelled to Broome where he worked in the pearl industry, and subsequently cultivated oysters and served them in restaurants that he opened in Adelaide and Fremantle. This encouraged later immigrants from Kastellorizo to be involved in the fishing and fish restaurant industries. Avgoustis settled in Perth in 1896 and became a leading figure for the Kastellorizian community in Western Australia, or the *Kazzie*s as they were known. He died 26th May 1932 (*MN* 4).

John Yiannakis has written:[4]

> *Until recently it was accepted that the first Greek to arrive in W.A. was a Castellorizian - Arthur Auguste or Athanasios Augoustis. Augustis had stepped ashore at Broome sometime in 1890 or 1891 from Egypt. He spent a short while there before moving onto South Australia and then returned to the West in 1896. He soon sponsored his two cousins, the Manolas brothers, who followed him half way around the globe. This action began a classic process of chain migration from Castellorizo - Greece's eastern most island possession - to Western Australia. Other Castellorizians soon ventured from Europe and North Africa to Australia: brothers, cousins, wives, friends and eventually entire families made the journey across the world. The process, which Auguste had initiated, continued until well after World War II, by which time the island of Castellorizo had been depopulated.*

Peter Angelo was listed in the 1907 Western Australian Post Office Directory as having an Oyster Saloon at 157 Barrack St, Perth; the following image shows Athanasios Avgoustis with his family outside this very address in 1915.[15]

Clockwise from left: Dorothy (Dorothea), Athanasios, George (1st row), Mary (Maria), Eve (Evthokia), Anthony (Antonis), Denny (Demetrios) (2nd row) with Panaula (née Panayoula Komninou) sitting behind.

A 1925 advertisement [16] in the *West Australian* shows A. Auguste's Fish Supply at 372 - 376 Wellington St. In the early 1900s Peter Angelo was reported from time to time as being on the wrong side of the law, but a few years later Athanasios Avgoustis was a pillar of the Greek community.

An obituary of Athanases (which is the spelling used in the Metropolitan Cemeteries Index [Perth]) Auguste was published in the *West Australian* in 1932[17] and *MN* 4. Later, when various of his children were engaged his name was shown as Athanase.

Castellorizian Brotherhood of Western Australia

The Castellorizian Association (Brotherhood) of Western Australia was established in 1912 with Avgoustis as its first President (1912-1925, 1928-1932). The Brotherhood, as it was called then, was the first Greek regional association established anywhere in Australia. Of the 139 Greeks residing in Perth at the time, approximately 100 were Kastellorizian. Its objective was to keep Kastellorizian culture and heritage alive, strong and relevant for the Greek diaspora in Western Australia.[5] Application for incorporation of the Association was made in 1918:[18]

I, ATHANASIUS AUGUSTE, of Fremantle, in the State of Western Australia, one of the Trustees of THE CASTELLORIZIAN ASSOCIATION OF WESTERN AUSTRALIA, do hereby GIVE NOTICE that I am desirous that such Association should be incorporated under the provisions of The Associations Incorporation Act, 1895.

A. AUGUSTE.

The following is a copy of the memorial intended to be filed in the Supreme Court under the provisions of the said Act: Memorial of the Castellorizian Association of Western Australia, filed in pursuance of the Associations 'Incorporation Act. 1885.

1. Name of the Institution: The Castellorizian Association of Western Australia.

2. Object or Purpose of the Institution: To provide a suitable place of resort for Castellorizians residing in Western Australia for the purpose of promoting and encouraging religion, benevolence, literature and education among the members of the Association.

3. Where Situated or Established: On premises situate at 122 William-street. Perth.

4. Name or Names of Trustee or Trustees: Michael Michelides, Athanasius Auguste, Kyriakor George Manolas.

5. In Whom the Management of the Institution is Vested and by What Means (whether by Deed, Settlement or Otherwise): In an executive council and committee elected by the members.

DURSTON and ACKLAND, Solicitors,
Weld Chambers, St. George's-terrace.
Perth.

and the Association was the first to be incorporated (A0190001Z) in 1919 with its seal.

Image supplied by Stephanie Meagher

The clasped hands as a symbol of friendship have been used as far back as Ancient Rome, the symbol has appeared on coins, medallions and badges throughout the ages.

Balbinus antoninianus

Birmingham penny token

GUILD OF HELPING HAND

Obv: IMP CAES D CAEL BALBINVS AVG
Rev: CONCORDIA
Image supplied by John McDonald

Strangely, the Association is listed as having been incorporated 3rd January 1919 but was not listed in the Western Australian Government Gazette of that date (nor in any other Gazette as far as can be ascertained). As an aside, in the following month the 1919 Western Australian Government Gazette (p.249) listed the incorporation of the Hellenic Association of Western Australia on 21st February 1919.

Personal communication from Dr John Yiannakis advises that there is a photograph suggesting that the Castellorizian Brotherhood medalet could have been a membership pin; see reference [3], p.84. However, membership badges are usually dated (for larger organisations), but undated for smaller associations and clubs. Moreover, they are mostly numbered, which this one is not. If it were a membership pin, it seems strange that no other example has surfaced given that these would have been struck in greater numbers to cover a range of years and an expected increase in membership.

The Greek newspapers and newsletters in Western Australia do not help here as they were published much later:

The Voice of Freedom (=) *Η φωνή της ελευθερίας* (Perth, WA: 1956 - 1957)
Hellenic Echo (=) *Η ελληνική ηχώ* (Perth, WA: 1967 - 1968)
Hellenism (=) *Ελληνισμός* (for the first five years, *Mediterranean Voice*) (Perth, WA: Year 1, No. 1 (Dec. 1971) - Jan. 1980)
Mejisti Messenger (=) *Ο αγγελιοφόρος της Μεγίστης* (Mt Hawthorne, WA: 2008 – 2019)

Other Western Australian Greek numismatica

A planned commemorative medallion: 50th anniversary of the consecration of the Cathedral of Saints Constantine and Helene

The Cathedral of Saints Constantine and Helene was erected in 1937 in Northbridge, an inner suburb of Perth and consecrated 18th April of that year. It maintained its Cathedral status until the late-1990s when a decision was made that the only Australian cathedral would be in Sydney.

The church's architectural design was curated by Oldham, Boas and Ednie-Brown after they agreed with the Greek community to construct a church based on the design of the Saint Constantine Cathedral of Kastellorizo. The majority of the original iconography was painted by Kastellorizo-born

> *artist, Vlase Vanalis, with Greek artist, J. Krafilakis being commissioned to complete the interior iconography such as the ceiling and wall frescos.* [11]

There is reference to a George Krafilakis who painted frescos in the Catholic Chapel of St Michael the Archangel (West Leederville) in April 1952.[24] Personal communication from John Yiannikis details that the artist in both cases was in fact Antoni Karafyllakis during 1951-1952 with help from his brother Yianni; they returned to Greece around 1952.

The minutes of the Hellenic Community of WA held Tuesday 10th February 1987 referred to a gold medallion:

> *The Secretary reported that he had contacted the Perth Mint and whilst the final product would be outstanding, the cost involved in minting a commemorative medallion with a gold content were (sic) prohibitive. Furthermore Chris Gogos was approached. Using a cast wax casting (sic) technique and (sic) acceptable gold medallion could be produced for about $220 each. The committee whilst enthusiastic decided that other jewellers should be approached to obtain quotes before approval is given for the project.*

Curiously, the next mention of a gold medallion was just two weeks later, this time with reference to Sheridan's Engraving Company. The minutes of the Hellenic Community of WA held Tuesday 24th February 1987 detailed a quote from Sheridan's for medallions celebrating the 50th anniversary of the cathedral. Costs were as follows:

Gold plated sterling silver	*50 at $17.85 each, 100 at $13.50 each*
9ct gold	*50 at $118.75 each, 100 at $114.90 each*
18ct gold	*50 at $296.10 each, 100 at $292.20 each*

> *Die and tooling costs are included, with prices exclusive of sales tax.*
>
> *The size of the medallion would be that of a 10c piece. Dr Lekias suggested that approval be given to the secretary to produce the artwork for the medallion. The secretary reported that Mr Evan Nicholas would kindly donate his services for the artwork. Dr Lekias further suggested that the medallions be produced on a subscription basis so that people indicate how many and of what type they want and pay for it in advance so that the community does not have to out lay (sic) the costs of getting the medallions made. The secretary is to have the appropriate artwork ready by*

> *the next meeting and suggested that selling prices would be $420 for the 18ct and $220 for the 9ct.*

Note that the proposed selling price for the 9ct medallion is the same as that quoted from jeweller Chris Gogos. The Dr Lekias mentioned here was Dr Michael Lekias, who died 26th December 2021 during the writing of this paper.

The following die was found in the Sheridan's archives:

The obverse die is scored, and the struck medallion diameter would have been 25.3mm.

50 ETη ΕΠΕΤΕΙΟΣ ΕΓΚΑΙΝΙΩΝ 1937-1987 (=) 50th ANNIVERSARY OF THE CONSECRATION 1937-1987

(The correct Greek version would be 50η ΕΠΕΤΕΙΟΣ ΕΓΚΑΙΝΙΩΝ 1937-1987)

ΝΑΟΣ ΑΓΙΩΝ ΚΩΝΣΤΑΝΤΙΝΟΥ ΚΑΙ ΕΛΕΝΗΣ (=) CHURCH OF SAINTS CONSTANTINE AND HELENE

(The correct Greek version would be ΙΕΡΟΣ ΝΑΟΣ ΑΓΙΩΝ ΚΩΝΣΤΑΝΤΙΝΟΥ ΚΑΙ ΕΛΕΝΗΣ)

ΠΕΡΘ Δ.Α. (=) Perth W.A.

(The correct Greek version would be ΠΕΡΘΗ Δ.Α.)

The minutes of 24th March 1987 showed:

> *3. The Secretary circulated a mock up (sic) of the coin (sic) to be produced. It was decided that the Angels (sic) St. Constantine & Helene are to be depicted on the coin (sic). Furthermore enquiries are to be made to copyright the design and eventually*

> *obtain the die. Also 18ct coins (sic) are to be hall marked (sic) and the approximate weight of gold is to be found out. Also an example of Sheridan's work is to be made available at the next meeting.*
>
> *4. A plaque is to be placed on the Church commemorating the 50 years.*

The next mention of the medallion appeared in the minutes of 2nd April 1987:

> *Mr Samiotis put the motion that all lettering on the commemorative medallions is to be done in Greek. Mr Doropolous seconded the motion. The motion was carried.*

Then in the minutes of 22nd September 1987:

> *28.8.87* *E. Staras, A. Panayotou, J. Anastasakis, L. Pitsikas, Mr and Mrs. Samiotis, C. Gupanis, A. Ventouras re: thank and return of their cheques for the 50th Anniversary gold medallions*

There is no mention of when between these last two dates a decision was made about not proceeding with the gold medallion. However one of the surviving members from the above committee, Gregory Doucas, has advised (personal communication to John Yiannakis) that the whole process ceased when it was discovered how expensive it would be. This explains the scoring of the die. So, what would the finished product have looked like? The die scoring has been done to render it useless, but reconstruction of the image using Photoshop gives a good indication:

Reconstructed image courtesy Katja Lambert

The minutes above also refer to a 50th anniversary plaque, but there is no sign of such a plaque in the church, nor any memory of it by the older members of the community.

Later in 2012, a 75th anniversary brooch (gilded) was struck by CT (company unknown to the author)

1937-2012/Saints/Constantine/&/Helene/Founder/HCWA//CT

Cathedral plaques

The external wall of the Cathedral shows the following plaque referring to the land as having been donated by THE CASTELLORIZAN ASSOCIATION INC OF WA (this should of course read THE CASTELLORIZAN ASSOCIATION OF WESTERN AUSTRALIA INC). It is likely that the land purchase involved the wider Greek community rather than just the CAWA.

Engraved on marble

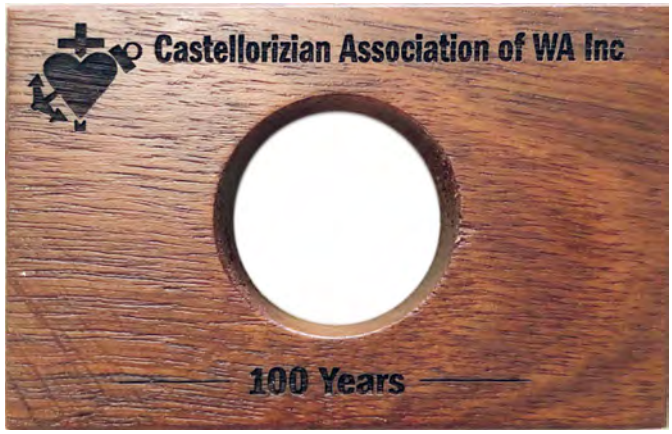
In the front garden there is another plaque by Wilson Engraver 31 James St, engraved on brass.

ΤΟ ΚΙΓΚΛΙΔΩΜΑ ΤΟΥΤΟ ΑΝΕΓΕΡΘΗ ΔΑΠΑΝΗ ΤΟΥ ΣΥΛΛΟΓΟΥ ΕΛΛΗΝΙΔΩΝ Δ. Α. (=) THE COST OF THIS RAILING WAS PAID BY THE HELLENIC ASSOCIATION OF GREEK WOMEN W.A.

Charles Richard Wilson was born 8th February 1886 in Newcastle-on-Tyne and emigrated to Perth with his wife Sarah in 1912 where he worked for a local engraver. He started up his own engraving company in 1921, and the first mention of this in *TROVE* was on 22 October 1928, which has Wilson's Engraving Works in 26 King St, Perth, and on 13 April 1935 the premises is listed at 31 James St. The above plaque was engraved two years later. By 6th June 1939 the company had moved to larger premises at 3 Queen's Place next to the Metro Theatre in William St. The principal, Mr. Charles Richard Wilson, died aged 55 on 31st July 1940. The company continued to advertise through to Friday 17th June 1949. [23]

Hellenic Community of Western Australia 50th anniversary medallion

In 2012 the Perth Mint produced a 50th anniversary piece for the HCWA using a stock gilded medallion laser engraved:



Hellenic Community of Western Australia membership badge

H.C.W.A./Sheridan's, (08) 93286855

In 2001 Sheridan's produced 300 membership clutch badges for the Community. Notice that of all the medallions and badges listed in this article, the HCWA membership badge is the only one showing the traditional orthodox cross.

Hellenic Community of Western Australia 50th anniversary brooch

In 1973 Sheridan's struck a brooch for the 50th anniversary of HCWA.

THE HELLENIC COMMUNITY OF W.A. (INC.)/50th./ANNIVERSARY/1923 – 1973/SHERIDAN

This was followed by a pendant badge/brooch for the 85th anniversary in 2018.

ΣΥΝΔΕΣΜΟΣ ΑΠΑΝΤΑΧΟΥ ΚΑΣΤΕΛΛΟΡΙΖΙΩΝ /85 Χρόνια/17
ΑΠΡΙΛΙΟΥ 1922 – 17. ΑΠΡΙΛΙΟΥ 2007
8 AUG 2008/*Presented to*/K. Pitsikas

This piece shows the patriarchal cross, and has been awarded to Kiriakis Pitsikas, the very same Jack Pitsikas referred to in the acknowledgements below.

Castellorizian Association of Western Australia anniversary clutch badge

In 2012 a so-far-unidentified company produced a clutch badge commemorating the 100th anniversary of the CAWA.

Stylised archer, cross and heart

There is also a smaller pin version for wearing in the lapel.

RSL Geraldton – Hellenic Sub-branch

It is curious that there is a Hellenic Sub-branch of the RSL in the small regional city of Geraldton, but they are still active and have left a legacy in the community with the following plaque on the Geraldton War Memorial Wall:

https://monumentaustralia.org.au/themes/conflict/multiple/display/107387-geraldton-memorial-wall-

The Sub-branch has a special badge, but unfortunately no image is available to the author.

John S Lekias Memorial Lecture in the Clinical Neurosciences

In the 1990s Sheridan's struck a medallion for a memorial lecture in the Clinical Neurosciences commemorating Dr John Sion Lekias (1921 - 1983).

> *John Lekias was born in Northam the son of Sios and Despina Lekias. He received his early education at Christian Brothers College (Perth WA) and later the University of Queensland. He joined the Royal Perth Hospital as a Resident Medical Officer in 1946. After undertaking further studies in the United Kingdom, he returned to the Hospital in 1954 as Clinical Assistant Neurosurgeon. In 1974 he was appointed Senior Neurosurgeon…John Lekias was the President of the AMA (WA Branch) 1976-77 and a member of the Federal Council at that time. John retired in 1983 when, in recognition of 30 years outstanding service to the hospital, he was appointed Emeritus Consultant Neurosurgeon.*[25]

Image courtesy Jess Green
JOHN S. LEKIAS/•MEMORIAL LECTURE IN THE CLINICAL NEUROSCIENCES/1921 ___
(bust facing half right ___ 1983
(ornate bordered rectangle)/PERTH/WESTERN AUSTRALIA

There is scant mention of the Memorial Lecture anywhere much less details of the medallion. Dr Nicholas T Zervas gave the John S Lekias Memorial Lecture in 1997 [28], and Associate Professor Shelly Weiss, a paediatric neurologist at Toronto's Hospital for Sick Children and past president of the Canadian Sleep Society, was brought to Perth by the Australian Medical Association WA and gave the John S Lekias Memorial Lecture at the University of Western Australia on Thursday 13th November 2014 [29].

Australian medallions and badges with Greek themes

Medallions

Carlisle 1962/11 (Maker AMOR, Sydney)

NO IMAGE AVAILABLE

(GREEK ORTHODOX CHURCH WOLLONGONG)

Size 31mm Metal Aluminium Mintage 2,000

Carlisle 1968/12 (Maker K G Luke, Melbourne

NO IMAGE AVAILABLE

ΕΛΛΗΝΟΡΘΟΔΟΞΟΣ ΙΕΡΟΣ ΝΑΟΣ ΑΓΙΟΥ ΙΩΑΝΝΟΥ (=) ST JOHN'S GREEK ORTHODOX CHURCH

Size 48mm Metal Gilded Mintage 300

Carlisle 1976/12 (Maker AMOR, Sydney)

ST. ANDREW (=ΑΓΙΟΣ ΑΝΔΡΕΑΣ)/ΟΙΚΟΥΜΕΝΙΚΟΝ ΠΑΤΡΙΑΡΧΕΙΟΝ (=) ECUMENICAL PATRIARCHATE
(50η ΕΠΕΤΕΙΟΣ/ΟΡΘΟΔΟΞΗ) ΠΕΝΤΗΚΟΝΤΑ ΕΤΗΡΙΣ/ΙΕΡΑ ΑΡΧΙΕΠΙΣΚΟΠΗ ΑΥΣΤΡΑΛΙΑΣ (=) 50TH ANNIVERSARY/ORTHODOX ARCHDIOCESE OF AUSTRALIA /SEP.1976/1924 - 1974

Carlisle [26] lists both the sterling silver version (mintage 500) and the brass version (mintage 10,000), the latter for distribution to parishioners around the country. The medallion (diameter 31mm) shows the cross of St Andrew.

Carlisle 1979/38 (Maker A J Parkes Brisbane)

GREEK ORTHODOX COMMUNITY OF ST. GEORGE/BRISBANE (=) ΕΛΛΗΝΙΚΗ ΟΡΘΟΔΟΞΗ ΚΟΙΝΟΤΗΤΑ ΑΓΙΟΥ ΓΕΩΡΓΙΟΥ - ΒΡΙΣΒΑΝΗΣ
GOLDEN ANNIVERSARY (= ΧΡΥΣΗ ΕΠΕΤΕΙΟΣ)/1929-1979
Size 38mm Metal Bronze, Gilded Mintage 80 – n/k

Carlisle 1987/19 (Maker A J Parkes Brisbane)

TO/COMMEMORATE/THE/UNVEILING OF THE/ STATUE OF/THEMIS./THE GREEK GODDESS OF JUSTICE/AT THE LAW COURTS IN BRISBANE/DONATED TO/THE PEOPLE OF QUEENSLAND/BY/ ANGELO A. EFSTATHIS CBE./ 19th February 1987
Size 51mm Metal Gilded Mintage n/k

Carlisle 1988/11 (Maker AMOR Sydney

GREEK ORTHODOX/ARCHDIOCESE OF/1848___1988/CATHEDRAL THE ANNUNCIATION/ OF OUR LADY -REDFERN-
ON THE OCCASION/OF THE OPENING OF/THE CATHEDRAL/AS A/BICENTENNIAL PROJECT/11-9-88
Size 49x49mm Metal Silvered – Gilded (blank reverse) Mintage 100 - 500

Carlisle G/7 (Maker AMOR Sydney *c* 1970s)

ΣΧΟΛΙΚΟΝ ΚΤΗΡΙΟΝ ΚΟΙΝΟΤΗΤΟΣ BRUNSWICK ΚΑΙ COBURG (=) SCHOOL COMMUNITY BUILDING OF BRUNSWICK AND COBURG
(The correct Greek version would be ΚΤΙΡΙΟ ΚΟΙΝΟΤΙΚΟΥ ΣΧΟΛΕΙΟΥ BRUNSWICK ΚΑΙ COBURG)
GREEK ORTHODOX COMMUNITY OF BRUNSWICK AND COBURG
Size 32mm Metal Gilded Mintage 2,000

Badges

1922 - End of the Greek-Turkish war

This was a year of turmoil in Greece with its defeat by Turkey in the war in Western Anatolia. The highlight events surrounding this were:

Greco-Turkish war 15th May 1919 – 11th October 1922
Revolution in Greece 11th September 1922
Greece-Turkey population exchange
Treaty of Lausanne

The following pendant badge might have represented a show of solidarity by the Greek Orthodox Community in Sydney or served as an Appeal badge for the raising of funds for the war refugees:

1922 pendant badge (Maker SIMES, Sydney)

Naval ensign (1863–1924 and 1935 – 1973) [6]

ΕΛΛΗΝΙΚΗ ΟΡΘΟΔΟΞΟΣ ΚΟΙΝΟΤΗΣ ΕΝ ΣΥΔΝΕΥ (=) *GREEK ORTHODOX COMMUNITY IN SYDNEY*
(The correct Greek version would be ΕΛΛΗΝΙΚΗ ΟΡΘΟΔΟΞΗ ΚΟΙΝΟΤΗΤΑ ΣΥΔΝΕΥ.)

This badge most likely marks the end of the Greek-Turkish War in October 1922.

1929 Near and Far

The news column NEAR AND FAR first appeared in the Sydney Morning Herald in 1914, but as a column for women, it appears its first appearance was in 1916 (http://nla.gov.au/nla.news-article15669628) with its first specific designation as a Women's Column in 1918 (http://nla.gov.au/nla.news-article15796549).

On 5th August 1929 NEAR AND FAR the Hellenic Ball was in support of the Greek Cathedral Fund and the Royal Hospital for Women in Sydney (http://nla.gov.au/nla.news-article16548484):

> *Mrs. John Garlick presided at a meeting at the Australia on Wednesday, when a committee was formed to organise the Hellenic Ball at the Ambassadors on August 5, for the joint benefit of the Greek Cathedral fund and the Royal Hospital for Women. Lady de Chair has given her patronage to the ball. A thousand numbered celluloid buttons showing the Greek flag will be sold to assist the funds, and prizes will be awarded to the holders of the winning numbers.*

NEAR AND FAR. (1929, May 1). *The Sydney Morning Herald (NSW: 1842 - 1954)*, p. 10. Retrieved December 10, 2021, from http://nla.gov.au/nla.news-article16563035

NEAR AND FAR.

Madame L. Chrysanthopoulos is organising the Hellenic Ball to take place at the Ambassadors on August 5. The proceeds will be divided between the Greek Cathedral Fund and the Royal Hospital for Women. A series of tableaux depicting various phases of Grecian history, art, and culture will be given at the ball, arrangements for which will be made at a meeting at the Hotel Australia on May 15.

Image courtesy Ronald Allan Heathcote

While the above is indeed a numbered (926) celluloid button, it shows the Greek cross rather than the advertised Greek flag.

Late 1940 to 1945

With the Italian invasion of Greece on 28th October 1940, Greek Ex-Servicemen's Associations were formed around the world, with that of South Australia incorporated in 1946.

Image courtesy Ed Hunter

Image courtesy Rob Goddard

The Adelaide Advertiser published the following article in 1940 [30].

S.A. Greeks To Wear Distinguishing Badge

To distinguish them from other foreigners, Greeks in South Australia will wear characteristic badges. A spokesman of the Greek Community (the official association of the Greeks in this State) said yesterday that this decision had been made at a meeting of the community on Monday night, at which Mr. M. Kamburis presided.

The police had been notified, and precautions would be taken against badges coming into the possession of unauthorised persons.

The badges, which are to be worn on the coat, are of metal, colored gilt and blue. They bear a device showing the Greek and Australian flags, and the words, "Greek Orthodox Community, 1940."

In a recent broadcast, the Greek Consul-General in Australia (Mr. E. Vrisakis) appealed to the Australian public not to class all Southern Europeans together, but to consider every Greek as favorably disposed to Australia. He pointed out that the feeling of distrust which many people had towards foreigners could easily rise in wartime to hostility and serious misunderstandings towards every foreigner, regardless of whether he was good or bad.

The badge in question is the first shown above. The second celebrates Ohi Day or Oxi Day (Επέτειος του Όχι (=) 'Anniversary of the No') also in 1940. Ohi Day is celebrated throughout Greece and the Greek communities around the world on 28th October each year. It commemorates the rejection by Greek Prime Minister Ioannis Metaxas of the ultimatum made by Italian dictator Benito Mussolini on 28th October 1940, and the Hellenic counterattack against the invading Italian forces at the mountains of Pindus during the Greek-Italian War.[27]

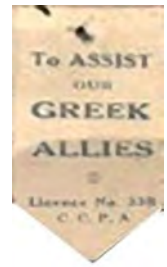


Image courtesy Nick Van

Various Greek relief fund appeals commenced in 1941 to provide comforts to Greek soldiers fighting in Albania.

GREEK DAY APPEAL. (1941, February 27). *The West Australian (Perth, WA: 1879 - 1954)*, p. 10. Retrieved December 10, 2021, from http://nla.gov.au/nla.news-article47310810, http://nla.gov.au/nla.news-article44912311

GREEK DAY APPEAL.

Arrangements for Tomorrow.

The "Greek Day" appeal to raise funds to provide comforts for the Greek soldiers fighting in Albania, will be conducted throughout the State tomorrow. The appeal is being organised by the Lord Mayor's Fighting Greeks Fund committee, and the W.A. Sportsmen's Council, assisted by the Returned Soldiers' League and members of the Greek community in Perth.

A special programme for the appeal will be broadcast tonight from national station 6WF. The programme will commence at 8.20 o'clock and will include a relay of an appeal by the Duchess of Kent at 8.30, followed by talks by the Minister for the Navy (Mr. Hughes), the Premier (Mr. Willcock), and the Leader of the Opposition (Mr. Latham). At 10 p.m. the secretary of the Hellenic community (Mr. L. C. Mandalis) will broadcast from station 6ML, and this will be followed by a programme of Greek music.

Collectors to assist with the appeal tomorrow are needed, and women willing to help are asked to report to the office of the fund in London Court.

Worthiness of the Appeal.

The Mayor of Fremantle (Mr. F. E. Gibson) said yesterday that he commended to the people of the Fremantle district the worthiness of the appeal. "We are all aware of the heroic struggle which these people have been putting up against the common enemy and in face of fearful odds," he said. "This is the first occasion on which any appeal has been made on their behalf and I am confident that the response will be commensurate with our admiration of the courageous fight which is going on, and their dire necessity. Empire forces are fighting side by side with the Greeks and any help given to them is strengthening the hands of our forces."

Donations to Fund.

A donation of 10/ from "Old Bill" increased the Lord Mayor's fund to £1,878/9/3 yesterday. Contributions will be received by the City Treasurer (Mr. H. W. Taylor) at the municipal offices, Murray-street, Perth.

These badges will be sold in aid of the Greeks to-day. The top one will be sold for £1, those below it at 10/ (for the one on the left), and 2/ and the buttons at 1/ (for the large one) and 6d.

Greek Day 20/- 1941

Greek Day 10s 1941

Images courtesy David Anderson

GREEK DAY/1941//2/- ANGUS & COOTE/SYDNEY

GREEK DAY 19__41,1/- and 6D

Images courtesy David Anderson

Of the two immediately above, the first is a pin-back button, the second a celluloid card with pin [31]. South Australian coastal settlements like Thevenard near Ceduna were a popular destination for interwar Greek islander migrants. The card was manufactured by Sharples Printery in Adelaide. [32]

1953 Greek earthquake relief fund

The 1953 Ionian earthquake (also known as the Great Kefalonia earthquake) struck the southern Ionian Islands in Greece on 12th August 1953. In mid-August there were over 113 recorded earthquakes in the region between Kefalonia and Zakynthos, with the most destructive being the 12th of August earthquake.

Images courtesy David Anderson

https://collection.maas.museum/object/92419

Other pins (unattributed)

2/- /GREEK DAY OF CHARITY
Image courtesy David Anderson

AUSTRALIAN RED CROSS SOCIETY (NSW) GREEK BRANCH
A.S. Patrick, Summer Hill A. W. Patrick, N. Fitzroy

The above listing is not meant to be exhaustive; it just gives an idea of the range of Greek-Australian numismatic items.

Conclusion

Greek migration has played a significant role in Australia for more than 150 years with sizeable communities in all the country's main cities. However, except for the main funds appeals for Greek victims of World War II and the 1953 earthquake disaster, there have been only a small number of Australian badges and medallions with a Greek connection, with most of the latter celebrating anniversaries of Greek churches. This seems to be the pattern with many of the immigrant communities in Australia, whose ties to their homeland remain strong notwithstanding their absorption into their new country.

It is remarkable that Western Australia would see the first known Greek-Australian numismatic item dating as far back as 1914, the next known Greek-Australian piece being the Sydney pendant badge of 1922. The author expects more Greek-Australian numismatic items to come to light, hopefully because of this paper.

Acknowledgments

I am grateful to Dr John Yiannakis for extensive conversations on the Kastellorizian migration to Western Australia, to Dr Patricia Koromvokis and Fr. Athanasias Giatsios for correcting my deficient use of the Greek language and providing translations, and to Associate Professor Gillan Davis for helping with transliterating the Greek and editing the manuscript. I am also very appreciative of the opportunity to talk with Nina and Jack (Kiriakis) Ptsikas who were generous with their time in discussing local Greek badges and medallions and allowing me to photograph theirs. Other images sent to me from interstate are acknowledged in the text, as is the image reconstruction of the unissued Cathedral medallion by graphics designer Katja Lambert.

About the author

Walter Bloom is Emeritus Professor of Mathematics at Murdoch University and Honorary Curator (Numismatics) at the Western Australian Museum. Professor Bloom is President of both the Numismatic Association of Australia and the Perth Numismatic Society. He is a regular contributor to the Perth Numismatic Journal and the Journal of the Numismatic Association of Australia and has recently co-authored a book (Hesperian Press) with Alf Campbell titled Dog registration discs in Western Australia. *Professor Bloom is currently working on a book* Camel and goat registration discs in Western Australia *as part of his ongoing research into Western Australian numismatica.*

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A correction to one of Hersh's additions to Price's Alexander typology: Price 3303 Arados not Price 2993A Tarsos

Lloyd W. H. Taylor

Abstract

This note corrects an error in Charles Hersh's 1998 paper that listed additions and corrections to Price's typology of Alexander the Great's coinage. Hersh's addition no. 68, which he attributed to Tarsos as Price 2993A is an error. It was the result of an oversight, his failure to recognise that the coin type was already attributed by Price as his type 3303 from Arados.

Keywords

[Price 3303] [Price 2993A] [Arados] [Tarsos] [Attribution]

In a 1998 paper titled *Additions and Corrections to Martin J. Price's 'The Coinage in the name of Alexander the Great and Philip Arrhidaeus,* Charles Hersh published a list of proposed additions to Price's typology of the coinage of Alexander the Great.[1] One of these, an Alexander tetradrachm, no. 68 in his list of additions (Figure 1), he attributed to the mint at Tarsos, in the belief that this was a previously unrecorded type.[2] This addition he categorised as Price 2993A; the letter A suffix indicating his proposed placement of this coin type immediately following the Price 2993 issue from Tarsos.

1 Hersh (1998).

2 Hersh (1998): 139 and pl. 30, no. 68. In overlooking Price's attribution of the tetradrachm Hersh may have been influenced by iconographic style, which like that of other early issues of Arados, is similar to the early Tarsos Alexanders, probably explained by transfers of mint workers between the mints (Taylor, 2020b). The stylistic affinity, combined with the appearance of the *Gamma* mint control on later Tarsos issues (Price 3011-3015) may have directed Hersh's thinking on attribution to this mint. On the Tarsos tetradrachms the *Gamma* mint control is located beneath the throne accompanied initially by the letter *Beta* (Price 3011), which it displaces on subsequent issues that display a plough symbol in the left field (Price 3012-3015).

Figure 1. BM 2002,010.662.
Hersh (1998) *Additions* no. 68 Tarsos 2993A.

This coin bears two mint marks, the letter A (*Alpha*) beneath the throne and Γ (*Gamma*) in the field. In contrast, Price 2993, the type that Hersh closely associated with his addition, carries a single mint mark, the letter A beneath the throne. In making this proposed addition to Price's typology Hersh overlooked one critical factor, the coin type was previously described and attributed to Arados by Newell,[3] and subsequently Price[4] who classified it as type 3303 in his catalogue. In fact, Hersh's addition no. 68 is an obverse die match to Price's specimen 3303d, held in the collection of the British Museum (Figure 2). The obverse die from which these two coins were struck is Duyrat's *Arados* D4.[5] The reverse die of Hersh's addition no. 68 matches Duyrat's *Arados* die R4 (Figure 3), which links obverse dies D3 and D4 in the Arados sequence.[6] Based on mint controls and die links there is no doubt that Hersh's addition no. 68 is not an addition to Price's typology. Rather, Hersh's proposed addition is but another example of Price 3303 struck at Arados.

3 Newell (1912): 45-46, type 125; Newell (1923): 50, nos. 3269-3285.

4 Price (1991): 414 and 419. 'The lifetime and early posthumous issues can be placed there [Arados] with certainty. .... The earliest issue might therefore be 3303, with the initial letter of the city rather than a monogram.'

5 Duyrat (2005): 14 and pl. 1, no. 10.

6 Duyrat (2005) records eight obverse dies in the issue of Price 3303, none of which offer a match to any of the 26 obverse tetradrachm dies recorded by Newell (1918) in his Tarsos 'Officina A' issues (Price 2990-2999A), nor to the four obverse tetradrachm dies of Price 3011-12 bearing the *Gamma* mint control.

Figure 2. Price 3303d; BM 1913,0518.84; GC30.3303d
Duyrat Group I, no. 13, dies D4-R5.

Figure 3. Price 3303; ANS 1947.98.282.
Duyrat Arados Group I, no. 10, dies D4?-R4.

Notwithstanding the obvious attribution to Price 3303, the Hersh specimen remains catalogued in collection of the British Museum as a coin of Tarsos, 'Not in Price' accompanied by the bibliographic reference 'Hersh 1998 **2993A**'.[7] Compounding this attribution error, some in the numismatic trade now reattribute Price 3303 to Tarsos as a correction to Price's attribution.[8] Thus, an erroneous addition to Price's typology is at risk of becoming an erroneous reattribution. Such a reattribution in the absence of supporting evidence has the potential to compromise our understanding of the history of the mint at Arados. This is an egregious mistake, for Price 3303 is a critical component in the understanding and history of the earliest operation and chronology of the Arados mint.[9]

7 https://research.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=1535810&partId=1&searchText=Tarsus+Alexander&page=2 accessed 14 February 2020.

8 For example, Classical Numismatic Group eAuction 414 (14 Feb. 2018), lots 62 & 63; Leu Numismatic web Auction 7 (23 Feb. 2019), lot 172; CNG eAuction 461 (12 Feb. 2020), lot 27. In each case no evidence, or basis is cited for the proposed reattribution to Tarsos.

9 Price (1991): 414-415; Duyrat (2005): 10; Elayi (2006): 30-31; Le Rider (2007): 140; Taylor (2020a): 87-89.

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10 http://numismatics.org/pella/ accessed 14 February 2020.

The case for reattribution of the Berytos Alexanders to Byblos

Lloyd W. H. Taylor

Abstract

A tetradrachm die study of the Macedonian imperial coinage attributed to Berytos by Price establishes that this was a compact, yet complex emission struck from seven obverse dies and at least 43 reverse dies. Based on mint controls and their varied placements, seventeen different types are identified in a sequence that is tightly die linked. Forty percent of the types identified are previously undocumented. The coinage has all the hallmarks of a short duration emission from an ephemeral mint. Influences derived from Arados and Sidon are identified in the diversity of iconographic detail and style. It is inferred that resources were possibly drawn from these mints to strike the coinage. One specific iconographic detail on some of the reverse dies is also found on some of the Year 13 dated issues of Sidon otherwise absent on all other Alexander's struck in Phoenicia. In all likelihood, the coinage was a contemporary of this Sidon issue, struck in association with the transit of the Macedonian royal army from Egypt to the assembly at Triparadeisos. The hoard record of the coinage and its historical context converge to suggest that it was struck at Byblos, a vassal kingdom on the Phoenician coast, rather than Berytos, which at the time was a small port within the territory of the kingdom of Sidon.

Key words

[Berytos] [Byblos] [Die study] [Alexander mints] [Phoenician mints] [Philip III]

Introduction

In discussing the coinage that he attributed to Berytos, Price wrote:

> The issues attributed to this mint form a compact group all marked with the letter B. The city is not known to have coined under the Persians, and the style of the few extant examples places their issue c. 323 BC or a little later. This makes them parallel to the later issues of the lifetime and early posthumous group at Aradus, although the royal title is not found at Berytus. The gold issue quoted by Müller shares the Aradus fashion of having a letter on the obverse.[1]

1 Price 1991: 429. Ancient Berytos is located beneath modern day Beirut.

Based on mint controls and denominations, Price defined 15 different types in the coinage (Price 3406-3420). Eleven of these are tetradrachms, the subject of this die study. Three types of obol (Price 3408-9 and 3417) bear mint controls that are also found on the tetradrachms. A gold stater (Price 3411) was also attributed to the mint. Notably, it is missing the letter B mint mark, the abbreviated ethnic identifying the city of the mint.[2] Instead, the stater is described as carrying two mint marks, Λ on the obverse, and ΛI on the reverse. The only evidence of this gold stater is limited to a mid-19th century description.[3] Its association with the coinage is doubtful. In the absence of a specimen for examination it will not be considered further.[4]

Catalogue

The catalogue of tetradrachms is compiled from published sources,[5] plus the PELLA online portal[6] of the American Numismatic Society (ANS), augmented by a survey of coins in commerce. Based on mint controls, the sequence types, or issues, identified in the catalogue are sequentially numbered from 1 to 17 (bold text in catalogue below). Coin entries denoted by an asterisk are illustrated on the accompanying **Plates 1 and 2**. The coinage was struck with unadjusted dies.

Obverse: Head of Herakles r. in lion skin headdress, dotted border.
Reverse: ΑΛΕΞΑΝΔΡΟΥ on r., Zeus seated l. on *diphros*, or high-backed throne, holding eagle and sceptre, Greek letter mint marks in left field and/or beneath the diphros/throne as indicated, dotted border.

1. - , - (Price -)

	Obv. / Rev.	*Grams*	
1.	A1 / P1	17.17	CNG eAuction 402 (2017), 43.
2. *	A1 / P2	16.85	Auction World 22 (2020), 1572. B mint mark initially omitted from reverse die P2.

2 Taylor 2020(a): 34 ... the attribution of Alexander's coinage to specific Phoenician and Syrian mints relies on the interpretation of the significance of mintmarks. Except for Tyre, these mints used a primary mintmark that identified the mint with Greek letters, or monograms, an abbreviation of the name of the city in which the mint was located. At Tyre (Ake of Price), the abbreviated name of the vassal king Ozmilk (Azemilkos) in Phoenician letters (accompanied the regnal date) served to identify the mint.

3 Müller 1855: 276.

4 A gold stater in the Münzkabinett Wien, inventory no. GR10432, is incorrectly identified as example of Price 3411 in the PELLA portal. However, it is the type example of Price 4024 (Uncertain mint).

5 Bellinger 1951 based on Dunand 1939. The latter was not available to the author.

6 http://numismatics.org/pella/ accessed 2 December 2020.

2. **B, -** (Price 3406)

3. *	A1 / P2	16.97	Kenneth W. Dorney SKU:7147. B mint mark added to reverse die P2.
4-17.	A2 / n.r.	n.r.	Bellinger 1951: nos. 37-50; Byblos Hoard (*IGCH* 1515) nos. 6372-6385. Reverse dies not recorded by Bellinger.

3. **- , B** (Price 3407)[7]

18.	A2 / P3	n.r.	Bellinger 1951: no. 35; Byblos Hoard (*IGCH* 1515) no. 6388.
19.	A2 / P3	n.r.	Bellinger 1951: no. 36; Byblos Hoard (*IGCH* 1515) no. 6389.

4. **A, -** (Price -)

20. *	A1 / P4	17.19	VAuctions 353 (2020), 19; VAuctions 347 (2020), 15; Pars Coins PCW-G6977. A1 - forehead and nose outline recut.

5. **A, B** (Price 3410)

21. *	A1 / P5	16.93	BnF 986. A1- forehead and nose outline recut.
22. *	A2 / P6	n.r.	Stack's Bowers Galleries (2017), 70008.
23.	A2 / P6	16.68	Heritage 231825 (2018), 63020.
24.	A2 / P7	17.03	CNG 66 (2004), lot 245; CNG 60 (2002), 337. Retrograde letter N in legend.
25. *	A2 / P7	17.01	Triton XXIII (2020), 515; Berk 103 (1998), 105.
26. *	A2 / P8	16.55	Numismatica Ars Classica Auction P (2005), 1422.
27.	A2 / P8	n.r.	Bellinger 1951: no. 34; pl. VI, 34; Byblos Hoard (*IGCH* 1515) no. 6390.

6. **Я, H** (Price -)

28. *	A3 / P9	16.72	LWHT Coll. 302; Solidus Numismatik 29 (2018), 46.

7. **- , IO** (Price -)

29. *	A4 / P10	n.r.	LWHT Coll. 316; CNG eAuction 453 (2019), 28.

7 Excluding two tetradrachms that are incorrectly attributed to Berytus as Price 3407 in the PELLA database; Bibliothèque nationale de France (Fonds général 985) and Münzkabinett Berlin 18254337. These were struck at Tarsos (Price 3000) more than a decade before Price 3407. They exhibit the distinctly earlier Tarsos style that readily differentiates them from the coinage attributed to Berytos. Even the manner of engraving of the letter B mint mark on these coins is different.

8. B, OI (Price 3420)

30.	A5 / P11	n.r.	CNG eAuction 461 (2020), 223.
31.	A5 / P12	16.87	Heritage 231930 (2019), 64003. OI mint control mostly off-flan.
32.	A5/ P13	17.08	Pars Coins PCW-G3941; Stack's Bowers Galleries Baltimore Auction (2012), 11578.
33. *	A5 / P13	17.20	BM 2002,0101.781; Hersh Coll.; Auctiones 13 (1983), 162; Price 3419 corr. (this coin); Price 3420 (this coin). Price (3419), erroneously recorded the mint marks; θI rather than OI and O, B rather than B. Price (3420) then correctly referenced the mint marks on the identical coin.
34.	A5 / P13	16.69	CNG eAuction 425 (2018), 240.
35.	A5 / P13	17.01	Gärtner 32 (2015), 34134.
36.	A5 / P14	17.14	Heritage Europe (15 May 2019), 2831.
37.	A5 / P15	16.90	Künker 168 (2010), 7242.
38.	A5 / P15	16.83	Naville Numismatics 41 (2018), 51.
39.	A5 / P15	n.r.	Heritage 231934 (2019), 64017.
40.	A5 / P16	16.52	Naville Numismatics 48 (2019), 38.
41.	A5 / P17	17.22	UBS Gold & Numismatics 61 (2004), 4270.
42.	A5 / P18	16.61	Praefectus Coins SKU: GRA5334; Heritage 231952 (2019), 64011.
43.	A5 / P19	16.86	Naville Numismatics 38 (2018), 74.
44.	A5 / P20	16.76	CNG eAuction 356 (2015), 238.
45. *	A6 / P21	16.90	ANS 1944.100.34970; Newell (1923) Pl. VII, 1; *Demanhur* 3653 corr. B not OB in left field and OI not AI beneath throne. Subsequently, incorrectly attributed as an example of Price 3412.
46.	A6 / P22	17.00	Roma Numismatics E-Sale 84 (2021), 360. Controls struck off-flan. Sequence type confirmed by rev. die match to no. 47.
47.	A6 / P22	17.06	ANS 1944.100.34969.

Bellinger 1951: no. 33, Byblos Hoard (*IGCH* 1515) no. 6387, is another specimen of type 8. Dies unidentified.

9. B, AI (Price 3415)

48. *	A5 / P23	17.22	BM 1968,0803.5; Price 3415, pl. XCVIII.
49.	A5 / P23	17.06	Münzkabinett Berlin 18252929.
50.	A5 / P23	17.08	iNumis 18 (2012), 14.
51.	A5 / P23	16.72	Münzen & Medaillen 14 (2004), 575.
52.	A5 / P23	16.94	Auctiones GmbH eAuction 55 (2017), 37.
53.	A5 / P24	16.92	Münzkabinett Berlin 18254329.
54. *	A5 / P24	17.00	Münzkabinett Berlin 18252930.
55.	A6 / P24	16.81	Künker 153 (2009), 8233. A6 worn
56.	A6 / P24	16.95	Elsen 93 (2007), 158; Peus 324 (1989), 106.
57.	A5 / P25	17.05	Hess Divo 1 (2010), 88.
58.	A6 / P25	17.10	CNG eAuction 417 (2018), 299.
59. *	A5/ P24	16.55	Tyll Kroha 104 (2016), 39.
60. *	A6 / P24	17.10	CNG eAuction 172 (2007), 28. A6 very worn.
61.	A6 / P25	16.95	Elsen 97 (2008), 70; Elsen 94 (2007), 523; Hirsch 187 (1995), 280. A6 very worn and broken.
62.	A6 / P25	16.89	Heritage 231434 (2019), 63014.
63.*	A7 / P26	16.84	BM 2002,0101.778; Hersh Coll. A7 very well worn, in final state of wear. P26 in identical style to P36-P42 (type 16) to which it is obverse die linked.

10. O, AI (Price -)

64. *	A5 / P27	16.91	Savoca Numismatik 26 (2018), 45
65.	A5 / P28	16.71	CNA XIV (1991), 62. A5 worn.

11. O, ΛI (Price -)

66. *	A5 / P29	16.77	Münzkabinett Berlin 18252931. A5 worn.
67. *	A7 / P29	16.87	Stack's Bowers Galleries Baltimore Auction (2012), 11584. A7 in earliest unworn state.

12. O, IA (Price -)

68.	A7 / P30	17.02	Heritage 3057 (2017), 32028.
69. *	A7 / P30	16.96	CNG eAuction 421 (2018), 399; Aureo and Calicó 295 (2017), 18.

13. **O B, IO** (incompletely erased)/**AI** (Price 3414)

70. *	A7 / P31	16.97	BM 2002,0101.777; Hersh Coll; Price 3414. IO between diphros struts barely visibly; incompletely erased from the die. AI control added in the exergue between feet of *diphros* and truncated by flan edge.
71.	A7 / P31	16.98	Münzkabinett Berlin 18252897.
72. *	A7 / P31	16.21	CNG eAuction 258 (2011), 95.

14. **O** above **B, ΛI** (Price 3413)

73. *	A7 / P32	16.63	ANS 1944.100.34974; Abu Hommos Hoard (*IGCH* 1667).
74.	A7 / P32	16.82	BM 1851,0312.1; Price 3413, pl. XCVIII.
75.	A7 / P33	17.01	CNG eAuction 420 (2018), 272; Freeman & Sear (2004).
76.	A7 / P33	n.r.	Heritage (2003), 14127.
77.	A7 / P34	16.57	Rahmani, *Schweizer Münzblätter* 16 (1966), coin 58; Tel Tsippor Hoard (*IGCH* 1514).
78.	A7 / P34	16.50	Tyll Kroha 105 (2016), 96.
79.	A7 / P34	16.83	BnF 1974.387.

15. **O** above **B**, **IA** (Price 3416)

80.	A5 / P35	17.20	BM 1886,0610.16; Price 3416; pl. XCVIII.
81. *	A5 / P35	17.04	Münzkabinett Berlin 18252898. A5 very worn.

16. **O** above **B, AI** (Price 3412)

82.	A5 / P36	17.20	Pegasi Numismatics 139 (2010), 59.
83.	A5 / P36	16.34	CNG eAuction 369 (2016), 246. A5 very worn.
84.	A7 / P37	16.51	ANS 1944.100.34971; Mesopotamia Hoard (*IGCH* 1764).
85. *	A7 / P38	16.83	LWHT Coll. 307; Eukratides Ancient Numismatics BB886.
86.	A7 / P38	17.11	ANS 1944.100.34972.
87.	A7 / P39	16.69	ANS 1944.100.34973.
88.	A7 / P39	16.34	Harvard Art Museums 1942.176.274.
89.	A7 / P40	16.80	CGB.fr Monnaies 38 (2009), 120.
90.	A7 / P41	17.03	Künker 124 (2007), 7914; UBS 64 (2006), 53. A7 well worn.
91.	A7 / P41	16.79	Stack's Bowers Galleries NYINC Auction (2014), 10017.

92.	A7 / P42	16.97	ANS 2002.46.541.
93.	A7 / P42	17.07	BM 1881,0102.32; Price 3412, pl. XCVIII.
94.	A7 / P42	16.80	Münzkabinett Berlin 18252928. A7 very well worn.

Bellinger 1951: no. 32, Byblos Hoard (*IGCH* 1515) no. 6386 is another specimen of type 16. Dies unidentified.

17. B, MI (Price 3418)

95. *	A7 / P43	16.94	ANS 1974.26.572; Price 3418.
96. *	A7 / P43	17.03	BM 2002,0101.780; Hersh Coll. A7 very well worn.

Table 1. Sequence summary and obverse dies.

Sequence Type	Mint Controls	Price	A1	A2	A3	A4	A5	A6	A7
1.	**- , -**	-	x						
2.	**B, -**	3406	x	x					
3	**- , B**	3407		x					
4.	**A, -**	-	x						
5.	**A, B**	3410	x	x					
6.	**Ƃ, H**	-			x				
7.	**-, IO**	-				x			
8.	**B, OI**	3420					x	x	
9.	**B, AI**	3415					x	x	x
10.	**O, AI**	-					x		
11.	**O, ΛI**	-					x		x
12.	**O, IA**	-							x
13.	**O B, IO/AI**	3414							x
14.	**O / B, ΛI**	3413							x
15.	**O / Ƃ, IA**	3416					x		
16.	**O / B, AI**	3412					x		x
17.	**B, MI**	3418							x

Commentary

The sequence outlined in the catalogue includes seven previously undocumented types (types, 1, 4, 6, 7, 10, 11 and 12), summarised in Table 1. All but type 6 lack the letter B mint mark, while the latter is in retrograde on type 6. Type 1 was struck from reverse dies initially put into use without the B mint control. Subsequently the B mint mark was added to the left field of the P2 die initiating the type 2 issue. The B mint mark is missing from type 4, apparently an engraving omission on a single reverse die intended for type 5. However, in this case no example of the rectified reverse die has come down to us in the surviving corpus of the coinage. Also missing the letter B mint mark is type 7, which in the absence of a die link is associated with the sequence by a reverse style that is aligned to that of the succeeding type 8 issue, plus the presence of the IO mint control, unknown at any other Alexander mint. This mint mark is interpreted to be the retrograde equivalent of the OI mint control found on the type 8 issue. Obverse die links directly associate types 10-12 with the sequence bearing the primary mint mark B.

Type 6 bears a retrograde B mint mark in the left field, plus the letter H beneath the throne. Its association with the emission is via the retrograde B mint mark, which is unknown at any other Alexander mint.[8] The manner of the engraving of the retrograde B is identical but mirror imaged to that of the correctly oriented letter B, consisting of two separate loops which do not meet in the centre of the line defining the vertical edge of the letter (Figure 1). In both cases, the top of the B is defined by a dot. The manner and style of engraving of this letter suggests that the retrograde B and its normally engraved counterpart originated in the same mint. In the absence of a die link, the position of types 6 in the sequence is based on the progression of mint controls. Single letter mint controls place type 6 early in the sequence, prior to the introduction of secondary mint controls consisting of two letters.

Figure 1. Retrograde and normal letter B.

A correction to Price 3419 is noted for catalogue no. 33. Price erroneously recorded the mint control beneath the diphros as θI rather than OI. As a result, the sole known example of Price 3419 is but another example of Price 3420 (type 8) and the θI control is eliminated from the suite of mint controls. Compounding the error, Price overlooked the fact that the sole example of Price 3419 in his typology (Auctiones 13, 162) is the same coin as that in the Hersh collection (BM 2002,0101.781) that he recorded as an

8 Price 1991: 578.

example of Price 3420. Therefore, catalogue no. 33 has the unique distinction of being entered twice in Price's compendium as an example of two separate types, one of which does not exist. An additional correction to past studies is identified at catalogue no. 45 where a correction is noted to Newell's reading of the mint controls on *Demanhur* 3653.[9] Based on Newell's description, Price identified this coin as an example of type 16 (Price 3412) when in fact it is an example of type 8 (Price 3420).

Seven obverse dies and 43 reverse dies are identified in catalogue.[10] Obverse die links between the different types are summarised in Table 1. Dies A1 and A2 were used to strike types 1-5. It is possible that the two dies were used in parallel for this component of the coinage. Later, two reverse dies (P24 and P25) link obverse dies A5 and A6 in an interwoven manner (catalogue nos. 53-62) during the striking of type 9, while another reverse die (P29) links A5 and A7 during the striking of type 11. From this pattern of die linkage, it appears that dies A5 and A6, and subsequently A5 and A7 were used simultaneously to strike types 9-17 in an interwoven manner, indicative of parallel striking on two anvils. Dies A5, and A7 struck ten of the seventeen sequence types. Each of these dies was very productive, paired to 18 and 14 reverse dies respectively (Figure 2), in total representing 75 percent of the reverse dies identified in the catalogue. This leaves little doubt that the emission was a short duration mintage, consistent with Price's observation that "the issues attributed to the mint form a compact group."[11]

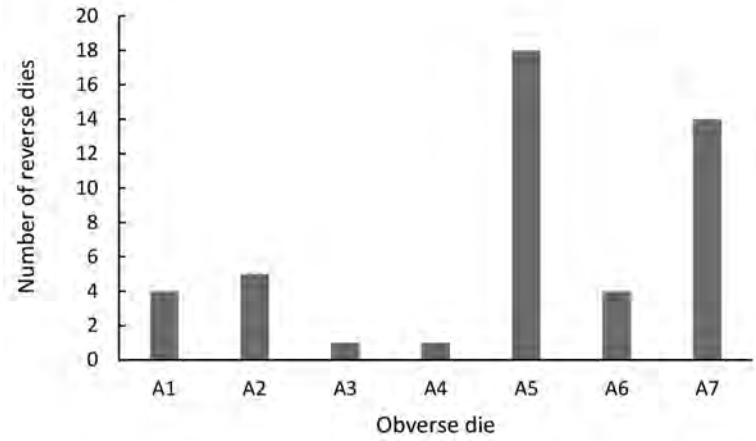

Figure 2. Die pairing ratios (P/A).

9 Newell 1923: 53 incorrectly recorded the mint controls, as O, B in left field and AI beneath the throne. In reality, the mint marks are B in left field and OI beneath the throne. A strike from a broken and worn die contributed to the misreading of the mint controls.

10 The number of reverse dies is a minimum number, for Bellinger (1951) did not identify the reverse dies on catalogue nos. 4-19 in his summary of the Byblos Hoard for which no images were available to the author.

11 Price 1991: 429.

It is notable that nine different letter mint marks are arranged in various combinations, orientations and placements so as to define seventeen different sequence types (Table 1). The presence of such a large number of control combinations in a compact coinage struck from a handful of obverse dies is remarkable. However, this apparent complexity is reduced once it is recognised that half of the sequence types represent nothing more than engraving variants, or errors, in an underlying progression of seven basic sets of mint controls (Table 2). The seventeen types are reduced to seven distinct issues defined on the basis of the underlying suite of controls, regardless of the placement and/or retrograde character of individual mint marks. The apparent complexity in the assemblage of mint controls is largely the result of inaccuracy in the execution of the mint controls on the reverse dies. The overall impression is that the mint controls were the last elements added to each reverse die, and then in haste by a relatively unskilled mint worker(s) contributing to a number of engraving inaccuracies taking the form of retrograde mint controls and/or omitted mint marks (Table 2).

The control environment in the mint was dynamic. It evolved rapidly from a single primary mint mark (B) to which a secondary mint control was added, after which an additional mint control put into use, before reverting to two mint controls on the last issue. The implementation of secondary and tertiary mint controls on the coinage occurred during the parallel use of dies A5 and A7. This might reflect an additional level of official scrutiny and oversight imposed during the peak of the mint's operation using two anvils to strike coinage. Support for this inference comes from the last issue of the mint (type 17) struck towards the end of the life of die A7. This issue reverts to a single secondary control, coincident with striking from a single obverse die as the mint's output wound down in the closing stage of its operation.

It is possible that the omission of the O mint control from a type 16 die results in the anomalous appearance of the last of the type 9 issue struck from a very well-worn obverse die A7 (catalogue no. 63). The reverse die (P26) from which this coin was struck is of a completely different style to the balance of type 9 dies (P23-P25) but is of identical style to the type 16 reverse dies (P36-P42) to which it is obverse die linked. The omission of the O mint would result in the same set of mint controls as a type 9 issue. Alternatively, catalogue no. 63 may be the result of the revival of type 9 mint control set in the closing stage of the mint, which saw the tertiary mint control dropped from the control set. The small sample does not permit us to discriminate between these possibilities.

Table 2. Mint controls and their engraving variants.

Control Set	Variant Form	Source of variant control set
B, -	- , -	Mint control initially omitted from die.
	-, B	Control placement variant on a single die.
A, B	A, -	Engraving omission of B (the Byblos ethnic) from a single die.
B, H	B, H	Known only from the retrograde control set: an engraving error on a single die.
B, OI	-, IO	Engraving omission of B, combined with retrograde engraved OI on a single die.
B, AI		No variant identified.
O / B, AI	O, AI	Engraving omission of B on two dies.
	O, ΛI	Engraving omission of B on a single die, while A engraved without crossbar.
	O, IA	Engraving omission of B on a single die, accompanied by retrograde engraved AI.
	O / B, IA	Retrograde control set: engraving error on a single die.
	O / B, ΛI	Letter A engraved without crossbar on 3 dies.
	O B, IO/AI	Placement variant of letter O on a single die, while the incompletely erased IO was intended to be replaced with AI mint mark beneath the throne; a poorly executed correction to the control set on the die.
B, MI		No variant identified.

A tangible indication of an error in the engraving of mint controls is found on reverse die P31 from which type 13 was struck. On coins struck from this reverse die (catalogue nos. 70-72), it appears that two controls, IO and AI, were placed beneath the *diphros*. However, located between the two struts of the *diphros* the former is barely visible. It was mostly but incompletely erased from the die and the AI control added in an unusual position, beneath the feet of the *diphros*, in the exergue. This is a poorly executed correction to an engraving error, one in which the OI control of type 8 was engraved in retrograde, the error recognised and the die put aside, subsequently salvaged with the controls recut for the striking of type 13, itself a variant of the type 16 control set.

It is noteworthy that despite its significance as the identifying mark of the mint, the absence of the B mint mark from the eight reverse dies of types 1, 4, 7 and 10-12 was

insufficient to justify the re-striking of coins. As far as can be established from the small surviving sample of the coinage, a correction to the omission of the primary B mint mark via the addition of the missing B only occurred on reverse die P2 that struck types 1 and 2. This might reflect a limitation in our small sample of the coinage, or it could be that once put into use most of these reverse dies were used to the end of their life without correction by the simple expedient of adding the B mint mark. Similarly, retrograde mint controls remained uncorrected with one exception, that of type 13 as noted above. The mostly uncorrected mint control omissions and errors suggest a mint under pressure to achieve a high output in a short time, so that engraving inaccuracies in a suite of mint controls were for the most part tolerated, rather than corrected.

Iconographic style

The diversity of style and detail among the seven obverse dies used to strike the coinage is remarkable (Figure 3). So different are the dies that it is probable that each was cut by a different engraver. Price considered that the style of both the obverse and reverse of the coinage is that of the late 320s BC which is most certainly correct. The more naturalistic flowing and rounded depictions of Herakles head are distinctly later than the rigid Tarsos style that was the basis of the earliest Alexander emissions from the Phoenician mints, while the reverse dies exhibit many details that date to the years after 325 BC (Table 3). Newell considered that the styles expressed in the iconography of the emission were allied to some of the issues of Arados (Byblos of Newell and Price) and Sidon in the late 320s BC.[12] The die study supports this proposition with specific examples of iconographic detail that can only have been derived from these two mints (Table 3).

Obverse dies A1 and A3 are notable for the depiction of a knot in the lion skin around Herakles's neck that is different to that of the other five dies. On these two dies the knot lacks the lion's paw extending forward from the knot beneath Herakles' chin. A1 and A3 portray the form of an overhand knot in which both paws are placed together, to the left of the knot (Figure 3, A3) adjacent to the neck truncation.[13] In the Alexander coinage of Phoenicia pre-dating 320 BC this depiction is only encountered at Arados, and its nearby mainland port of Karne.[14] Its first appearance is at Arados, on Duyrat Group IV, Series 4, obverse die D36[15] (Price 3316), after which it becomes increasingly frequent in the later Arados sequence where the paws of the lion skin in the overhand knot initially overlie the neck of Herakles. The depiction evolves and the paws move down to straddle the neck truncation, eventually to sit completely below the neck as on Duyrat's Arados

12 Newell 1923: 126 'closely allied by style with the coinages of both Byblus and Sidon.' Taylor 2020(a) for the reattribution from Byblos to Arados II.

13 This is most apparent on catalogue no. 28 from die A3 on which a complete strike is present. Catalogue nos. 1 and 2 best illustrate the overhand knot on die A1.

14 Duyrat 2005a, Group IV for Arados and Taylor 2019, Series 2 for Karne.

15 Duyrat 2005a: 17, pl. 3, 169.

Group 4, Series 11, obverse die D113.[16] The latter is identical to the depiction of the overhand knot in the lionskin headdress found on die A3. At Arados this style dates to late in the period c. 324-320 BC. An identical depiction is also to be found on the three Series 2 obverse dies of Karne dated to c. 321/0 BC that may have been engraved at Arados and shipped to Karne for use.[17] Two years later, the depiction of an overhand knot was adopted at Sidon starting with the emission dated year 15 (letter O) in 319/8 BC (Newell's obverse die XXII).[18]

Figure 3. Obverse dies.

16 Duyrat 2005a: 25, pl. 8, 555. The style of Duyrat's Arados obverse die D113 is very close to that of Type 6 die A3 (No. 27). Most certainly the former influenced the latter, if not engraved by the same hand.

17 Taylor 2019. Where applicable, dates are referenced to the Macedonian lunar year commencing in September/October of the Gregorian solar calendar year.

18 Newell 1916, 17 and pl. III, 18.

Table 3. Iconographic affinities and chronology.

Type	Dies	Iconographic detail	Affinity and Chronology
6	A1, A3	Knot in the lion skin with both paws located below the neck truncation.	Arados, Duyrat Group IV, Series 11 (321/0 BC), and Karne, Taylor Series 2 (321/0 BC).
5	P6	Zeus's l. leg drawn back before the r. in a Λ style.	Arados, Duyrat Group IV, Series 4-11 dated to 322-320 BC. Initially introduced on the later Babylon Group II coinage (c. 324/3 BC).
1-17	P1-P5, P7-P43	Zeus's r. leg drawn back behind the l. in a crossed legs style.	Earliest occurrence Sidon year 9, Newell Sidon 26 reverse die α (325/4 BC). Consistently used at Sidon after its introduction.
1,5, 6, and 17	P1, P5- P9 and P43	Zeus seated on high-backed throne.	Arados, Duyrat Group IV, Series 4-11 dated to 322-320 BC and Karne, Taylor Series 2 (321/0 BC).
1-4, and 7-17	P2-4 and P10-42	Zeus seated on *diphros*.	The mint of Sidon retained the depiction of a *diphros* throughout its dated Alexandrine coinage.
7-9	P10 and P12-P25	Differentiated struts on the *diphros,* one defined by dots, the other by a solid line.	Found only on some of Sidon year 13 (321/0 BC) - on some examples of Price 3501 and P169.

The reverse dies also exhibit a diversity of detail and style. All reverse dies but one (P6) depict Zeus with crossed legs, his right leg drawn back behind the left (that closest to the viewer). This depiction was first introduced on Alexander the Great's coinage at Sidon dated year 9 (325/4 BC).[19] This provides a *terminus post quem* for the coinage which Price attributed to Berytos. On reverse die P6 the left leg of Zeus (that closest to the viewer) is drawn back before the right leg so that the legs below the knees define a Λ

19 Taylor 2020(b), table3; Newell 1916, 13, no. 26 and pl. II, 10.

shape, in contrast to the crossing legs style of subsequent dies. Among the Phoenician mints, the only directly analogous depiction to that of die P6 is found on the coinage of Arados dated to the period 323-320 BC (Price 3316, 3321-3329 and 3332; Duyrat Group IV, Series 4-11).[20] This is a pointer to the date of the coinage and the possible origin of the die P6. This depiction was first introduced at Babylon on some (but not all) of the early coinage of Waggoner's Group II,[21] following which it appears to have been adopted as a standard iconographic convention on the coinage of Arados I.

Seven reverse dies (P1, P5-P9 and P43) are notable for the portrayal of Zeus seated on a high-backed throne, rather than the *diphros* that prevails on the balance of reverse dies. The depiction of the high-backed throne was initiated on the coinage of the mint of Babylon, associated with the return to the city of Alexander the Great after his eastern anabasis.[22] The adoption of this depiction among the Phoenician mints was limited to Arados in Duyrat Group IV, Series 4-11 (Price 3316-32),[23] and the nearby mint of Karne, on some of Series 2 emission (Price 3430) that was possibly stuck from dies engraved at Arados.[24] Duyrat dates the Arados Group IV emission to the period c. 324/3- c. 320 BC. The Karne Series 2 emission is dated to c. 321/0 BC. The Phoenician mints of Sidon and Tyre exclusively maintained the *diphros* depiction throughout the mintage of their dated Alexander coinage.[25] The appearance of the high-backed throne on the reverse dies used for some of types 3, 6 and 8 is interpreted as further evidence of the influence of Arados mint workers in the early part of the sequence, reinforcing the similar observation made on the style of obverse dies A1-A3.

Figure 4. Differentiated horizontal struts on reverse die P24 (catalogue no. 59).

20 Duyrat 2005a: 17-30 and pl. 3-10.

21 Waggoner, 1968; Waggoner 1979: 275, pl. 32, 1g, 1o-3 and pl. 33, 9a, 10a, 11a, 11d and 12a.

22 Taylor 2018: 18-19.

23 Duyrat 2005a: group 4, Series 4, 216, from dies D51-R86 marks the first occurrence of the high-backed throne on the coinage of Arados I. It immediately became an iconographic convention at the mint that was employed on the balance of its coinage.

24 Taylor 2019.

25 Similarly, at the Macedonian imperial mint of Arados II where it was only in the last 16 reverse dies of the sequence that the high-backed throne appeared in c. 301/0 BC; Taylor 2020(a); 66.

Other variable elements on the reverse include the depiction of Zeus with feet resting either on a footstool, or alternatively an exergual or ground line, while the legs of the *diphros* are braced by one or two horizontal struts. On reverse dies P10 and P12-P25 (types 7-9), the manner of depiction of the two horizontal struts is unusual, consisting of one strut defined by a line of dots, while the other one is represented by a solid line (Figure 4). The depiction of two differentiated struts in the twin strut portrayal of the *diphros* is known from only one other mint in Phoenicia, and then for the issues of a single year; some of the year 13 (321/0 BC) dies of Sidon.[26] This provides a chronological and geographic reference point for the origin of the reverse dies bearing the distinctive depiction of differentiated horizontal struts on the *diphros*.

It is evident from the die study that there is no consistency in the iconographic style, or detail in the dies from which the coinage was struck. No iconographic conventions that characterize the output of a single mint are apparent in this variability, which is unusual for a small mintage from a single mint. Rather, it is the absence of conventions and the diversity of iconographic detail that sets this coinage apart from others of the period. Based on the variations in both the obverse and reverse style observed in the coinage, the work of up to seven die engravers can be identified in both obverse and reverse dies. In this diversity two specific influences, or affinities can be discerned. That of Arados is apparent on some of types 1-6, while that of Sidon is more evident in types 7-17. Table 3 summarises the varied iconographic affinities noted in the die study and the chronological implications these hold for the interpretation of the coinage.

Statistics

The catalogue of coins provides a significant sample from which can be estimated the original number of dies employed at the mint (Table 4). The characteroscopic index (*n/d*) of the sample of obverse dies is 13.7 suggesting a complete sample of the obverse dies commissioned at the mint. However, this figure is influenced by the large number of coins in the sample struck from obverse dies A2, A5 and A7 which account for 85 percent of the sample (Figure 5). Seventeen of the 22 coins struck from die A2 came from the Byblos hoard. These comprise 90 percent of the 'Berytos' component in the hoard,[27] and may have entered the hoard en bloc immediately after striking, in which case this component would not constitute a random sample of the coinage. The large number of coins from dies A5 and A7 appears to reflect the fact that these were unusually productive dies, an assessment based on their very high reverse die pairing ratios (Figure 2) accompanied by advanced die wear evident on the last strikes from these dies.

26 Zervos 1979: 299-301 details the origin of this depiction on the earliest Alexanders of Egypt. It is found, on the Memphis issues Price 3964 and 3971 (323-321 BC).

27 Bellinger 1951: 41.

Table 4. Catalogue statistics.

	A dies	P dies
Sample size *(n)*	96	96
Observed Dies *(d)*	7	43+
Singletons (d_1)	2	20
Characteroscopic Index (*n/d*)	13.7	2.2
Coverage (C_{est})	0.98	0.79
Estimated Dies (D_{est})	7.6	77.9
95% Confidence Interval	7.0-8.2	60.2-100.8
Observed P/A	6.1	
Estimated P/A	10.3	

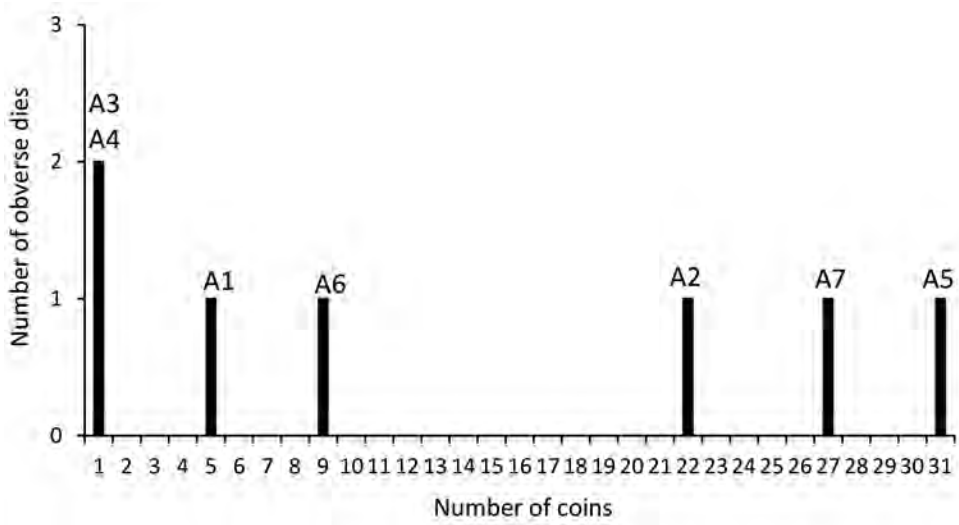

Figure 5. Frequency of obverse dies in the sample.

The sample has a high statistical coverage (C_{est}) of 0.98; further suggesting a comprehensive sample.[28] Estimation of the original number of obverse dies (D_{est}) employed in the emission yields a figure of 7.6 within a 95 percent confidence interval of 7.0-8.2 dies (Table 4).[29] It is notable that this estimate does not change materially even if we remove from the calculation the 17 examples struck from die A2 from the Byblos hoard, which may represent a non-random component in the sample. All aspects considered, it is likely that the number of obverse dies identified in the surviving sample of the coinage is essentially complete, although one additional die beyond those present

28 Esty 2006: 357, formula 1.
29 Esty 2011: 43-58.

in the sample remains a possibility. With an assumed average obverse die productivity of about 20,000 coins,[30] seven obverse dies may have struck around 140,000 coins; the equivalent of about 92 Attic talents of silver. The minimum duration of a mintage from seven obverse dies, at least half of which appear to have been used in parallel striking, may have been less than one month, based on an average daily striking rate of 3,000 coins per anvil.[31]

The statistical coverage of reverse dies (C_{est} = 0.79) is appreciably less than that of the obverse dies. It is estimated that 78 original reverse dies, within a 95% confidence interval of 60-101 dies, were commissioned at the mint (Table 3). This defines an average die pairing ratio (P/A) of 10.3, substantially more than the observed ratio of 6.1 but considerably less than the observed ratios for the two long lived obverse dies, A5 and A7 (Figure 2). This ratio implies an average reverse die productivity of approximately 2,000 coins. For that part of the coinage possibly struck in parallel on two anvils, this would have necessitated the commissioning of two to three new reverse dies daily. This might explain the presence of the work of numerous engravers in a small compact coinage.

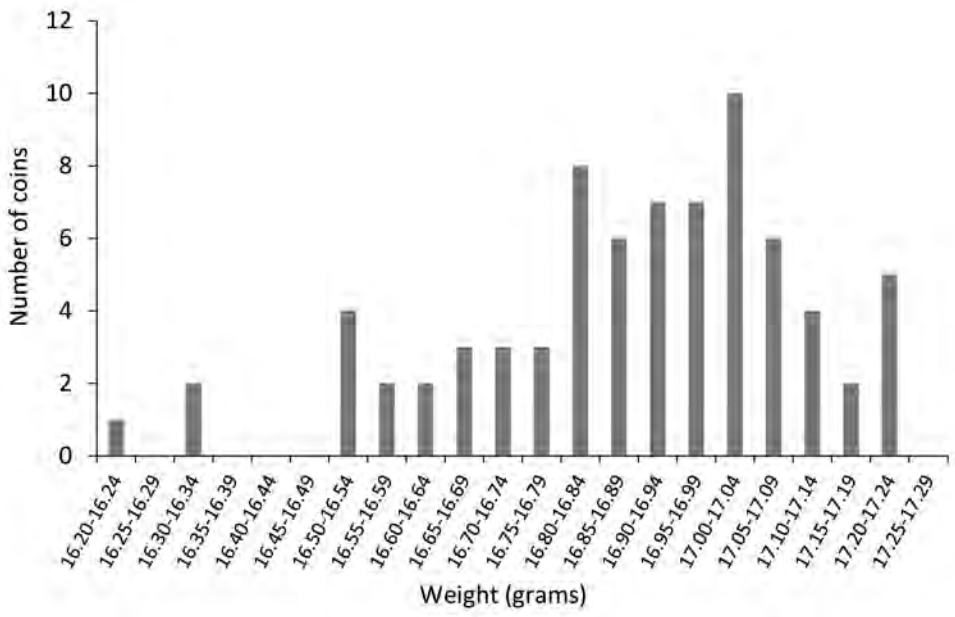

Figure 6. Histogram of weights.

30 Callataÿ 2011: 9.

31 Such a daily striking rate was determined by Callataÿ 1997 for the dated tetradrachms issues of Mithradates VI Eupator. In this wartime coinage up to 5 obverse tetradrachm dies were used per month, suggesting an average striking rate of up to c. 3,000 coins per day, based on an assumed average obverse die productivity of 20,000 coins.

Metrology

The range of weights of the coins in the catalogue is 16.21-17.22 grams. The average weight is 16.88 grams with a standard deviation of 0.22 grams in a distribution that exhibits a strong negative skew (- 0.8). In part, the latter reflects the influence of some worn and poorly preserved coins in the sample. The histogram of weights (Figure 6) exhibits a modal class in the range 17.0-17.04 grams. Notably the heaviest end of the weight distribution is defined by five coins with weights of 17.20 grams (3 coins) and 17.22 grams (2 coins), precisely that of the Attic weights standard applicable to tetradrachms of the time. It appears that the tetradrachms were somewhat imprecisely adjusted, possibly to a weight target of c.17.05 grams, even though the Attic weight standard of the time was a tetradrachm of 17.2 grams. This distinguishes this coinage from its contemporaries in other eastern mints which were more precisely weight adjusted to the Attic weight standard.[32] It suggests that the coinage was struck with little consideration of precise weight adjustment, yet another indicator of haste in its mintage.

Chronology

The hoard record of the coinage summarised in Table 5.

Table 5. Hoard record of the coinage.

Hoard	Burial Date BC	Content	Number of examples
Demanhur (*IGCH* 1664)	318	8,000 AR	1
Abu Hommos 1919 (*IGCH* 1667)	311-310	1,000 AR	1
Tel Tsippor (*IGCH* 1514)	shortly after 311	63 AR	1
Byblos 1931 (*IGCH* 1515)	309-308	141 AR	19
Aleppo 1893 (*IGCH* 1516)	*c.* 305	3,000 AR	2
Mosul 1862-3 (*IGCH* 1756)	after 305	88 AR	1
Beirut 1964 (*IGCH* 1519)	*c.* 300	27 AR	1
Prilepec 1950 (*IGCH* 448)	*c.* 280	208 AR	1
Mesopotamia before 1920 (*IGCH* 1764)	*c.* 230	94 AR	1
Saida 1862-3 (*IGCH* 1594)	*c.* 140	70 AR	1

Based on the hoard record, the geographic dispersion of this small mintage was mostly in the east, with only a single find in Europe (*IGCH* 448). The earliest hoard occurrence of the coinage is in the Demanhur Hoard (*IGCH* 1664) that closed in 318 BC based on the

32 It is informative of the matter of weight adjustment to compare and contrast the broad weight distribution of the coinage with that of the very tight distribution of the coinage from the Alexander mints of Arados II (Taylor 2020(a): figs. 2-3), Damaskos (Taylor 2017: fig. 1) and Babylon (Taylor 2018: fig. 1).

latest dated coins of Sidon and Tyre contained in the hoard.[33] This included a tetradrachm of Type 8 struck from obverse die A6 (catalogue no. 45),[34] the penultimate obverse die in the sequence. This offers a definitive *terminus ante quem* for the emission. A *terminus post quem* is provided by the portrayal of Zeus with crossed legs, which dates the coinage to a time after the first appearance of this depiction on the tetradrachms of Sidon (Price 3487) dated year 9 (325/4 BC) and at Tyre (Ake of Newell and Price; Price 3265 and 3267) dated year 26 (*c.* 324/3 BC).[35] On this evidence Price dated the coinage to '*c.* 323 BC or a little later'.[36] However, the analysis of the iconographic details, plus the timing of analogous developments on the tetradrachms of Arados and Sidon serve to refine this estimate. They suggest a date two to three years later (Table 3). In particular, the differentiated depiction of the two horizontal struts of the *diphros* found on 14 reverse dies of Types 7-9 is a definitive chronological peg. In Phoenicia this depiction is only found on a few examples of the tetradrachms of Sidon dated year 13, equivalent to 321/0 BC (Price 3501 and P162). This proposed date for the mintage is further supported by the detail of the overhand knot depicted on die A3. Prior to 320 BC, the only other occurrence of this detail in the Alexander coinage of the Phoenician mints is to be found on the closing issue (Price 3332) of the Arados I mint and on the very small Series 2 emission (Price 3430) of its mainland port, Karne, dated to 321/0 BC.[37] All indications from an analysis of the stylistic variations suggest that the coinage dates to a brief period in 321/0 BC.

Attribution

Price's attribution of the coinage to Berytos followed that of Newell, who in his discussion of the Demanhur Hoard (*IGCH* 1664) stated that:

> The assignment to Berytus of No. 3653 [catalogue no. 45] is fairly certain. The six known varieties of this group all bear the letter B in the field and are closely allied by style with the coinages of Byblus and Sidon. In fact, the indications as furnished by the style are so strong, that hardly any other attribution is possible.[38]

33 Newell 1923: 152-154; Zervos 1980; Duyrat 2005b.

34 Newell 1923: 53 corrected for his misreading of the mint controls as noted on catalogue no. 45.

35 Lemaire 1976; Le Rider 2007:126-130 for the reattribution of the coinage of Ake to Tyre. Taylor 2020(b): table 1 for dating of each of the Sidon and Tyre series. The dating of the coinage reattributed from Ake to Tyre follows from the work of Elayi 2006:11-44, 25-28 and table 3, plus Elayi and Elayi 2009: 371-395 that convincingly established the era of Ozmilk commencing in 349 BC, thus associating the Macedonian conquest of Tyre in 333/2 BC with Ozmilk regnal year 17.

36 Price 1991: 429.

37 Taylor 2019.

38 Newell 1923: 126. Newell's attribution of the coinage bearing the B ethnic to Berytos was constrained by the fact that he had previously re-attributed the coinage bearing the ligate AP monogram to Byblos, rather than Arados.

In this assessment, Newell was strongly influenced by the fact that he had attributed the Alexander coinage characterised by a solitary ligate AP mint mark (Ⓐ; Price 3422-3428) to Byblos. This was based on his view that this Ⓐ mint mark was to be deciphered as the abbreviation of the name Addirmilk (Adramalek in Greek), who he posited succeeded Aynel (Enylos in Greek) as the vassal king of Byblos.[39] Newell made this attribution based on his inferred succession of vassal kings at Byblos during the early years of Alexander the Great's suzerainty. However, recent studies have established that Addirmilk preceded Aynel.[40] As a result, the attribution to Byblos of the coinage bearing the Ⓐ mint mark cannot be sustained. Most plausibly, this monogram is an abbreviation of the minting city's name, Arados,[41] so that the coinage is more correctly reattributed to a second mint at Arados.[42] This reverts to Newell's original interpretation and attribution,[43] one that he subsequently changed in favour of the Addirmilk (Adramalek) postulate. It leaves Byblos without any Macedonian imperial coinage of consequence,[44] notwithstanding its prior status as one of four Achaemenid vassal kingdoms in Phoenicia. At the time, Berytos was a small port that fell within the territory of the kingdom of Sidon. It had no autonomy from the latter in the Persian era,[45] and there is no record that it enjoyed such under Alexander the Great. Only in the later Seleukid and Roman eras did Berytos develop into an autonomous, prosperous commercial centre, eclipsing its neighbour Sidon, 40 kilometres to the south. The establishment of a Macedonian imperial mint at the minor port of Berytos, in close proximity to the major centre of Sidon, would have been an unusual, if not inexplicable initiative by the Macedonians, for Sidon already possessed a mint that was employed to strike Macedonian imperial coinage on an annual basis from 332-305 BC.[46] Therefore, the B mint control on the coinage attributed to Berytos by Newell and Price might be more correctly interpreted as the mint mark identifying the city known to the Greeks as Byblos,[47] a vassal kingdom in Phoenicia, and a city with a prior history of coinage under Achaemenid rule, located 35 kilometres to the north of Berytos.

The hoard record (Table 5) also challenges the Berytos attribution. The most significant find of the coinage was in the Byblos Hoard (*IGCH* 1515), recovered from a controlled

39 Newell 1923: 122-125.

40 Elayi 2006: 11-43, table 3.

41 Arados is the ancient Greek name given to the island city named Arvad in Phoenician. The latter is the source of the modern-day Arabic name Arwad, by which Arados is frequently referred to in modern studies.

42 Taylor 2020(a): for a detailed account of the basis for, and the consequences of the reattribution of the Byblos coinage to Arados II.

43 Newell 1912: 45 and 47-49

44 Taylor 2020(a): 33-34. Only the Aynel (Enylos) tetradrachm issue (Price 3421) from a single obverse die is retained at Byblos following the reattribution of the ligate AP monogram coinage to Arados II.

45 Elayi 2006: 14.

46 Taylor 2020(b); Le Rider 2007: 113-117; Newell 1916.

47 Byblos is the ancient Greek name given to the city of bearing the Phoenician name of Gubla.

excavation in the ancient city of Byblos. Nineteen tetradrachms of the type assigned to Berytos by Price were present in this hoard of 141 coins, of which 139 were Alexander II, or Philip III tetradrachms.[48] Nineteen tetradrachms attributed to Berytos comprise 14 percent of the hoard, third only to those originating from Tyre (17 percent) and Babylon (28 percent). Types 2, 3 5, 8 and 16 are represented in this hoard, which was buried around 309/8 BC, or a little later. In contrast, a hoard in commerce, the Beirut (Berytos) 1964 Hoard (*IGCH* 1519) buried around 300 BC contained only one tetradrachm of Price's Berytos attribution among 27 tetradrachms.[49] The preponderance of the coinage in the Byblos Hoard and its relative dearth in the Beirut Hoard suggests that the former might be in closer proximity to the mint's location. Additionally, in the archaeological excavations at Berytos the coinage that Price attributed to the city is absent, although bronze Alexander issues (Herakles head/ club, bow and quiver) from Macedonia, Arados, and Salamis were found in controlled excavations.[50]

Table 6 summarises the circumstantial evidence for reattribution to Byblos. It leans more strongly towards the assignment of the Phoenician Alexanders bearing the letter B mint control to Byblos rather than Berytos. Such a reattribution would bring the Alexander mintage at Byblos into line with that of the three other vassal kingdoms of Phoenicia in the years following the Macedonian conquest. It locates the origin of almost all of Alexander's coinage in the leading cities of the littoral eastern Mediterranean from mints with a precursor history of Achaemenid mintage. Certainly, the case for reattribution of the coinage to Byblos is far stronger than that for its maintenance at Berytos.

Table 6. Relative merits of alternative attributions.

Argument/Evidence	Byblos	Berytos
B mint mark - initial of the city.	Yes	Yes
Controlled excavation finds of coinage in the city.	Yes *IGCH* 1515 (19 coins)	No -
Inferred local hoard in commerce	-	*IGCH* 1519 (1 coin)
Capital of a Phoenician kingdom.	Yes	No
Probable treasury location.	Yes	No
Precursor Achaemenid era mint.	Yes	No
Precursor early Alexander emission.	Yes	No

48 Bellinger 1951.
49 http://coinhoards.org/id/igch1519 (accessed 18 October 2018).
50 Sawaya 2011: 376.

Synthesis

With a reattribution from Berytos to Byblos, the coinage joins a probable Byblos tetradrachm issue (Price 3421: ANS 1947.98.296) bearing the Phoenician letters *ayin-yod.* The latter was interpreted by Newell to be an abbreviation of name of the vassal king Aynel (Enylos in Greek) who surrendered Byblos to Alexander the Great.[51] This type with its early style must pre-date the issues bearing the letter B mint mark, separated from the latter by a number of years.[52] This initial issue of Byblos may have been struck in acknowledgement of the submission of Aynel to Alexander the Great. Potentially in a sign of subservience the abbreviation of the vassal king's name, *ayin-yod,* was subordinated to that of Alexander the Great, whose name, ΑΛΕΞΑΝΔΡΟΥ (of Alexander) was prominently displayed in full.[53]

Even with the reattribution of the coinage to Byblos, the city still has a relative dearth of coinage compared to its counterparts at Sidon, Tyre and Arados, where in each case the mint operated throughout the 320s BC (Figures 7 and 8).[54] In contrast, the Byblos mint saw two brief phases of operation. Based on its early style, the Aynel issue, from a single obverse die, is dated the period *c.* 332-327 BC, while the coinage bearing the letter B mint control was issued in 321/0 BC; a hiatus of 6-12 years. This requires explanation. The maintenance of three Alexander mints, Tyre, Sidon and Byblos along a 100 km stretch of the Phoenician coast could hardly have been necessary, or efficient. Therefore, the decision might have been taken to cease mint operations at Byblos after the initial submission issue bearing the mark of Aynel.[55]

The reactivation of a mint at Byblos for an ephemeral emission in 321/0 BC is explained by the sequence of events culminating in the assembly of the Macedonian armies at Triparadeisos in 321/0 BC.[56] This assembly followed the assassination of the Macedonian regent Perdikkas during the abortive military campaign to wrest control of Egypt and the mortal remains of Alexander the Great from Ptolemy. Following the assassination of Perdikkas, his brother-in-law Attalos in command of the naval fleet seized the campaign treasury of 800 talents that had been left at Tyre.[57] This large sum had been deposited at Tyre for military pay at campaign's end. Without it the army's loyalty was sorely tested.

51 Newell 1923: 125.

52 Taylor 2020(a): 33-34 for an analysis of the Aynel issue.

53 Schell 1998: 31.

54 Taylor 2020(a): 81-87 for details of the analysis underpinning these graphs.

55 Mørkholm 1991: 47 recognised that under Alexander the Great 'the Phoenician and Cypriot city-states under their local kings retained the management of their mints, although they naturally had to operate within the general regulations laid down by the central administration.'

56 This included the royal Macedonian army under the interim leadership of Peithon and Arrhidaios, plus the Macedonian armies headed jointly by Antigonos and Antipatros the viceroy of Macedonia. The armies and their leaders assembled at Triparadeisos to resolve upon the new order of leadership in the Macedonian Empire following the assassination of Perdikkas, the regent and commander of the royal army.

57 Le Rider 2007: 152 citing Diodorus 18.37.3-4.

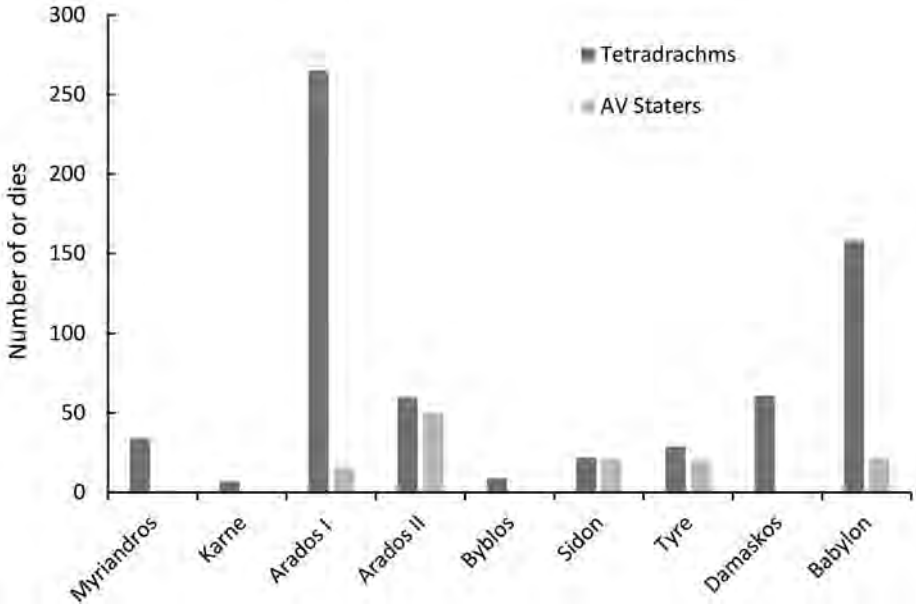

Figure 7. Eastern mints 332-320 BC: estimated number of dies.

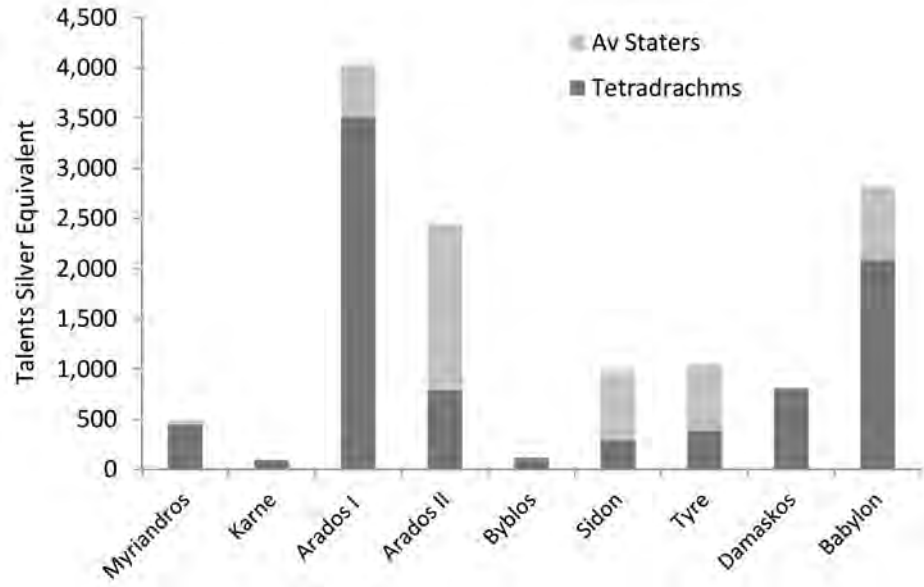

Figure 8. Estimated output 332-320 BC: talents silver equivalent.

This culminated in a near mutiny of the royal army at Triparadeisos, where the life of the viceroy, Antipater, was placed under threat by troops when he acknowledged that there were insufficient funds available immediately to make good the arrears in pay.[58] In view of the circumstances, it is likely that in the lead up to the assembly at Triparadeisos, the mints of southern Phoenicia were requisitioned for coinage to pay the royal army during its transit from Egypt to Triparadeisos. On this route were Tyre, Sidon and Byblos. We find evidence to support this hypothesis in the numismatic record of each of the mints.

At Tyre the year 29 (321/0 BC) mintage was small; one new stater die and one new tetradrachm die were employed that year.[59] Probably depleted by Attalos' action it could not sustain a large mintage. In contrast, the year 13 (321/0 BC) Sidon emission saw four gold stater dies plus five tetradrachm dies put to use in the mintage; a more than four-fold increase in the value of the coinage struck in the prior and the following year.[60] Additionally, it is notable that year 13 (321/0 BC) at Sidon saw the city's first issue in the name of Philip III who accompanied the royal army, potentially providing the catalyst for a mintage in his name. Tyre, in contrast, never issued coinage in the name of Philip III.

Based on the noted die counts, the value of the year 13 coinage from Sidon is estimated to have been about 198 Attic talents of silver equivalent,[61] consisting of 13.2 talents of gold and 66 talents of silver. Cumulative die counts, indicate that this quantity represented around 25 percent of the Sidon mint's output in the period from 333/2 BC to 321/0 BC, in value matched only by the emission of year 10 (324/3 BC). However, it was well short of the 800 talents destined for army pay, that was seized by Attalos from the treasury at Tyre. After Sidon, Byblos was the last of the three vassal kingdoms with a treasury on the route of the royal army to Triparadeisos. The reactivation of a mint at Byblos to strike available silver (c. 92 talents) into coinage for military pay would have been a logical step towards addressing the shortfall in coinage arising from the actions of Attalos. Even so the cumulative total from Sidon and Byblos would have been around one third of the 800 talents originally destined for the army's payroll. This shortfall might have precipitated the near mutiny of the royal army at Triparadeisos.

Due to the elapsed time since the previous operation of a mint at Byblos, it would have been expeditious to bring in skilled workers and/or dies from other nearby mints. The nearest mints were Sidon to the south, and Arados to the north. This approach to commissioning a temporary mint at Byblos would explain the affinities of some components in the diversely styled iconography of the coinage with some of the

58 Billows 1990: 25-26.

59 Newell 1916: 47, Series V, 31, dated regnal year 29; Taylor 2020(b) for the equivalent BC date, reflecting the dating of the reign of 'Ozmilk, the king of Tyre by Elayi and Elayi 2009.

60 Newell 1916: 15-16.

61 Based on a relative gold to silver valuation of 1:10 noted by Le Rider 2007: 149.

contemporary output from mints at Arados and Sidon, in particular with the Sidon emission dated year 13 (321/0 BC). This raises the possibility that the coinage was struck from dies initially cut at Arados, then Sidon, that were transferred to Byblos, after which mint controls were added in haste by relatively unskilled mint workers, the latter explaining the plethora of engraving errors apparent in the suite of mint controls (Table 2).

The historical circumstances of 321/0 BC can explain the ephemeral operation of a mint at Byblos, one that apparently drew upon resources from Arados and then Sidon.[62] After the gathering at Triparadeisos, the assembled Macedonian armies dispersed to the north (along the northern Phoenician coast into Asia Minor), south (to Egypt) and east (to Babylonia) thus facilitating the rapid dispersal of the coinage that is evidenced in the hoard record.[63]

62 A similarly brief emission from the northern Phoenician mint of Karne (Series 2) appears to have been struck as the Macedonian royal army travelled north into Asia Minor under the leadership of Antigonos, following the conclusion of the assembly at Triparadeisos; Taylor 2019:16.

63 The historical circumstances also explain the very large Arados I emission of Price 3332 (Duyrat Group IV, Series 11) from 88 obverse tetradrachm dies. From Triparadeisos, Antogonos led the royal army north into Kilikia passing Arados on the route. This large mintage would have served to settle the pay dispute, thus securing the complete commitment of the troops. Immediately after, mint operations ceased at Arados I with the city firmly under the control of Antigonos who retained the imperial mint of Arados II as the sole facility in the island city.

Plate 1

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Plate 2

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Author

Lloyd Taylor has a PhD in Geology and Geophysics from the University of Sydney. Now retired, he independently researches the eastern coinage of Alexander the Great and his successors.

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64 http://numismatics.org/pella/ accessed 2 December 2020 and https://opendatacommons.org/licenses/odbl/1.0/

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The enigmatic Philip III issue of Seleukeia on Tigris

Lloyd W. H. Taylor

Abstract

This study establishes that the die linked tetradrachm issues of SC 118 in the name of Philip III and SC 117.7 in the name of Seleukos were struck simultaneously at Seleukeia on Tigris. The issue in the name of Philip III was struck from purpose cut dies, an intentional posthumous issue, obverse die linked to a simultaneous issue in the name of Seleukos. A parallel emission of die linked tetradrachms in the names of Philip and Seleukos also occurred at Uncertain Mint 6A (Opis) in Babylonia, a short distance from Seleukeia on Tigris. This is a chronological peg that associates the issues from the two mints. It suggests that the emission from Seleukeia on Tigris accompanied the acclamation of the Seleukos as king, coincident with the inauguration of the mint at his new foundation in c. 304/3 BC. [1]

Keywords

[Seleukeia on Tigris] [Philip III] [Seleukos I] [Die study]

Introduction

This study examines the tetradrachm issue in the name of Philip III (*SC* 118; Price P229) attributed to Seleukeia on Tigris, plus the obverse die linked issue struck in the name of Seleukos (*SC* 117.7b; *WSM* 780).[2] The two types have a long history of study, including varying attributions.[3] Yet, as detailed in *Seleucid Coins,* the die link poses a number of interpretive problems and uncertainties that have not been resolved satisfactorily.[4] The latter publication even questioned the attribution and suggested that the Philip III issue was most plausibly 'a lifetime issue of Philip III - one of whose obverse dies was rehabilitated under Seleucus I by a mint of limited resources (possibly but not necessarily Carrhae), just as old reverse dies of Philip were pressed into service at Uncertain Mint 6A and the "native/satrapal" workshop of Babylon'. It noted that 'there was no obvious reason why a die should have been brought out of retirement for use

1 Split year dates are referenced to the Macedonian lunar calendar year, which commenced in the Autumn (September/October) of our Gregorian solar calendar year.

2 The die link was first identified by K. Dimitrov (1986).

3 Price (1991): 500 attributed type P229 (*SC* 118) to an Uncertain Eastern Mint, while Newell (1941): 45 attributed *WSM* 780 (*SC* 117.7b) and *WSM* 781 (the drachm equivalent of *SC* 117.7a) to Carrhae. Houghton and Lorber (2002): 53-54 summarise the history of reattribution of *SC* 118 and die linked *SC* 117.7b to Seleukeia on Tigris.

4 Houghton and Lorber (2002): 53-54.

at Seleucia, which was well supplied with dies.'[5] The underlying premise of the analysis presented in *Seleucid Coins* was that *SC* 118 was a lifetime issue from the era of Philip III, an obverse die of which was rehabilitated two decades later to strike tetradrachms bearing the name of Seleukos. Using all known examples of *SC* 118 and *SC* 117.7, this study examines the detail of the die link, and the chronological implications it holds for the start of mint operations at Seleukeia on Tigris. It establishes that the underlying premise of *Seleucid Coins* regarding the origin of *SC* 118 is incorrect.

Catalogue

With the exception of coin numbers 17 and 21, the coins in the following catalogue are illustrated on the Plates 1-2. Coins 17 and 21 can be viewed at the publications noted with these entries.

***SC* 118** (Price P229)
Obverse: Head of Herakles r. wearing lion skin headdress; dotted border.
Reverse: ΒΑΣΙΛΕΩΣ below, ΦΙΛΙΠΠΟΥ to r., Zeus Aëtophoros seated l., pentagram in l. field; dotted border.

	Obv.	Rev.	gms	Provenance
1.	A1	P1	17.16	CNG 76 (2007), 769; Arthur Houghton Coll.
2.	A1	P2	17.01	London, BM 2002,0101.986; Hersh Coll.
3.	A1	P3	n.r.	AHNS[6] 1045; Commerce ('Seleucus I') Hoard, 2005 (*CH* 10.265).
4.	A1	P4	16.52	London, BM 1911,0704.120; Price (1991): pl. CXX, P229.
5.	A1	P5	16.91	Heritage 232015 (2020), 62034.
6.	A2	P6	16.93	Naville Numismatics 54 (2019), 126. A fine die break extends from Herakles lower jaw across frontal neck, and two die breaks extend radially from the forehead.
7.	A2	P6	n.r.	AHNS 1046; Commerce ('Seleucus I') Hoard, 2005 (*CH* 10.265). Die break extends from lionskin paw to the dotted border.

5 Houghton and Lorber (2002): 54.
6 AHNS = Arthur Houghton New Series.

8.	A2	P6	16.96	CNG web shop inventory no. 519078; *CSE* II 57; AHNS 1044; Commerce ("Seleucus I") Hoard, 2005 (*CH* 10.265). New die break beneath lower jaw of lionskin, extending to first tuft of the mane. Another vertical break appears on the right field beneath the nose, in front of the lips.
9.	A2	P7	16.92	New York, ANS 1944.100.45163; Thompson (1986): 70, no. 160 and pl. 11, 160; Armenak 1927 Hoard (*IGCH* 1423). Prior to this coin strike the A2 die surface was retouched to remove die breaks before forehead and mouth, and those on the chin and neck. Resurfacing of the fields results in removal of the turned-up tips of the tufts of hair on the trailing edge of the mane on the lionskin. P7 no footstool beneath the feet of Zeus.
10.	A2	P8	17.10	Eukratides Numismatics inventory no. br149. The advance of die breaks on A2 indicates that reverse dies P7 and P8 were used alternately, rather than sequentially, in striking of nos. 9-12.
11.	A2	P7	16.98	CNG eAuction 399 (2017), 225. Die break from upper lip to tip of nose starts to develop.
12.	A2	P8	17.16	Brisbane, LWHT Coll. no. 204; Stack's Bowers NYINC (2012), 166; Gemini II (2006), 63; AHNS 744. A prominent linear die break extends from upper lip to beyond the tip of the nose.
13.	A2	P9	n.r.	AHNS 665; Houghton and Lorber (2002): pl. 7, 118. A new die break appears before the chin.
14.	A2	P10	16.96	Elsen 119 (2013), 110. Prior to this coin strike the A2 die surface was retouched for the second time to reduce the prominent die break extending from upper lip to beyond tip of nose.
15.	A2	P11	16.85	Tauler & Fau E-Auction 55 (2020), 5013; Tauler & Fau E-Auction 49 (2020), 2008. Numerous die breaks in front of the face and on the neck.
16.	A2	P12	n.r.	AHNS 1042; Commerce ("Seleucus I") Hoard, 2005 (*CH* 10.265). Numerous die breaks in front of the face and on the neck. A2 in most advanced state of wear.

17.	A2	P13	16.38	Amandry and Callot (1988): 67, no. 16, pl. XIII, 16; Failaka 1984 Hoard, *CH* 8.256. Low resolution image - advanced dies break visible on neck place this as a late strike.

Additional examples of *SC* 118 for which no study image was available: *SNG Copenhagen* 1085 (struck from die A2) and another specimen recorded by Hersh (1998): 39 in the Phoenicia 1997 hoard.

***SC* 117.7a** (Tetradrachm equivalent of the drachm *WSM* 781)
Obverse: Head of Herakles r. wearing lion skin headdress; dotted border.
Reverse: ΒΑΣΙΛΕΩΣ below, ΣΕΛΕΥΚΟΥ to r., Zeus Aëtophoros seated l., 𐡜 beneath throne, 𐡞 in l. field; dotted border.

18.	A2	P14	n.r.	AHNS 545; *SC* 117.7a (this coin). A2 unworn, in earliest state.
19.	A2	P15	16.79	Savoca Numismatik, 22nd Silver Auction (2018), 269. A2 unworn, in earliest state. P14- P15 the horizontal strut of the throne is positioned immediately beneath the throne seat in order to make room for the 𐡜 mint mark

***SC* 117.7b** (*WSM* 780)
Obverse: Head of Herakles r. wearing lion skin headdress; dotted border.
Reverse: ΒΑΣΙΛΕΩΣ below, ΣΕΛΕΥΚΟΥ to r., Zeus Aëtophoros seated l., PA beneath throne, 𐡞 in l. field; dotted border.

20.	A2	P16	n.r.	*CSE* II, Ad7: Hoover (unpublished) pl. 1, Ad7; AHNS 546. A2 in moderately worn state following second retouching of the die. P16 depicts the feet of Zeus resting on an exergual or ground line, rather than a footstool. The horizontal strut of the throne is absent.
21.	A2	P16	n.r.	*WSM* 780α. *WSM* records this coin in the Proche Coll. Aleppo, from the same die pair as the following coin.
22.	A2	P16	15.72	Paris, BnF K 1826.Babelon 19. Houghton and Lorber (2002): pl. 7, 117.7b; *WSM* 780β, pl. V, 17.
23.	A2	P17	17.00	CNG eAuction 153 (2006), 60; Commerce ("Seleucus I") Hoard, 2005, *CH* 10.265 no. 1584. A2 with advanced wear.

Table 1. Striking order from die A2.

Die use	ΦΙΛΙΠΠΟΥ	ΣΕΛΕΥΚΟΥ
Earliest	-	*SC* 117.7a: nos. 18-19
	SC 118: nos. 6-8	-
Retouching of die		
Intermediate 1	*SC* 118: nos. 9-13	-
Retouching of die		
Intermediate 2	-	*SC* 117.7b: nos. 20-21
Latest	-	*SC* 117.7b: nos. 22-23
	SC 118: nos. 14-17	

Discussion

SC 118 was struck from two obverse dies and at least thirteen reverse dies. The second of these obverse dies (A2) was also used to strike *SC* 117.7 for which it was paired to at least four reverse dies. *SC* 117.7 consists of two variants (designated a and b) differentiated by a secondary mint control beneath the throne. Prior to this study, the die link between *SC* 118 and *SC* 117.7 was only identified for *SC* 117.7b, for which it was concluded the linking die was in a more worn state.[7] A key outcome of the die study is the observation that A2 in its earliest unworn state was also used to strike *SC* 117.7a.

Die A2 possesses a handsome rendering of Herakles in high relief. Although the style of this die is atypical of the majority of Alexander type obverse dies at Seleukeia on Tigris, it still falls within a diverse range of obverse styles observed in the coinage of the mint. In contrast, die A1 is in a more florid style that is a characteristic of the majority of the obverse dies used to strike the early Seleukid tetradrachm issues at the mint. The reverse dies of *SC* 118 and 117.7 are of a uniform style, indistinguishable from the balance of contemporary issues from the mint. Zeus is seated on a high-backed throne with turned legs braced by a single horizontal strut, although this element disappears on the last of *SC* 117.7, possibly to accommodate the mint mark placed beneath the throne. The right leg of Zeus is drawn back behind the left. With two exceptions (P7 and P16) his feet rest on a footstool, at times faintly delineated. Notably the loose, rolled end of the himation worn

7 Houghton and Lorber (2002): 53-54.

by Zeus falls prominently below the seat of the throne, a feature of all the reverse dies of the Alexandrine type from the mint. There is nothing in the style of either the obverse, or reverse iconography of *SC* 118 to contradict its attribution to Seleukeia on Tigris.

Die state	***SC* 118** ΦΙΛΙΠΠΟΥ	***SC* 117.7** ΣΕΛΕΥΚΟΥ
Earliest	None known	 18
Early	 6	None known
Retouching of die		
Intermediate (1)	 12	None known.
Retouching of die		
Intermediate (2)	None known.	 20
Latest	 16	 23

Figure 1. Obverse die A2: progression of wear.

During its working life, obverse die A2 underwent at least two episodes of retouching, primarily burnishing of the flat fields, to remove developing die breaks before the face of Herakles and on his neck (Table 1 and Figure 1). Early in the life of the die two breaks emerged in the flat field extending from the forehead of Herakles, another before his lips, and another on the leading edge of his neck. These were removed in the first burnishing and retouching of the die, shortly after which another die break developed, extending from the upper lip of Herakles to beyond the tip of his nose. A second episode of die retouching incompletely removed this break, after which a more extensive pattern of die breaks developed before the face and on the neck of Herakles. These radiated from the outline of the face towards the border of the die (Figure 1, 16-23), while the pre-existing breaks on the neck became increasingly prominent, to the point where much of the detail of the neck and the tie of the lionskin is lost on the final strikes from the die (Figure 2). These observations define stages in the life of the die from earliest to latest (Table 1 and Figure 1) and allow the sequence of die use to be established between those coins struck in the name of Phillip and those bearing the name of Seleukos.

Figure 2. Progression of die wear on neck.

Figure 3. Progression in die wear on the mane of the lion skin headdress.

In its earliest state die A2 shows fine detail in the termination of the trailing ends of the tufts of hair of the mane (Figure 3, no. 18). Small turn-ups of the ends of the tufts are directed outwards towards the dotted border of the die. This fine detail was erased in the resurfacing, or burnishing of the die face, so that it is absent on later strikes (Figure 3, nos. 12-23). This detail is a critical differentiator that distinguishes the earliest strikes from those struck later from the retouched die, which for a brief period had a smooth field before the face of Herakles, after which the breaks before the face redeveloped. The differentiation of the earliest from the later strikes is also assisted by the fact that early in the life of the die a small die break started below the lower jaw of the lionskin behind Herakles' ear, and progressively deepened across the leading tufts of the mane (Figure 3). This break was not addressed in the resurfacing of the die face and continued to develop. This assists the differentiation of coins struck in the early and intermediate stages of die life.

The high relief of the engraving on die A2 contributes towards a sculptural quality on strikes from the die. So high is the relief that all of the examples struck from A2 exhibit incomplete, or flat striking on the highest points of the design, which occurred along the locks of hair above the forehead of Herakles. As a result, the locks of hair are never fully rendered, even on the strongest strikes. This effect is most pronounced on the coins struck during intermediate stage of die life, at which point a prominent die break developed on the flat field before the mouth, extending to beyond the tip of the nose. This suggests the possibility that the mint workers, aware of the developing die break, employed lighter than usual striking force in the hope of limiting the progression of

the die break and to extend die life. Because of the high relief engraving, a higher than usual striking force would have been required to drive the metal into the deepest points of the die, those of highest relief on the strike. This leads to the inference that the very high relief image on the die contributed towards the frequent and rapid development of breaks on the flat fields of the die face, which would have borne the brunt of striking load. Hence, the need for frequent retouching of the die face in an effort to extend the die's working life. The repeated efforts to salvage the die are consistent with a short duration mintage in a resource constrained environment.

The retouching of the die and subsequent development of new die breaks permits precise sequencing of the strikes from die A2, categorised into early, intermediate, and late based on the retouching of the die and the progression of die wear (Figure 1 and Table 1). In the corpus of the coinage, it is established unequivocally that die A2 was first used to strike *SC* 117.7a, shortly after which it was used to strike the first examples of *SC* 118 in the catalogue. This relative timing is evidenced by the development on *SC* 118 of two die breaks in the flat field extending from forehead of Herakles (Figure 1, no. 6). These breaks apparently prompted the first resurfacing of the die defining the start of the intermediate stage of die use in which prior to a second episode of retouching of the die, only examples of *SC* 118 are identified in the corpus. Intermediate stage strikes of SC 117.7b follow the second retouching of the die evidenced by the partial removal and subsequent redevelopment of a die break extending from the upper lip of Herakles to the tip of his nose as well as the progression of the previously noted die break and die wear in the mane of the lion skin headdress (Figure 1, no. 20). The late stage of die use is characterised by advanced die wear including a multiplicity of die breaks in the field before the face of Herakles, on his neck and the knot of the lion skin headdress. In this advanced state of wear the die was used to strike both *SC* 118 and *SC* 117.7b, with the latter apparently preceding the former based on the progression of die wear (Figure 1, nos. 16-23). In its most worn state A2 struck the last coins of *SC* 118 in the catalogue. The parallel progression of obverse die wear on both issues establishes conclusively that *SC* 118, struck in the name of Philip III, was a posthumous issue, an exact contemporary of *SC* 117.7 struck in the name of Seleukos. This confirms that *SC* 118 was struck from dies that were purpose cut for the issue about 13 years after the death of Philip III.[8] It indicates a deliberate intent behind the issue of this posthumous Philip III emission and its die linked counterpart in the name of Seleukos, rather than the latter arising from the random re-use of an old die dating to the lifetime of Philip III.

8 A posthumous origin for *SC* 118 is further suggested by the weight of the coins. The sample has a mean weight of 16.91 grams accompanied by median and modal weights of 16.96 grams in a weight range of 16.39-17.16 grams. Albeit based on a small sample, it appears that the coinage was weight adjusted to around 17.00 grams, a reduced Attic weight standard. somewhat lighter that the Attic weight standard of 17.20 grams, which prevailed during the era of Philip III.

The other obverse die (A1) from which *SC* 118 was struck shows little wear across the few known examples (Plate 1, 1-4). The five reverse dies paired to this die are in an identical style to those paired to A2, all probably cut by the same die engraver. Obverse die A1 is in the style that is most frequently encountered on the other issues in the name of Seleukos (*SC* 117.1-6). There is no doubt that A1, and the associated reverse dies were cut at the same time as A2. However, the word ΦΙΛΙΠΠΟΥ engraved on the first reverse die paired to A1 is in much smaller letters than found on subsequent reverse dies. It is placed high in the outer right field of the coin, rather than extending the length of the right field. There is a tentativeness in its sizing and placement on the die, as if this was the first time the engraver had cut the word on a die. For this reason, die A1, to which this reverse was paired, has been placed ahead of A2 in the sequence. Within the limitations of our small sample, it is possible that A1 was also used to strike coinage in the name of Seleukos, although to date no such specimens have been identified. Alternatively, die A1 might have broken before it could be put to use to strike coinage in the name of Seleukos. The episodic retouching of A2 indicates that some effort was made to extend the working life of this die during the striking of *SC* 118 and *SC* 117.7. This might have been necessitated by the premature failure of A1 in a resource-constrained environment during the commissioning of the mint, for as is argued below, these two issues appear to have been the first from the mint, possibly struck during a period of commissioning before the mint was fully resourced.[9]

Interpretation

The confirmation that *SC* 118 was an intentional posthumous issue, struck from purpose cut dies, refutes the previous hypothesis that the mintage of *SC* 117.7b was the result of the inexplicable rehabilitation of an old obverse die from the era of Philip III. A deliberate posthumous Phillip III emission die linked to coinage in the name of Seleukos finds a direct parallel in the die linked issues in the name of Alexander (Series II; *SC* 67), Philip (Series IV; *SC* 68), and Seleukos (Series IV; *SC* 69 and *SC* 50) that were struck at Uncertain Mint 6A in Babylonia.[10] Prior to its transformation into a military campaign mint, Uncertain Mint 6A was probably located at the strategic site of Opis on the east bank of the river Tigris, about 19 km northeast of the site of what was to become Seleukeia on Tigris on the west bank.[11] Here the issues in the name of the three kings are linked by a single obverse die that was used to strike the first coinage to bear the name of

9 Taylor (2022): indications are present in the suite of mint controls employed at Seleukeia on Tigris, which suggest that manpower was progressively mobilised from into the new mint as the other Babylonian mints (Babylon I and II, Uncertain Mint 6A) ceased operation.

10 Taylor (2015).

11 Taylor (2015): 42. The site of Opis is now identified with the mound of Tall al-Mujailāt about 32 km southeast of Baghdad (https://en.wikipedia.org/wiki/Opis accessed on 12 January 2020).

Seleukos.[12] This has been interpreted to be the result of ritual die usage, perhaps implying the legitimacy of Seleukos I as the successor to Alexander III and Philip III.[13] It was directly associated with the formal acclamation of Seleukos as king, and the initiation of coinage bearing his own name in *c.* 304/3 BC. The interpretation of a ritually symbolic component in the coinage is strengthened by the recent identification of a tetradrachm struck at Uncertain Mint 6A from a lifetime Philip III die pair, recut with the name of Seleukos over that of Philip, to which had been added the anchor insignia of Seleukos.[14]

It is important to note that a ritual practice is not the same as a propaganda statement on coinage. Whereas the latter was meant to be seen and understood on coins in circulation, ritual practice is limited to and appreciated by only a single individual, or small group, or exercised in an organizational structure (i.e. a mint). A ritual does not constitute a general-purpose statement, in this case of legitimacy. Rather, the die linkage of coins struck in the name of a succession of kings has the character of a favourable omen, one that bodes well for the future, and sustains the belief of the practitioner in his legitimacy to succeed to the kingship. Against this backdrop, it is not unreasonable to infer that the ritual striking of a die linked coinage in the name of Philip and Seleukos was ordained by Seleukos himself and given effect through his mint administration in Babylonia. Additional to this consideration is the fact that numismatic evidence in the form of die counts (Figure 4) suggests that Philip III held a greater significance for Seleukos, his army and perhaps the populace in Babylonia (and Susiana) than was case elsewhere in Macedonian empire.[15] In this respect, the ritual striking of a small volume of coinage by Seleukos in the name of Philip simultaneously with that struck in his own name may have served to play into the ritual beliefs of the administrative and/or religious elites in Babylonia.[16] In effect, it posthumously extended a uniquely Babylonian pattern of issuance of coinage in the name of Philip III (Figure 4).

Underlying ritual is the belief on the part of the practitioner(s) on the efficacy of the ritual. This distinguishes ritual practice from the myth making and propaganda of Seleukos, which was directed to his subjects as a validation of his legitimacy. The myth making about the role of the anchor in the ascent to power of Seleukos is a case in point, one that saw his anchor insignia/seal reinstated on coinage struck in his own name after in the years following his victory at Ipsos, after which it continued as a

12 Taylor (2015): 48-51 and fig.1: obverse die (A50) linked Series II (Alexander), IV (Philip) and V (Seleukos).

13 Taylor (2015): 50-51 and 73-74.

14 Taylor (2018): 39-46.

15 Taylor (2019a), 48-49 and fig. 1; Taylor (2015): 65-66, table 9 and fig. 3.

16 The die linkage and thus an appreciation of its ritual significance, is unlikely to have been noticed in coinage circulation. Perhaps 20,000 coins would have been struck from die A2, a negligible volume in the context of the total mintage of tetradrachms from the Babylonian mints in the period 311-300 BC.

dynastic symbol.[17] This occurred in 'an era in which political and military power were extremely unstable and competition between the Successors was especially severe. All these new kingdoms badly needed special sanctions to lend an aura of legitimacy to their otherwise *de facto* power. Of course, the prime key to success of any of these dynasts was his personality, abilities, and achievements, but a vital secondary key would frequently be a combination of charismatic and non-charismatic sanctions. Such sanctions, therefore, had the effect of transcending the life-span of the individual upon whom they were originally conferred.'[18] The designs on Hellenistic coinage reflected this reality. They were intended 'to publicise a ruler's actual achievements or omens, legends, and prophecies concerning him in order to enhance his own personal prestige and to provide added reasons for continued loyalty to future members of the dynasty he hoped to establish.'[19] Unlike ritual, numismatic propaganda served a wider purpose and played to a much larger audience than ritual.

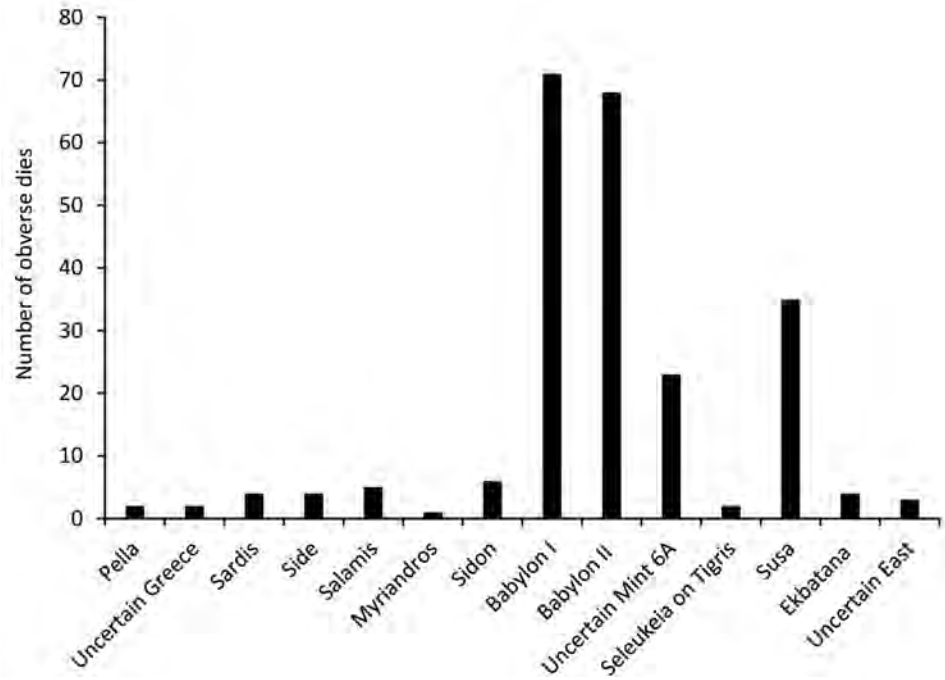

Figure 4. Tetradrachms in the name of Philip III: number of dies.

The presence of the pentagram on the reverse of *SC* 118 lends credence to the explanation. This symbol had appeared previously on the coinage of Babylon, struck in the name of Alexander (Price 3658), and on one emission of the lion stater coinage

17 Taylor (2019b): 78-80; Taylor (2015).
18 Hadley (1974): 64.
19 Hadley (1974): 51.

issued from the satrapal workshop of Babylon (Babylon II).[20] Later, the pentagram symbol, accompanied by Greek letter mint controls, appeared on one of the elephant chariot issues from Seleukeia on Tigris (*SC* 130.36). The pentagram held astronomical and religious significance in Babylonia where the points of the pentagram were associated with the five known planets as well as the major gods in the Babylonian pantheon; Jupiter (Marduk), Venus (Ishtar), Saturn (Ninib), Mercury (Nabû) and Mars (Nergal).[21] A relatively infrequent astronomical alignment of a combination of the planets and moon in the western sky after sunset would define a pentagram, which was considered an omen, a propitious time for a new endeavour such as the foundation, or inauguration of a new capital city. Modern day astronomical calculations indicate that two such auspicious alignments occurred close together on 8 and 11 April 301, leading Iossif to argue that April 301 might have been the date of either the foundation or the inauguration of Seleukeia of Tigris.[22] However, this date is most unlikely as Seleukos was with his army, having emerged from a winter encampment in eastern Asia Minor, then to advance west towards Phrygia for the decisive encounter with Antigonos at Ipsos in the spring of 301 BC.[23] The ancient sources record that Seleukos was present with his army at the site of Seleukeia on Tigris when the first soil was turned for the construction of his new capital, clearly ruling out April 301 BC for the foundation date.[24]

Putting aside the matter of the precise date of the inauguration of Seleukeia on Tigris and the relevance of the pentagram to this calculation, it is certain that the pentagram held symbolic meaning in Babylonian culture and religion, so that its presence in the iconography of a posthumous Philip III issue, an inaugural emission from the mint at Seleukeia on Tigris, probably held meaning beyond that of a simple mint mark. Reinforcing this interpretation is the fact that symbols are otherwise absent from the Alexandrine issues of Seleukeia on Tigris. Although conjectural, it may have symbolised the presence of the Babylonian pantheon of gods in the reverse iconography, complementing that of the Greek god Zeus. Alternatively, but less likely given the intentional nature of the posthumous Phillip III issue, the pentagram might simply be an expression of a degree of continuity in the practice and application of mint controls during the transition of mint operations from the Babylon mint, where it was formerly used, to Seleukeia on Tigris.

20 Nicolet-Pierre (1999): *285-305:* type 5.

21 Iossif (2012): footnote 42.

22 Iossif (2012): footnote 42.

23 Grainger (2014): 75-81.

24 App. *Syr*. 9.58. Grainger (1990):101-102 for an account of events surrounding the new foundation, including the deliberately erroneous astronomically based predictions of the priests of the Esagila (a temple dedicated to Marduk the protector god of Babylon) in an attempt to defer the foundation of Seleukeia on Tigris to a less auspicious time.

Chronology

Indirect evidence for the primary conclusion of the die analysis, that of the posthumous mintage of *SC* 118, is found in the hoard record of the coinage (Table 2).

Table 2: Hoard record.

Hoard	Burial BC	*SC* 118	*SC* 117.7b
Phoenicia 1997, *CH* 9.483	*c.* 290-285	1	-
Failaka 1984, *CH* 8.256	*c.* 285	1	-
Armenak 1927, *IGCH* 1423	*c.* 280	1	-
'Seleucus I' 2005, *CH* 10.265	*c.* 281-279	6	1

All the recorded finds of *SC* 118 are late. They date to the second decade of the third century BC, coincident with the earliest dates of finds of other Alexandrine issues from Selekeia on Tigris, including SC 117.7b (Commerce ('Seleucus I') Hoard, 2005, *CH* 10.265 no. 1584). In contrast, the lifetime issues in the name of Philip III (Series I; *SC* Ad39) that were struck at nearby Uncertain Mint 6A (Opis) were found in eight hoards that closed in the decade prior to 300 BC, while the posthumous issue (Series IV; *SC* 68) from the mint was only present in the Ankara hoard (*IGCH* 1399) that closed around 290 BC.[25] Notably, the largest number of tetradrachms of type *SC* 118 was found in the Commerce ('Seleucus I') Hoard 2005 (*CH* 10.265), accompanied by the sole known hoard find of SC 117.7b. This hoard is interpreted to have been part of the campaign treasury of Seleukos.[26] The presence of a number of examples of *SC* 118 (and 117.7b) in this hoard may reflect the entry of part of the Philip III emission into the royal treasury, with some of these coins transferred two decades later into the campaign treasury that accompanied the deployment of the army to confront Lysimachos at Korupedion in 281 BC.

Beyond the hoard data, the existence of posthumous Philip III and die linked Seleukos issues at two adjacent Babylonian mints closely ties together the chronology of these emissions from Uncertain Mint 6A (Opis) and Seleukeia on Tigris. It links them to the moment that Seleukos adopted the royal title and commenced issuing coinage in his own name commencing c. 304/3 BC.[27] Based on historical and numismatic considerations, it is probable that Seleukos ordered the start of construction of Seleukeia on Tigris in 308/7 BC, prior to his departure on a four-year year eastern *anabasis* that saw him assert his control over the Upper Satrapies.[28] This followed his successful prosecution of the protracted Babylonian War, which saw Antigonid forces expelled from the province in 309/8 BC. Around 304/3 BC, Seleukos returned to Babylonia to be formally acclaimed

25 Taylor (2015): table 8.
26 Nelson (2010): 76-78.
27 Taylor (2015): 50-51, table 2 and figure 1.
28 Iossif and Lorber (2007): 345-363; Grainger (2014): 61.

king in the Macedonian tradition by the assembled army at Opis. This marked the start of coinage struck in his own name. Around this time, it is probable that that he inaugurated his newly completed capital on the opposite bank of the Tigris, and certainly would have done so before his departure in 302 BC on the military campaign into Asia Minor that culminated in the Battle of Ipsos in the spring of 301 BC.[29] This chronology is updated by three years relative to that posited in *Seleucid Coins*, which proposed that the mint at Seleukeia on Tigris opened 'around 300 or shortly after'.[30]

With the inferred start of the Seleukeia on Tigris sequence defined by the die linked issues of *SC* 118 and 117.7 it is possible to redefine the early sequence and relative chronology of the Alexandrine issues from the Seleukeia on Tigris using a combination of the mint control links between types, plus a multiplicity of previously identified die links that occur in the issues bearing the names of Alexander, Seleukos and Antiochos (Table 3).[31] The absolute chronology of these emissions is constrained by three critical dates: the formal acclamation of Seleukos' kingship in c. 304/3 BC; the introduction of the Zeus Nikephoros reverse following Seleukos' victory over Antigonos at the Battle of Ipsos in the spring of 301 BC; and the co-regency with Antiochos I commencing in 295/4 BC. The result is a tightly linked sequence of issues, presented schematically in Table 3, with the component issues updated by 3-5 years relative to that proposed in *Seleucid Coins*. The tight clustering of die and control linked issues suggests that the mint episodically struck a range of Alexandrine issues, frequently in the name of two kings simultaneously, continuing a pattern initiated with *SC* 118 and *SC* 117.7.

29 Taylor (2015): 69-75.

30 Houghton and Lorber (2002): 52.

31 Waggoner (1969): 21-30; Houghton and Lorber (2002): 52-55.

Table 3. Chronology: Alexandrine issues of Seleukeia on the Tigris.

Date (BC)	AV Stater ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ	AV Stater ΒΑΣΙΛΕΩΣ ΣΕΛΕΥΚΟΥ	Tetradrachm ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ Zeus Aëtophoros	Tetradrachm ΒΑΣΙΛΕΩΣ ΦΙΛΙΠΠΟΥ Zeus Aëtophoros	Tetradrachm ΒΑΣΙΛΕΩΣ ΣΕΛΕΥΚΟΥ Zeus Aëtophoros	Tetradrachm ΒΑΣΙΛΕΩΣ ΣΕΛΕΥΚΟΥ Zeus Nikephoros	Tetradrachm ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ Zeus Nikephoros
c. 304/3				*SC* 118 *DL1*	*SC* 117.7 *DL1*		
c. 301/0	*SC* 114 *DL2*	*SC* 115.1 *DL2* *SC* 115.2 *DL2*	*SC* 116		*SC* 117.1 *DL3* *SC* 117.2 *DL3*	*SC* 119.1	
c. 295/4		*SC* 115.3			*SC* 117.3 *SC* 117.4 *DL4* *SC* 117.5 *DL4* *SC* 117.6 *DL5*	*SC* 119.2 *SC* 119.6-7 *DL4* *SC* 119.3-5 *DL5* *SC* 119.8 *SC* 119.9-10	*SC* 120.1 *DL4* *SC* 120.2 *SC* 120.3-4 *DL5* *SC* 120.5-7

Shading denotes obverse die links (*DL*), designated numerically, *DL1*, etc.
Mint controls (unshaded entries) tie various entries in each row across the table.

Plate 1

SC 118


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Plate 2

SC 118

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SC 117.7

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Acknowledgements

I am indebted to Arthur Houghton who encouraged me to undertake an analysis of the Philip III issue attributed to Seleukeia on Tigris and provided me with images of the examples from his collection. He kindly consented to their reproduction in this paper. Arthur's foresight in collecting as many examples as possible of the coinage, in the belief that it would unlock the mystery of the Philip III issue, proved prescient. Oliver Hoover kindly provided a copy of his unpublished Addenda Plates to *CSE* II containing a previously unpublished coin of type *SC* 117.7b from the Houghton collection. I thank the anonymous peer reviewers for their thought-provoking comments and suggestions. These resulted in a more comprehensive essay, including a thorough exposition of that which I observed on die A2, and my elucidation of the essence of ritual that I have inferred from the pattern of die use in the various Babylonian mints of Seleukos. The images of coins from the collections of the American Numismatic Society, the British Museum and the Bibliothèque nationale de France were sourced from *Seleucid Coins Online* and are reproduced under the terms of the Open Database Licence (ODbL) v1.0 and the Creative Commons Licence v.4.0.[32]

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‘Labels’ on late Roman Republican *denarii*

Bruce Marshall

Abstract

The only terms appearing on late Roman republican denarii *following their introduction c. 211 BC were the legend* ROMA *and (eventually) long or short abbreviations of moneyers’ names. A hundred years later a* denarius *was struck containing a further legend,* PROVOCO *(‘I appeal’). In an earlier article in this journal the argument was put forward that this was a political slogan, providing an emphasis on the rights of citizens to call on tribunes to ‘appeal’ against magisterial pressures. This use of an additional legend on a coin set a precedent for other* denarii *issued subsequently to include such a ‘label’. It is these other eleven* denarii *which were issued down to c. 52 BC, that are examined here. The argument is that the additional legend on each of the coins contains a slogan promoting not only an ideal or quality from among the values of the Roman* res publica*, but also contributing to contemporary political discourse.*

Keywords

[*denarius*] [*tresviri monetales*] [*pietas*] [M. Herennius] [C. Marius] [Q. Caecilius Metellus] [*salus*] [D. Iunius Silanus] [*virtus*] [M’. Aquillius] [*concordia*] [*honos*] [L. Aemilius Lepidus Paullus] [L. Scribonius Libo] [P. Fonteius Capito] [Villa Publica] [*libertas*] [Q. Cassius Longinus] [M. Iunius (Caepio) Brutus] [Cn. Pompeius Magnus] [L. Vinicius]

In an article in an issue of the *Journal of the Australian Numismatic Association*,[1] the first example of a *denarius* (Fig. 1 below) containing a written ‘label’ (in this case, PROVOCO), was examined. This was the first time that a word, other than the (abbreviated) name of a moneyer and the legend ROMA, appeared on a *denarius*, just over 100 years after the

1 *JNAA* 29 (2018-19) 59-65. An article relevant to the coin, A.H.J. Greenidge, ‘The Porcian Coins and the Porcian Laws’, *Classical Review* (1897) 437-40, came too late to my attention, courtesy of Professor John Melville Jones, University of Western Australia, for consideration in my discussion.

introduction of this new silver coinage in c. 211 BC.[2] The argument in the earlier article was that the label was a slogan related to a specific context or set of circumstances. Subsequent to the appearance of this coin, other *denarii* were issued, occasionally, containing a 'label' (a written term explaining or referencing an image on such coins). All of these coins have a personification, usually female, on the obverse, identified by the label.

This article will examine these eleven subsequent coins, to determine the context or circumstances surrounding the type.[3] The argument put forward here is that there must have been a specific reason for the inclusion of a 'label' at the particular time of an issue, which amounts to a 'slogan'. It fits with the frequently made observation that *monetales* became aware of the propaganda value of coinage.[4]

2 The *denarius* was introduced as part of the overhaul of the coinage alongside a short-lived silver denomination called the *victoriatus*. The last *victoriati* seem to have been issued in 179-170 (*RRC* 159/1, 162/1a-b, 166/1, and 168/1). The reason for the introduction of this new coin had to do with the economic exigencies caused by the serious war with Hannibal, when his invasion of Italy and early successes made it look as though he might actually defeat the Romans and capture the city. On the introduction of the *denarius* system and its development, see Crawford 1974: *Introduction*, vol. 1, pp. 32-33; Woytek 2012: 315-318; Rowan 2019: 1-2.

Throughout, coins are referred to by their numbering in the definitive collection of Crawford, *Roman Republican Coinage*, 2 vols, Cambridge, 1974, with the abbreviation *RRC*. Images of coins are taken from the *Catalogue of Roman Republican Coins* in the British Museum, and copyright is gratefully acknowledged, as requested, by inclusion of the registration number for each coin.

3 Woytek 2012: 327 makes the point that 'contemporary politics was . . . a major factor in the choice of coin types, and pictorial records of – or comments on – current events appeared quite frequently alongside more "personal" designs.'

4 Hamilton 1969: 181-199 argues that the use of coin types for self-promotion purposes grew gradually from the 140's and was more noticeable from the 90's and 80's on, as moneyers came increasingly from known aristocratic families. Tables are included to show these trends. The traditional interpretation of many of the designs on later republican coinage is that they alluded to the achievements of the moneyers' ancestors: cf. Howgego 1995: 67. However, Cheung 1998: 53-61, and Meadows and Williams 2001: 27-49 suggest that these representations should be seen in the context of a wider Roman cultural practice of honouring one's forebears. Cf. Rowan 2019: 2, who calls the coins 'monuments in miniature'.

Republican coins will not have been issued solely for the purposes of aristocratic propaganda – one has to remember that they did have an economic purpose (Woytek 2012: 329), but there is value in the view that they may also have served as a commemoration or *monumentum* to the family to which the moneyer belonged.

Fig. 1: *denarius* of P. Porcius Laeca, *RRC* 301/1, 110 or 109 BC
[British Museum R.7821]

The second coin to have a written label was issued soon after the first one which was examined in the earlier article: a *denarius* in 108 or 107 of M. Herennius. On the obverse is a female head, a personification of Pietas obviously, since the label PIETAS ('dutiful conduct' or 'loyalty') is inscribed on the left, and there is a scene of *pietas* in action on the reverse (*RRC* 308/1a-b, Fig. 2), together with the moneyer's name. There are two interpretations of the scene on the reverse. One is that it refers to the story of the escape of Aeneas from Troy carrying his father Anchises. The second is that the scene refers to the story of the two brothers from Catania in Sicily, Amphinomos and Anapias, who on the occasion of a great eruption of Mt Etna abandoned their property and carried their aged parents away on their shoulders.[5] Pietas was a quality highly regarded in Roman thinking; there had been a Temple of Pietas in Rome since 181, built as the result of a vow in 191 by Manius Acilius Glabrio.[6] The word on the coin may be regarded as much a slogan as a label, since there must have been a specific reason why the moneyer chose to put this label and the images on this coin at this particular time.

5 Reference to the story of the Catanean brothers in literature is widespread: for example, Strabo 6.269; Pausanias 10.28.4; Hyginus 254; Valerius Maximus 5.4. ext. 4; Lucil. *Aetn*. 602-40; Claudian *Idyll*.7; Silius Italicus 14.196. A similar image is found on later coins showing Aeneas carrying his father Anchises from the fall of Troy (e.g. *RRC* 458/1, 494/3a and b); these date from the time of Julius Caesar, when you might expect an emphasis on the connection of the Julii with Aeneas. For the arguments about which scene is being portrayed on this coin of Herennius, see Sydenham 1952: 77 (no. 567); Mattingly 1967: 67; Yarrow 2014 and 2016: https://livyarrow.org/ 2014/02/07/catanaean-brothers/ and /2016/01/10/pius-aeneas/, and Yarrow 2021: 89 with n. 77.

6 Glabrio, consul in 191, led a successful campaign against Antiochus and the Aetolians in Greece: references in *MRR* 1.352. It was common for commanders to vow to build a temple if they were successful, in order to gain the gods' favour for their campaign.

Fig. 2: *denarius* of M. Herennius, *RRC* 308/1a-b, 108 or 107 BC
[British Museum 1938,0508.8]

What might that reason have been? One of the aspects of *pietas* was the mutual loyalty between patron and client;[7] the Marian family were hereditary clients of the Herennii who came from the same Italian town of Arpinum, and who were also clients of the Caecilii Metelli, a powerful political clique at Rome (Plut. *Mar.* 4.1). Marius had served his first military position as a military tribune under Scipio Aemilianus at Numantia in 134-3. It would seem the Metelli supported him to secure his first political position as a tribune in 119. In that office he proposed popular legislation, not likely to be approved by the Metelli, which caused a break with them.[8] That probably explains Marius' difficulty in securing further office: he stood for election as aedile but failed, and just scraped in last when he stood for the praetorship in 116.

He was prosecuted for bribery at this praetorian election. C. Herennius, a senator from the moneyer's family, was summoned to give evidence, but pleaded that it was not customary for a patron to give witness against a client. According to Plutarch (*Mar*. 5), Marius opposed this plea, claiming that, since he had been elected to office, he had now ceased to be a client – apparently not true, as that rule applied only to those elected to a

7 Wealthy patrons would attract numbers of clients from those of lower socio-economic status, even those from well-off families but of lower standing. In return for the patron's support (both financial and political), clients were expected to follow the patron's lead in political decision-making. On the patron-client relationship, see Taylor 1964: 41-3; cf. Morstein-Marx 2004: 6 and 205.

8 As tribune in 119, Marius had carried a law which narrowed the *pons* (bridge) over which voters passed, thus reducing scrutiny of how they voted and thereby eliminating the intimidation by nobles or their agents which had been exerted before, reducing aristocratic influence over the voting process (Plut. *Mar*. 4.1), and ensuring the secrecy of written ballots, which had recently been introduced to ensure freedom for the Roman citizenry. References in *MRR* 1.526. See also Ooteghem 1967: 91-2. A *denarius* of P. Licinius Nerva, issued shortly after (c. 113, *RRC* 292/1), depicts the scene of a voter passing over the *pons* and collecting his ballot.

curule office. Whatever the truth of that, Marius was acquitted of the charge by the skin of his teeth, with a hung jury, and was therefore free to take up his praetorship for 115.[9]

By 108 Marius had reconciled with the Metelli, it would seem, and was chosen as a *legatus* to serve under Q. Metellus (consul in 109) in his command against Jugurtha. But they fell out again, when Marius sought leave from his commander to return to Rome to stand for the consulship of the following year; when permission was not granted, Marius returned to Rome anyway and campaigned on a platform of replacing Metellus in the command against Jugurtha.[10] Around this time is when the *denarius* of Herennius was issued. Could it be that the label on the coin emphasised the *pietas* of Marius towards his patrons, the Herennii, as a slogan to bolster his forthcoming bid for the consulship? Another conjecture is that Herennius was using the label to remind Marius of the need to exercise *pietas* towards his patrons in the light of the conflict with the senator from the Herennii family at the trial for bribery just a few years earlier.[11]

These are conjectures, of course, but one might gain some support for the first suggestion above from this further conjecture. A Marcus Herennius secured the consulship of 93 as a *novus homo* ('new man'); this M. Herennius may have been the *monetalis* who issued the *pietas* coin in 108 or 107 – the career pattern would fit. These are the steps in the conjecturing: the Herennii and Marius had an inherited patron-client relationship; by the 90's Marius was the *novus homo* par excellence, with a highly unusual (and irregular) six consulships to his name; Marius was thereby a man of deep political influence in this later period; he helped secure the election of M. Herennius to the consulship in return for his support, for example through the *pietas* coin and its slogan. Syme nominates four *novi homines*, including Herennius, in the period 104-93, who he said were all probably partisans of Marius.[12] It would all make sense.

A *denarius* issued by D. Iunius Silanus in 91 (*RRC* 337/2b-f; Fig. 3) contains the label SALVS, identifying the personifaction on the obverse. It could perhaps be taken as referring also to the Temple of Salus built by C. Iunius Bubulcus Brutus and dedicated by him in 302;[13] most likely the moneyer is claiming descent from this earlier Iunius. Noticeably, on another *denarius* issued by Silanus (*RRC* 337/1) a plough is shown

9 Plut. *Mar.* 5.1. Following his year in office, he proceeded to a governorship of Further Spain, where he made valuable connections with equestrian entrepreneurs.

10 For the details of this falling out and of Marius' election to the consulship of 107, see Carney 1961: 26-8; Ooteghem 1967: 152-3.

11 I owe this suggestion to Dr Paul Burton, made during discussion of an earlier version of this paper delivered at a seminar at the ANU in October 2019. Mattingly 1967: 67 says that the images on the coin are probably in reference to the moneyer's family.

12 Syme 1939: 94, n. 2.

13 The temple was vowed by Brutus when consul (317, 313, or 311); the contract was let when he was censor in 307; and the building was dedicated when he was dictator in 302 (Liv. 9.43.26, 10.1.9). See Richardson 1992: 341-2.

(*bubulcus* means 'ploughman', his [putative] forebear's *cognomen*). What specific reason could there be for issuing a coin with such a label at this particular time? The year of issue marked the start of the Social War between Rome and its Italian allies, and perhaps the term *salus* takes on more the aspect of a message, a sort of prayer for the safety of the Roman state in its conflict with the *socii*. A hope rather than a reality, as can be seen in a number of the coins examined in this article. The references on the coin to Bubulcus Brutus may then be apposite, since he was engaged in conflict with Italian peoples of his time, such as the Aequi and the Samnites, when Rome was expanding its control over Italy.[14]

Fig. 3: *denarius* of D. Iunius Silanus, *RRC* 337/2b-f, 91 BC
[British Museum 2002,0102.1851]

M'. Aquillius issued a serrated *denarius* in 71 (*RRC* 401/1, Fig. 4), with a helmeted head of Virtus on the obverse, and the label VIRTVS (upwards on right) and IIIVIR (downwards on left). The reverse shows a soldier with a shield raising up a fallen female figure, with the moneyer's name occupying either side, and SICIL in the exergue. The female figure presumably represents Sicily being 'rescued' by the warrior. The reverse would therefore refer to the benefits conferred on the people of Sicily by the moneyer's grandfather, M'. Aquillius (cos. 101), who conducted the Slave War there in 100 and 99 and completed the pacification of the island.[15] The coin therefore is not unusual in its depiction of the deeds of a forebear.

14 References in *MRR*: 1.155, 158, 161, and 169.
15 Crawford, *RRC*, vol. 1. p. 412.

Fig. 4: serrated *denarius* of M'. Aquillius, *RRC* 401/1, 71 BC
[British Museum R.8574]

One possibility as the moneyer of this coin is the senator mentioned by Cicero in 74 (*Cluent.* 127), but this man is otherwise unknown. As Willems suggests,[16] it would be unusual for a person to take up the position of a *IIIvir monetalis* after holding a quaestorship (the office which made him eligible to become a senator), so there is uncertainty about the identity of the moneyer and the date of the coin. If, however, it is to be dated to the end of the 70's (as seems to be the consensus), what might be the context for the use of the label *virtus*? Given that the reverse alludes to the Sicilian slave war conducted by the moneyer's forebear, could it be that the coin had a specific context related to the recent serious slave revolt led by Spartacus in Italy, which was finally brought under control by M. Licinius Crassus?

In that context *virtus* could be alluding to the manly qualities displayed by the Roman troops in eventually defeating the slaves, after the early armies sent against them had been defeated due to poor discipline. It was only after Crassus, though only of praetorian rank, took over the command of the legions poorly led by the consuls of 72, L. Gellius Publicola and Cn. Cornelius Lentulus Clodianus, and restored military discipline, that success was gradually secured.[17] If the coin is to be dated a little earlier, it could represent a call to the state to show *virtus* in the face of the threat from the slave uprising.

A *denarius* (*RRC* 403/1, Fig. 5) has the jugate heads of HONOS and VIRTUS on the obverse, with the initials HO on the left, and a ligature for VIRTUS on the right, with KALENI underneath. The issue is usually dated to around 70 because of the scene on the reverse (see below).[18] It shows Roma standing on the right (with RO) and Italia on

16 Willems 1885: 1. 543 (cf. 426), lists Aquillius as a senator of quaestorian rank.
17 For Crassus and the Slave War, see Marshall 1976: 25-33; Ward 1977: 83-95.
18 Crawford dates the coin to 70; Yarrow 2021: 89 dates it to c. 70; Hersh and Walker 1984: 138 (Table 2) push it down to 68 on the basis of their examination of the Mesagne hoard.

the left (with a monogram for ITALIA) clasping hands; there is a *cornucopia* between the clasped hands, and a winged *caduceus* behind Italia; Roma wears a diadem, holds a short sword (?) in her left hand and places her right foot on a globe; CORDI in the exergue.

Fig. 5: serrated *denarius* of Q. Fufius Calenus and P. Mucius Cordus, *RRC* 403/1, 70 BC [ANS 1937.158.150 – obv and rev]

Two moneyers are known from the board of *triumviri monetales* for this year. From the name KALENI on the obverse, the first is usually taken to be Q. Fufius Calenus.[19] The name of the second moneyer takes some working out: the *Cordi* on the reverse is taken by Crawford to refer to a P. Mucius (Scaevola?) who had added the *cognomen* Cordus to reflect his descent from a legendary hero Mucius, 'on whom the *cognomen* Cordus was foisted as the legend [about his *honos* and *virtus* shown in his attempt to assassinate Porsenna] developed.'[20]

The scene on the reverse is plausibly interpreted as alluding to the reconciliation (the *caduceus* representing *concordia*) between Rome and Italy after the Social War when the allies were finally admitted to citizenship (obtaining benefits represented by the *cornucopia*) by the censors of that year.[21] The censorship in 70 was held for the first time since 86 by Cn. Cornelius Lentulus Clodianus and L. Gellius Publicola, the two consuls of 72 who had failed against the Slave War led by Spartacus and who are usually taken to be pro-Pompeian.[22]

19 Calenus was a *novus homo* who rose to the consulship of 47. He was tribune in 61 and praetor in 59, becoming a partisan of Caesar; after Caesar's assassination he took the side of Antonius in his manoeuverings with the young Caesar. See Welch 2012: 122 and 124.

20 Crawford, *RRC* vol. 1. p. 413, followed by Yarrow 2021: 89, who takes him to be the P. Mucius Scaevola attested as a *pontifex* and the son of the consul of 95.

21 Crawford, *RRC* vol. 1. p. 413, followed by Yarrow 2021: 89. Sydenham 1952: 131 (no. 797) takes the view that the date of the coin is too uncertain to connect it with the Roman pacification of the Italian allies.

22 For this view of the censors, see e.g. Seager 2002: 37-9.

There were two temples in Rome for Honos and Virtus jointly. The earlier of the two may go back to one said to have been established by Q. Fabius Maximus Verrucosus in 234, and subsequently refurbished by M. Claudius Marcellus in 208 when a separate *cella* for Virtus was added. The second temple was built by Marius from the spoils obtained from the defeat of the Cimbri and Teutones. [23]

Why might the qualities of Honos and Virtus be emphasised on this coin at this time? The significant issues at the time politically were the moves, supported by both consuls, for the restoration of the tribunician powers which had been curbed ten years earlier by Sulla, and the agitation for something to be done about corruption in the jury-courts. But the qualities represented on Calenus' coin do not seem to have any connection with those issues at this particular time.

Virtus, however, seems to have been a quality particularly emphasised by *novi homines* ('new men').[24] Calenus was a *novus homo*, whose family was possibly from Cales;[25] he would have been keen to promote himself and may have taken the first step in aspiring to a political career by holding the position of *triumvir monetalis* and using this coin to promote his own qualities (and, given the reverse, his Italian origin?). It is perhaps appropriate that Calenus, a *novus homo*, portrays both Honos and Virtus, the qualities emphasised by the *novus homo* par excellence, Marius, seven times consul, who built the joint temple. Sallust puts a speech into the mouth of Marius, pointing out the *virtus* of the new man, which leads to his *industria* and in turn to his securing of *honores* (the plural of *honos* = 'offices').[26]

The *triumviri monetales* of 62 issued *denarii* clearly containing a slogan.[27] One was issued by Paullus Lepidus (*RRC* 415/1, Fig. 6), that is, L. Aemilius Lepidus Paullus, who went on to become consul in 50.[28] The obverse shows a veiled head of Concordia, with

23 For the chronology of these buildings, see Richardson 1992: 190.

24 Wiseman 1971: 111 and 116; followed by Crawford *RRC* vol. 1. p. 413.

25 Wiseman 1971: 232 (no. 185).

26 Sall. *BJ* 85. See esp. §4: *mihi spes omnes in memet sitae quas necesse est virtute et innocentia tutari* ('All my hopes rest in myself, and they must be maintained by my own worth and integrity.'), and §17: *quod si iure me despiciunt, faciant idem maioribus suis, quibus uti mihi ex virtute nobilitas coepit. invident honori meo; ergo invideant labori, innocentiae, periculis etiam meis, quoniam per haec illum cepi* ('But if they [hereditary aristocrats] look down on me, let them also do the same thing with their forefathers. Their nobility began, as with mine, in manly deeds. They begrudge my office; then let them begrudge my toil, my honesty, even the dangers I faced, since it was through them that I secured that office.')

27 There is wide agreement that the issue date of these *denarii* is around 62: e.g. Crawford *RRC*: vol. 1. pp. 441-2; Hersh and Walker 1984: 138 (Table 2); Yarrow 2021: 165. Some put it later, in 55 or 54; Sydenham 1952: 131 (no. 797) suggests somewhere between 71 and 67; cf. Welch 2012: 114 with n. 45.

28 Lepidus Paullus' claim to descent from the Aemilii Paulli is spurious; he used the *agnomen* as a *praenomen* on his coin: SB, *Atticus*, vol. 1, p. 399. The reverse with its three trophies and the word TER recalls the three times on which L. Aemilius Paullus (cos. 168) was hailed as *imperator* during his campaign against Perseus, which culminated in the battle of Pydna; it is not evidence for three triumphs conducted by Paullus, which is a later (and false) assumption.

the label CONCORDIA inscribed on the right and Lepidus' name on the left. A second *denarius* was issued jointly by Lepidus Paullus and L. Scribonius Libo (*RRC* 417/1a and b, Fig. 7); it has a obverse, with *concordia* and Lepidus' name, and a reverse with Libo's name.

Another *denarius* issued by Libo (*RRC* 416/1, Fig. 8) has BON(us) EVENT(us) on the obverse, and a similar reverse as 417/1. The reverses of these two coins have the Puteal Scribonianum, labelled around the top of the coin.[29] There are some slight differences in symbols on the reverses: some have a hammer, others a pair of tongs, and yet others an anvil. These symbols of Vulcan allude to the fact that the Puteal Scribonianum was located on a spot where there was a lightning strike.

Fig. 6: *denarius* of L. Aemilius Lepidus Paullus, *RRC* 415/1, 62 BC
[British Museum R.8706]

Fig. 7: *denarius* of L. Aemilius Lepidus Paullus and L. Scribonius Libo, *RRC* 417/1a and b, 62 BC
[British Museum R.8715]

29 The Puteal Scribonianum was an elaborate well-head in the Roman Forum, marking the spot of a lightning strike and set up by a Scribonius Libo, hence commemorated by the moneyer. See Crawford, *RRC* vol. 2. p. 442; Richardson 1992: 322-3; Yarrow 2021: 164-5.

Fig. 8: *denarius* of L. Scribonius Libo, *RRC* 416/1, 62 BC
[British Museum R.8714]

If these coins are all to be dated to around 62, it is reasonable to see what message the *denarii* issued by Lepidus and Libo is aiming to show. Lepidus Paullus was a known supporter of Cicero (Cic. *Vat*. 25; Sall. *Cat*. 31.4). There is no evidence linking Libo with Cicero, but he was closely connected to the family of Pompeius through his grandmother Pompeia Magna, and these ties were strengthened later in 55 when Pompeius' son, Sextus Pompeius, married Libo's daughter, Scribonia.[30] Given that in the late 60's Cicero was a strong supporter of Pompeius, and that Libo was favourably disposed to the great general, it is not too much to assume that Libo had similar political attitudes to Cicero. The head of Concordia and the label can therefore be taken as a slogan reflecting the central theme of Cicero's policy in his bid for the consulship of 63 and in his consular year – *concordia ordinum*.[31] An obvious propaganda slogan to reinforce the theme of his consulship as a 'new man', and to signify the support he received to justify his killing of citizens arrested during the Catilinarian conspiracy,[32] while the image of *Bonus Eventus* (Good Outcome, or Success) on Libo's *denarius* conveys the message of the successful suppression of the conspiracy.[33]

The sixth *denarius* with a label was minted in 55 by P. Fonteius Capito, one of the *tresviri monetales* that year (*RRC* 429/2a, Fig. 9). It too has a personification and the label CONCORDIA on the obverse; the Villa Publica is depicted on the reverse with the name T. Didi(us) and Imp(erator), along with the name of the moneyer and his office

30 On these family connections, see Welch 2012: 113-4, with n. 45. Her view is that the date of the coin issues and of the marriage cannot be securely dated.

31 For a discussion of Cicero's long-held policy of *concordia ordinum*, see Stockton 1971: 143-4 and 163-5; Mitchell 1979: 202-4. This is an example where the constant drumming by Cicero on his theme represents a hope rather than a reality: Yarrow 2015: 345.

32 For discussion of the ideal of *Concordia*, see Yarrow 2014 and 2016: https://livyarrow.org/2014/02/07/catanaean-brothers/ and /2016/01/10/pius-aeneas/; Cornwell 2020: 124-5; Yarrow 2021: 164-5.

33 Crawford, *RRC*, vol. 1, p. 442; Cornwell 2020: 124-5; Yarrow 2021: 163-5.

IIIVIR. The name of Titus Didius, the consul of 98, appears in association with the Villa Publica because it was restored by him,[34] and presumably the references are made because Didius was a family connection.[35] But why CONCORDIA?[36] The slogan is often taken to have Ciceronian connotations with his regular theme at this time of *concordia ordinum* or *consensus omnium bonorum*, like the previous coins (see above, Figs 6 and 7). There is a Fonteius who is noted as a friend of Cicero's in 54 (*Att.* 4.15.6): Cicero writes that he returned to Rome in July that year *Fontei causa* ('for Fonteius' sake'). Broughton and Shackleton Bailey raise the possibility that this Fonteius was *praetor urbanus* that year, and that Cicero had returned presumably to attend games being put on under Fonteius' presidency.[37] He would have been too old to hold the position of moneyer the previous year, if he were praetor in 54, since the position of *triumvir monetalis* was normally held by men in their 20's. Crawford, however, says that this Fonteius need not necessarily have been a praetor, and could be a possibility as the moneyer.[38] Another person sometimes suggested as the moneyer is the P. Fonteius who adopted P. Clodius Pulcher so that he could transition into the plebeian order.[39] This Fonteius was 20 years old at the time of the adoption in 60 (Clodius was 35), so not too old to be a moneyer in 55. But, as other members of the family had connections with Cicero,[40] it is not likely that someone who co-operated in the adoption of Cicero's enemy Clodius would mint coins with Ciceronian connotations.

34 The Villa Publica was a public building in Rome which served as the censors' base of operations. It was originally erected on the Campus Martius in 435, when the first census was supposedly compiled there (Liv. 4.22.7); the building was restored and enlarged in 194 and restored again by T. Didius (cos. 98). As well as its use by the censors, the Villa Publica also served as a place where foreign ambassadors were received, where generals waited to hear if they would be granted a triumph, and where army levies could be based. See Richardson 1992: 430

35 Crawford, *RRC*, vol. 1, p. 453.

36 There was a Temple of Concordia near the Forum, supposedly dedicated by Camillus in 367 to mark the end of disturbances over the 'Licinian Rogations'. It was restored by L. Opimius in 121, after the killing of C. Gracchus and his supportes (see Richardson 1992: 98-9), another occasion of a plea for 'harmony' after disturbances. Crawford, *RRC*, vol.1, p. 453 is puzzled by the reference to Concordia on this coin. For a neat summary of the implications of the Temple of Concordia for contemporary politics, see Morstein-Marx 2004: 54-5 and 101-3.

37 Broughton, *MRR* 1.566; SB, *Atticus*, vol. 2, p. 210.

38 Crawford, *RRC*, vol.1, p. 453.

39 For the references, see Münzer, *RE* 6.2845-6.

40 There was the M. Fonteius whom Cicero defended in 69 (?) on a charge of provincial extortion following his governorship of Gallia Narbonensis at the end of the 70's and who thus provides a connection with Cicero. M'. Fonteius C. f., *monetalis* in 85 (*RRC* 353/1-3), is possibly the military tribune named on another *denarius* of Fonteius Capito in 55 (*RRC* 353 and 429/1, with Crawford's comments) and possibly brother of the M. Fonteius defended by Cicero (Cic. *Font*. 5; Crawford, *RRC*, vol. 1, p. 347). C. Fonteius, a *legatus* in Fonteius' army when he was governor of Gaul (Cic. *Font*. 18; *MRR* 2.105), may be another relative.

Fig. 9: *denarius* of P. Fonteius Capito, *RRC* 429/2a, 55 BC
[British Museum R.8764]

But what if the slogan *concordia* does not refer to Cicero's political theme? After all, it is separated by six or seven years from the events of 63-2 in which Cicero was heavily involved. Are there circumstances around the year 55, when the *denarius* was minted, which might lead to a slogan calling for 'harmony'? There had been political turmoil in Rome since Julius Caesar's consulship in 59 and the formation of the coalition between Pompeius, Crassus and Caesar; that coalition had provoked both conservative and public opposition; Clodius had had himself notoriously transferred into the plebeian order in order to secure the tribunate of 58; in that office he had stirred up popular agitation, partly against the coalition, and had brought about the exile of Cicero. Division had continued in 57, and Cicero had been brought back from exile. The three men of the coalition had met at Luca in 56 to renew their alliance, with Pompeius and Crassus being supported in their bid for a second consulship in 55, which continued the serious political divisions in Rome.[41]

One can make a case that some members of the Fonteii family were favourably disposed to Pompeius.[42] For example, M. Fonteius, governor of Gallia Narbonensis from 74-72, was defended by Cicero in 69 (?) on a charge of provincial extortion following that governorship. He is said by Cicero (*Font.* 13) to have sent large troops of cavalry, large sums of money, and large amounts of grain to assist Pompeius in the war against Sertorius in Spain, and other commanders elsewhere in the Roman world. Cicero mentions (*Font.* 16) that Pompeius' large army from Spain wintered in Gaul during

41 Pompeius and Crassus were first consuls in 70. For an account of the political chaos of this later period leading to Pompeius' sole consulship, see Ascon. 30-36 C. Cf. Marshall 1985: 160-5; Seager 2002: 133-5.

42 Ward 1977: 118; contra, Seager 2002: 41, with nn. 3 and 4.

Fonteius' governorship there. Pompeius sent in a *laudatio* for Fonteius at his trial.[43] There are also those family members listed in n. 40 who served under this M. Fonteius. If the moneyer of the *denarius* inscribed with *concordia*, Fonteius Capito, was also related to M. Fonteius and shared his relatives' pro-Pompeian stance, could it be that the coin was minted under Pompeius' influence to calm the public strife and support his bid for his second consulship?

Even if this suggestion, that the moneyer was a supporter of Pompeius and placed the slogan on his coin to suit a desire by Pompeius to promote *concordia*, is seen as overly conjectural, given the general premise of this article, that there should be a specific circumstance for the use of a written term on a coin, the question to be asked is whether there is some other, more general, circumstance to which the slogan *concordia* could be referring. There would at least have been a strong desire in the Roman community at this time for 'harmony', and the moneyer may simply have put the slogan on his coin in view of the divisions and conflicts apparent in the state – an example of the use of a slogan more in hope than reality, as has already been noted (above, n. 31).

A *denarius* issued in 55 by Q. Cassius, usually taken to be Q. Cassius Longinus, possibly grandson of the tribune of 104, quaestor under Pompeius in 52 (probably), and tribune in 49, has a head of Libertas personified on the obverse, with the slogan LIBERT and the moneyer's name (*RRC* 428/2, Fig.10). It has the same reverse as another *denarius* issued by this moneyer (*RRC* 428/1): the round temple of Vesta in the Roman Forum where the sacred fire, tended by the Vestal Virgins, was kept alight, with a magisterial chair inside it, a voting urn on the left, and a voting tablet containing the initials A and C on the right. The reverses, with their depiction of the temple of Vesta, allude to the trial of the Vestals in 113 presided over by L. Cassius Longinus Ravilla (a forebear of the moneyer), with the magisterial chair signifying Ravilla's presidency. The voting urn and tablet refer to the law passed by Ravilla as tribune in 137 extending the use of written ballot, regarded by Cicero (*leg.* 3.33-37) as 'the guardian of liberty' (*vindex libertatis*).[44] At such judicial proceedings the voters would be issued with a waxed tablet marked with the letters A and C (A for *Absolvo* and C for *Condemno*); when called upon to cast their vote they would scratch out the verdict they did not want, file past the front of the Assembly in tribal order and put their tablet into a voting urn.[45]

43 Alexander 1990: 94. Submitting a *laudatio* for a fellow *nobilis* – or indeed appearing as a defence counsel – was not an unusual practice and did not necessarily indicate a close relationship with the accused, or a shared political stance; indeed, in some trials political opponents can even be found serving on the same side. In this case, however, there are other indications of a likely connection between Fonteius and Pompeius.

44 For an outline of Longinus Ravilla's proposal of the law about written ballot in 137 and his role in the trial of the Vestals in 113, see Marshall 1997: 56-8. On this *denarius* of Cassius, see *ibid*. 65-6.

45 Taylor 1966: 77.

Fig. 10: *denarius* of Q. Cassius Longinus, *RRC* 428/2, mid-50's BC
[British Museum R.8759]

Why might a coin issued in 55 specifically have a slogan LIBERTAS? The Cassian family used the term *libertas* more or less as a family motto,[46] and there were some events at the end of 56 and the beginning of 55 which could be seen as threatening the people's freedoms. Primarily these were the actions of the three 'dynasts' in disrupting the consular and other elections at the end of 56 to accommodate the wishes of Pompeius and Crassus to secure a second consulship and a suitable provincial command for each, as agreed to at their meetings at Ravenna and Luca in April 56, and to block out the strong opposition candidates, L. Domitius Ahenobarbus (for the consulship) and M. Porcius Cato (for the praetorship). The year 55 started without consuls, requiring a series of *interreges*, until an *interrrex* favourable to the dynasts was found to approve the election of Pompeius and Crassus. Then a co-operative tribune was found to propose the extensive five-year commands for the two new consuls (the two Spanish provinces for Pompeius, and Syria for Crassus), and a five-year extension for Caesar's command in Gaul (giving him an unprecedented ten-year command in all).[47] The tactics and machinations used by the dynasts to secure their personal goals could be seen as assaults on the Roman people's *libertas*, and opposition to them could well explain the issue of a coin by Cassius stressing *libertas*.

The second last *denarius* to be discussed is one issued by M. Iunius [Caepio] Brutus in c. 54 (*RRC* 433/1, Fig. 11). On the obverse is a head of Libertas personified with the label LIBERTAS behind, and on the reverse the consul [L. Iunius] Brutus walking between two lictors and preceded by an attendant. Brutus too had a family history of *libertas* – on his paternal side with the L. Iunius Brutus who had expelled the last tyrannical king

46 Alföldi 1956: 92 refers to the use of symbols, especially the *pileus* (cap of freedom), on their coins as *wappenartiges Abzeichen,* the Cassian family coat of arms.

47 For a discussion of the political chaos of this period leading to Pompeius' and Crassus' second consulship, see Seager 2002: chaps 10 and 11.

of Rome in 509 and helped to establish the republic, and on his mother's side with the C. Servilius Ahala who slew Spurius Maelius in 439 on the grounds that he was plotting to set himself up as a tyrant.[48] Another *denarius* of Brutus issued at this time shows the theme of *libertas*, with his forebear Brutus on the obverse and Ahala on the reverse (*RRC* 433/2).

Fig. 11: *denarius* of M. Iunius (Caepio) Brutus, *RRC* 433/1, c. 54 BC
[British Museum 2002,0102.4363]

In the mid-50s the person possibly seen as threatening 'freedom' might have been Pompeius. In the political anarchy of that period there was continual difficulty holding the consular elections, scandals about electoral bribery, gang warfare, and public violence.[49] Plutarch (*Pomp.* 52.1) records that Cato encouraged L. Domitius Ahenobarbus to continue his consular candidature against Pompeius and his associates during the elections of 55, because the struggle with the 'tyrants', he said, was not for office, but for 'freedom'. Further, as early as 54 there were suggestions that Pompeius be appointed dictator (Cic. *Q.f.* 2.14.5; *Att.* 4.183). There was no love lost between Pompeius and Brutus, from the time when Pompeius, the *adulescentulus carnifex* ('teenage butcher'), was responsible for the death of Brutus' father at Mutina in 77 after the latter had joined the rebellion of M. Aemilius Lepidus (cos. 78), which was put down by the young Pompeius.[50] It was only later, at the time of the civil war against Caesar, that there was a reconciliation between them. The issue of a coin by Brutus stressing *libertas* seems apposite at this time when some felt that the freedoms of the Roman people were being threatened.

48 Nep. *Att.* 18.3 tells of a family tree drawn up by Atticus (cf. Cic. *Att*. 13.40.1) showing his descent from the two slayers of 'tyrants', i.e. Brutus and Ahala. Cf. Plut. *Brut*. 1-2 who also shows the connection with Brutus the elder and with Ahala.

49 For these events, see the references in n. 47.

50 For the references to Lepidus' rebellion and Pompeius' suppression of it, see *MRR* 2.85 and 90.

Finally, a *denarius* issued by L. Vinicius (*RRC* 436/1, Fig. 12) in 52, the year of Pompeius' sole consulship. On the obverse is a head of Concordia personified, with the label CONCORDIA in front, and on the reverse a personified Victory walking and carrying a palm-branch decorated with four wreaths, with the moneyer's name downwards on the right. These symbols echo the reverse of a *denarius* issued by Faustus Sulla in 56 (*RRC* 426/4a and b), which has one large and three smaller wreaths and which is decidedly Pompeian (Faustus was Pompeius' son-in-law). Crawford remarks that, as Vinicius showed pro-Caesarian leanings when tribune the following year, the slogan on the coin may have been aimed at encouraging concord in the rising tension between the two rivals, Pompeius and Caesar.[51]

Fig. 12: *denarius* of L. Vinicius, *RRC* 436/1, c. 52 BC
[British Museum 1904,0204.139]

The labels on late republican *denarii* were designed to reinforce the message contained in the other images on them. While there were general, sometimes family, reasons why some moneyers placed written labels on their coins, there had also to be a specific reason or circumstance to explain why they were used at a specific time, and in some cases the labels became more of a slogan. As the late republic progressed, there was increasing political violence and civil conflict caused by ambitious warlords, which led to the breakdown of the republican form of government. The incidence of slogans on coins increased also, with terms like *Concordia* (harmony) and *Libertas* (freedom) appearing more frequently, expressing a hope rather than a reality, to serve the propaganda claims of one side or the other in their competition for power and influence.

51 Crawford, *RRC* 1. p. 457. As tribune in 51 Vinicius had vetoed a senatorial proposal about the provinces for the consuls of that year as part of the ongoing optimate attempts to replace Caesar in his province (Cael. in Cic. *Fam*. 8.8.6). For Faustus Sulla's alignment with Pompeius, see Marshall 1987: 91-101; Yarrow 2021: 74-6.

Author biography

Bruce Marshall retired as an Associate Professor from the University of New England in 1995 after nearly 30 years there. He was an Honorary Senior Research Fellow at Macquarie University from 1996-2016. His particular area of research was – and still is – the late Roman republic, on which he has published extensively. Since retirement his interest has focused on late Roman republican coinage. For many years he was Honorary Secretary of the Australasian Society for Classical Studies, and for his work on behalf of the Society, and for his general promotion of the Humanities at the secondary and tertiary levels in Australia, he was made a Member of the Order of Australia in 2013.

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I should like to thank Professor John Melville Jones, from the University of Western Australia, for his comments on a draft of this paper and for his valuable general advice about ancient Roman coins, and the anonymous readers of the article for this journal for their useful comments which improved the content. I hope in due course to examine further such identifying legends ('labels') on late republican *denarii* minted in the years of Julius Caesar's dictatorships.

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An unpublished hoard of bronze Roman coins and local imitations found in Sri Lanka

Graeme Stephens and John McDonald

Abstract

This paper describes an unpublished hoard of 121 small bronze Roman coins and locally produced imitations found in Sri Lanka about 50 years ago near the coastal town of Galle. Roman coins make up 68% of the hoard and date from the 4th and 5th centuries. They were probably introduced to Sri Lanka as a result of indirect trade with the Romans through intermediaries, using the ancient maritime trade route through the Red Sea and Alexandria. All of the Roman hoard coins were very worn, indicating long circulation and hindering attribution. The distribution of the 71 attributable Roman coins in the hoard was: 21% Constantinian dynasty (c. 317-363CE), 10% Valentinian dynasty (c. 363-392CE) and 69% Theodosian dynasty (c. 379-450CE), which corresponds well with reported date distributions for other hoards of Roman coins found in Sri Lanka and in southern India. Crude local imitations minted and found in considerable numbers in hoards in the south of the island, known as 'Naimana' coins, made up 28% of the total hoard. The Naimana coins could be divided into two groups which showed a significant difference in average weight, suggesting a decline over a considerable period of production in parallel with degeneration of reverse designs with repeated copying.

Keywords

[hoard] [Sri Lanka] [Roman coins] [imitations] [Naimana]

1. Introduction

This paper describes a previously unpublished small hoard of Roman coins and local imitations of Roman coins found in Sri Lanka as well as briefly reviewing the known history of this coinage in the island. The detailed origin and usage of these coins in Sri Lanka has been comprehensively covered by previous authors, most recently by Walburg.[1] The objective of this paper is to document the hoard.

The hoard consists of 121 coins of which 82 (68%) are considered Roman coins, 4 (3%) are considered contemporary Roman imitations, 34 (28%) are considered local 'Naimana' imitations, and 1 coin is of indeterminate origin. The coins were sold about 50 years ago by an established local coin dealer in Colombo. They were claimed by the

1 Walburg, 2008.

dealer to have come from a single small hoard unearthed by a farmer in the Ruhuna district, near the town of Galle on the south west coast of the island (Map 3). The dealer also claimed that it represented the complete hoard as delivered to him by the farmer. Due to the passage of time, there is no way to verify the word of the dealer and it is certainly possible that the hoard may have comprised two separate groups, one of Roman coins and one of Naimana coins, which the dealer or the farmer who provided the coins to him could have combined into one lot. However, a number of other small mixed hoards have been found in the region (pers. comm. Dr Kavan Ratnatunga). So, for the purposes of this paper, the authors have accepted the claim of the dealer, but it should be kept in mind that the Roman and the Naimana groups of coins may have been found separately. We can however, be reasonably certain that whether the coins are from one source or two, both groups were found as a hoard or hoards in Sri Lanka near Galle where the farmer lived.

For reference purposes the coins were each given a number from 1 to 121 with numbers 1-82 inclusive applied to the Roman coins, numbers 83-86 inclusive applied to the contemporary Roman copies, numbers 87-120 inclusive applied to the Naimana coins and number 121 applied to the indeterminate coin. These reference numbers are shown beside each coin in the associated Supplement.

2. Brief history of Roman and Naimana coinage in Sri Lanka

Although only a small number of Roman silver and gold coins dating from the first century BCE to the seventh century CE have been found in Sri Lanka, over two hundred thousand small bronze Roman coins of the fourth and fifth centuries CE have been discovered scattered throughout the island in over 50 hoards uncovered by farmers digging in their fields or by archaeologists digging at historic sites, as well as individual finds of single coins at many locations.[2] Almost all of these small coins are from 11 to 17 mm in diameter and weigh between 1 and 3 gm. Most of the coins are very worn indicating a long period of constant use.

Why are Roman coins found in Sri Lanka at all, which was never part of the Roman Empire, and why in particular are large numbers of small Roman bronze coins from the fourth and fifth centuries found on the island? The reason is that the Romans had purchased commodities from both southern India and Sri Lanka since the first century CE. This commercial link is confirmed by Pliny the Elder who wrote that four ambassadors of Taprobane (the name by which the Greeks and Romans knew Sri Lanka) were sent to Rome during the reign of the Sinhalese King Chandamukha (CE 44-52) while Claudius was the Roman Emperor,[3] and it is very likely that one of the main purposes of this embassy was to facilitate trade. This trade is described in

2 Walburg, 2008, 231-236.

3 Pliny, *Naturalis Historia*, Book VI, Ch.22.

many references,[4] and confirmed by archaeological finds and ancient writings, and was intermittent in the early centuries of the first millennium but gathered momentum after the establishment of the Eastern Roman empire based at Constantinople from CE 324. From that time onwards, both India and Sri Lanka provided an increased volume of trade goods for the Romans with Sri Lanka particularly important for its gemstones (sapphire, ruby, zircon, topaz and beryl), pearls, ivory, tortoise shell, muslin cloth, and spices, which included turmeric, cardamom, cinnamon, pepper, cloves and ginger.[5]

This trading link with the Romans was never direct but was normally routed through southern India and on to the Mediterranean via the ancient maritime route (Map 1) using Indian, Arab and Greek merchants acting as middlemen.[6] Consequently, it is concluded that all of the small Roman bronzes which ended up in Sri Lanka were delivered to Sri Lankan merchants mainly in the 4th and 5th centuries by merchants from southern India during their negotiations for Sri Lankan trade commodities which were eventually bound for Rome or Constantinople. Codrington (1924) states that indirect trade between the Romans and Sri Lanka finally came to an end with the fall of Alexandria in 638,[7] and this is borne out by the frequency and dates of the coins found.

Map 1 – Ancient sea and land trade routes

4 Walburg, 2008, 319-343; Weerakkody, 1995, 16, 27; Sudharnawathie, 2017.
5 Walburg, 2008, 319-343; Weerakkody, 1995, 27.
6 Walburg, 2008, 319-343.
7 Codrington, 1924, 33.

Map 2 – Location of mints represented in the hoard
(Base maps for Map 1 & Map 2: Wikipedia Commons)

Prior to the commencement of indirect trade with the Romans, Sri Lanka had used an indigenous coinage comprising a number of coinage types which dated back at least to the third century BCE. A detailed discussion of this indigenous coinage is outside the scope of this paper, but it included the well-known silver punch marked coins known as 'Puranas' (or 'Eldlings') which had been in wide use in Sri Lanka since at least the beginning of the third century BCE,[8] and which were still in circulation at the beginning of the influx of Roman bronze coinage early in the 4th century CE.

Puranas are flat pieces of silver cut from sheets or thin bars, trimmed to the correct weight and then stamped with various punch marks. These punch-marked coins were initially imported during very early trade with India and were later supplemented by some local cast copies in Sri Lanka.[9] The Roman bronze coinage obtained via southern India from the early 4th century was of too low a value to ever be used as a general trade currency but was used to supplement the Purana currency for small local transactions, particularly in the Ruhuna area in the south of the island.

8 Walburg, 2008, 43, 46.
9 Walburg, 2008, 44.

It should also be noted here that there is convincing archaeological evidence that the common medium of commerce in Sri Lanka from the third century BCE to at least the influx of Roman coinage in the 4th and 5th centuries was the barter system. It is also established, however, that during this long period physical coinage continued to be widely used in Sri Lanka as a supplementary local currency for village and inter-village transactions.[10]

Although rare finds of individual Roman bronze coins have been made in Sri Lanka dating back to Augustus (BCE 43 – CE 14),[11] the vast majority are Late Roman coins, predominantly of the Eastern Roman Empire, from the period CE 317-450.

In addition, crude copies of Roman coins minted in Sri Lanka and originally called Indo-Roman coins by Codrington, have also been found in large numbers in hoards, almost all of them in a limited coastal region in the south of the island known in ancient times as Ruhunu (Map 3). In this paper the modern name of Ruhuna has been used for the area.

Codrington, in 1924, originally divided these imitation coins into two classes which he called Type 1 and Naimana Type.[12] More recently, authors such as Walburg,[13] with considerably more archaeological and numismatic evidence available to them, have not recognised this classification and have considered that all of the imitation Roman coins which were minted in Sri Lanka are of Naimana type. We also consider that the few coins which would have been called Type 1 Indo-Roman by Codrington are in fact contemporary imitations produced elsewhere and imported to Sri Lanka along with the genuine Roman coins. In this paper they have been grouped with the Roman coins, and all locally minted coins imitating Roman prototypes are called Naimana coins.

Map 3 – Ancient Ruhuna

10 Walburg, 2008, 311.
11 Codrington, 1924, 37.
12 Codrington, 1924, 33.
13 Walburg, 2008.

Walburg has studied the occurrence of these Naimana coins in some detail and has concluded that they were struck only in the ancient dominion of Ruhuna and possibly only in one minting centre located at Matara (Map 3).[14] While some large coin hoards from the Ruhuna region have contained coins of only one type (i.e. all Roman or all Naimana), Codrington and others have also recorded a number of hoards outside of Ruhuna in which the two types are mixed.[15] As mentioned above, no proof exists that the Roman and Naimana coins examined in this paper did originate from the same hoard. Consequently, the physical composition of the hoard cannot in itself support any conclusion as to whether or not the two groups of coins circulated at the same time.

Walburg has concluded that much of the storage of both the Roman and the Naimana coins at the time was undertaken by the numerous Buddhist monasteries with coins offered to the monks either for safe haven or as temple offerings and donations,[16] and this is where many of the hoards have been found.

Because the supply of Roman bronze coins decreased significantly in the mid-fifth century, Walburg concluded that minting of the local Naimana coinage probably began soon after to gradually replace this dwindling supply and was then itself ended prior to the close of the fifth century. According to Codrington, these Roman and Naimana coins, as well as the silver punch-mark Puranas, continued to be used for local village currency in the island until about the middle of the seventh century, which would explain the excessive wear shown on many of the Roman coins. After that time, the Pallava Kings of southern India started to exert their control in Sri Lanka through a series of puppet Sinhalese Kings, and examples of early Pallava coinage are found in the island.[17]

In general, the local Naimana coins in the hoard were readily distinguished due to their crude workmanship. In respect of the Roman coins, in one or two cases, due to wear, it was difficult to decide if a coin was a Late Roman piece or a relatively well-made contemporary imitation from outside Sri Lanka. The authors have photographed, indexed and described all 121 coins and have classified the main Roman and Naimana groups into various subgroups as described below. Only representative coins are illustrated in this paper. Full descriptions and photographs of all coins are presented in a supplement available from the authors on request.

3. Description and attribution of the Roman coins

All 82 Roman coins were very worn, and had obviously circulated for a very long time, probably centuries in most cases.

14 Walburg, 2008, 67.
15 Codrington, 1924, 33; Weerakkody, 1995, 22.
16 Walburg, 2008, 312-313.
17 Codrington, 1924, 50; Lakdiva Coins Collection (http://coins.lakdiva.org/).

Attribution frequently depended on fragmentary readings of legends combined with identification of reverse types to varying degrees of confidence depending on the extent of wear. In some cases, attribution to a specific emperor was possible, but in many cases, where the crucial parts of obverse legends were illegible, coins could only be attributed to two or more emperors who shared a reverse type.

Where references differed regarding dates, the most recently published dates were preferred.[18]

Overall, attribution was hindered by the fact that during the Late Roman period coin portraits no longer showed the realism and individuality that characterised portraits on the Roman imperial coinage for most of the first three centuries CE. In general, emperors of this later period cannot be individually identified from their portraits alone and the obverses of their coins are generally very similar. Consequently, in the first instance the coins were grouped according to reverse types.

Attribution was also complicated by the multiplicity of emperors during the 4th and 5th centuries CE. For most of the period over which the hoard coins extend, there were at least two emperors in power, sometimes as many as four, with co-emperors ruling in both the east and the west (Table 3).

Names used for Late Roman denominations have varied over the years. We have used a combination of denomination names applied by Sear[19] and the old AE4 (<17 mm), AE3 (17-21 mm), AE2 (21-25 mm) and AE1 (>25 mm) system, based purely on flan diameter, which avoids the value question altogether.

Even though most of the coins are badly worn, we have been able to identify 15 different reverse types among the Roman coins, involving some 95% of their total. These are summarised in Table 1. However, because decipherable obverse legends were generally fragmentary at best, fewer than half of these could be attributed to a specific emperor with any degree of confidence.

The earliest identifiable Roman coin in the hoard is a reduced follis (AE3) of Constantine II, a son of Constantine the Great, as Caesar under his father, dated to CE 317-318. The latest is a *centenionalis* (AE4) of Theodosius II, probably issued prior to CE 425. A very similar date frequency of bronze Roman coins in most of the other reported hoards suggests that indirect trading activity with the Romans probably peaked during this date range of around a century from 317 to 425 but the coins continued to be used locally until the early seventh century.[20]

18 Sear, 2014.
19 Sear, 2014.
20 Codrington, 1924, 33.

A moderate number of the Roman coins can be attributed to the late Constantinian dynasty which consisted of the sons of Constantine the Great after they became joint emperors following his death in CE 337, and a few other more distant relatives such as their cousin Julian II. These coins make up approximately 20% of the attributable total and include two examples of a posthumous commemorative of Constantine the Great issued in about CE 342-348, most likely by Constantius II.

Coins attributable to emperors of the Valentinian dynasty, the most important of whom were Valentinian I, Gratian and Valentinian II in the west, and Valens in the east, make up only about 10%.

By far the greatest proportion of attributable coins are from the Theodosian dynasty, which consisted mainly of Theodosius I, Arcadius and Theodosius II in the east and Honorius in the west. These make up almost 70% (Table 2).

The observed proportions are consistent with general remarks made by Codrington who reported:

> ...Imperial bronzes in large quantities of most of the Emperors from Constantine the Great to Marcian, the order of frequency being (i.) Arcadius, (ii.) Theodosius I or II, (iii.) Honorius, (iv.) Constantius II, (v.) Valentinian II, and (vi.) Constans; the coins are, with few exceptions, 'third brass'.[21]

The observed proportions are similar to the date distribution reported by Walburg for a total of 1,430 Roman coins found in Sri Lanka.[22] The comparison is made less apparent by the fact that we have assigned coins by dynasty, while Walburg used approximate date alone, and there are some date overlaps between the dynasties. However, the general patterns of distribution in relation to date are clearly similar, as shown in Figure 1.

21 Codrington, 1924, 32.
22 Walburg, 2008, 53.

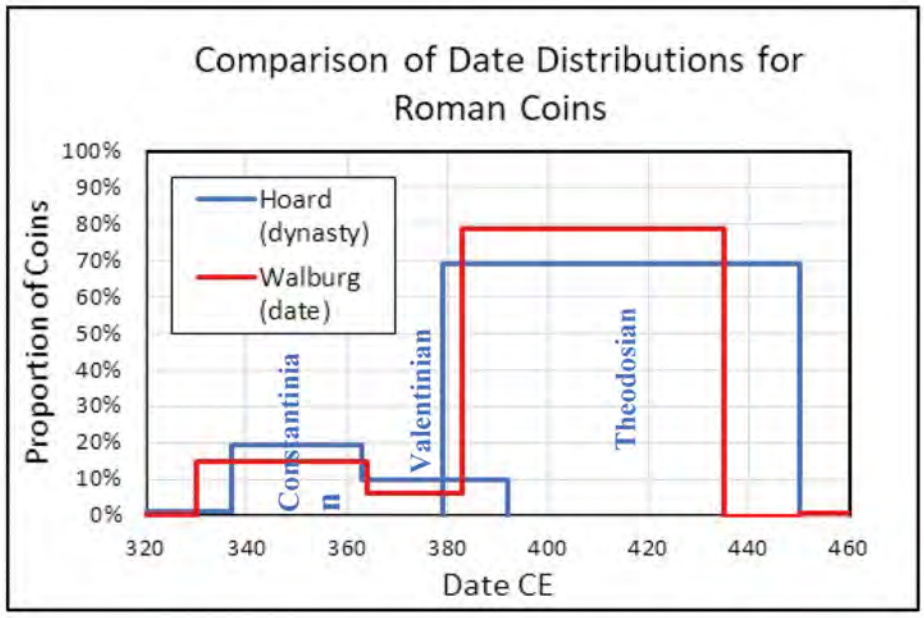

Figure 1

In addition to the dominance of the Theodosian dynasty this hoard shows a strong bias towards coins of emperors who ruled in the Eastern part of the empire (Table 3). This is hardly surprising given the geographical factors involved.

In the few cases where legible or partly legible mintmarks survive, the mints of Antioch (10), Constantinople (4), Cyzicus (3), Alexandria (3) and Thessalonica (2) could be identified with reasonable confidence, if not certainty in every case. These are all ports on coastal trading routes around the easternmost Mediterranean that would have linked with the maritime trading route to India and Sri Lanka via the Red Sea (Map 2). Antioch was also well placed as a terminus for land routes from Byzantium to India, Sri Lanka and northern China via the ancient Silk Road (Map 2).

4. Representative examples of the Roman coins

Listed below are photographs and descriptions of representative examples of the main types of Roman coins in the hoard as summarised in Table 1, grouped by reverse type. It should be noted that most of the coins are more worn than the examples shown.

4.1 Reverse of standing emperor with spear and shield being crowned by Victory *(12 coins).*

This reverse was only used for Arcadius and Honorius over the period CE 395-401.[23]

Coin 9

AE4 / Centenionalis. Arcadius, CE 395-402. Mint: Uncertain
Diameter: 14 mm Weight: 2.17 gm
Description: Obverse – Diademed and draped bust right. Legend [DN A]RCADIVS P[F AVG]. Reverse – Emperor standing on left holding spear and shield being crowned by Victory. Legend [VIR]TVS [EXERCITI]. No mintmark visible.

4.2 Reverse of Victory advancing left with wreath and palm (*6 coins)***.**

This reverse type was used by multiple emperors, with a range of reverse legends. Consequently, it does not help much with attribution in the absence of a decipherable emperor's name in the obverse legend or a reasonably complete reverse legend.

Coin 13

AE4 / Centenionalis, uncertain emperor, probably c. CE 340-460. Mint: Alexandria?
Diameter: 14 mm Weight: 1.58 gm
Description: Obverse – Diademed and draped bust right. Legend worn and unreadable. Reverse – Winged Victory advancing left holding wreath and palm. Legend not readable. Uncertain mintmark in exergue, possibly AL[??].

4.3 Reverse of 2 standing emperors holding spears *(6 coins).*

The emperors are also holding either a shield each or a globe between them. The reverse legend should be GLORIA ROMANORVM. The reverse type restricts possible emperors to Honorius or Theodosius II, over the period CE 406-423.[24]

23 Pina and Marin, 2008-2019.
24 Pina and Marin, 2008-2019.

Coin 20

AE4 / Centenionalis, Honorius or Theodosius II, CE 406-423. Mint: Uncertain
Diameter: 14 mm Weight: 1.37 gm
Description: Obverse – Diademed and draped bust right. Star(?) in left field. Legend unreadable. Reverse – Two emperors standing holding spears and shields. Legend [G]LORI[A ROMANORVM]. Mintmark off flan.

4.4 Reverse of emperor standing holding spear and globe *(5 coins).*

This reverse was used by Julian II, Constantius II, rarely on posthumous commemoratives of Constantine I (struck under Constantius II or Constans) and Valentinian III. Without attribution to a specific emperor they cover a wide date range of c. CE 357-455. The reverse legend would be SPES REPVBLICE for Julian I and Constantius II, SECVRITAS REIPVB for Procopius and VICTORIA AVG for Valentinian III.

A variation with the emperor holding a spear and a figure of Victory was used by Arcadius, Honorius and Theodosius II around CE 402-408.

Coin 28

AE4 / Reduced Maiorina, Constantius II, CE 358-361. Mint: Antioch?
Diameter: 14 mm Weight; 2.13 gm
Description: Obverse – Diademed and draped bust right. Legend [D]N CONS[TANTIVS PF AVG]. Reverse – Emperor standing left holding spear and globe. Legend [SPES REIP]VBLICE. Mintmark possibly ANT in exergue.

4.5 Reverse of 3 standing emperors *(8 coins).*

This reverse type was issued by the emperors Arcadius, Honorius and Theodosius II, in AD 406-408.[25] The central figure is usually smaller and is thought to represent Theodosius. The reverse legend is GLORIA ROMANORVM.

25 Pina and Marin, 2008-2019.

Coin 37

AE4 / Centenionalis, Theodosius II, CE 406-408. Mint: Uncertain
Diameter: 11 mm Weight: 1.52 gm
Description: Obverse – Diademed and draped bust right. Legend [DN] THEO[DOSIVS PF AVG]. Reverse – Three emperors standing holding spears or staffs. Legend [GLORI]A ROMA[NORVM]. Mintmark not visible.

4.6 Reverse of votive legend within wreath *(7 coins).*

Reverse legends of 'Vota' (vows) within a wreath were common and issued by a number of emperors. The form of the legend varied by emperor and date. The simplest consisted only of VOT or VOTIS followed by a number (V, X, XV, XX), usually in 2 lines. More complex versions added MVLT followed by a number (X, XX, XXX), all in 3 or more usually 4 lines.

These vows to the gods for the success and continuance of an emperor's reign were issued at the time of an emperor's accession and typically renewed at 10, or sometimes 5, year intervals.

Coin 40

AE4 / Half Centenionalis, Valentinian II, CE 379-388. Mint: Uncertain
Diameter: 14 mm Weight: 0.88 gm
Description: Obverse – Diademed and draped bust right. Legend DN VALENTIN[IANVS PF AVG]. Reverse – VOT X MVLT XX within wreath. Mintmark off flan.

4.7 Reverse of emperor dragging captive *(5 coins).*

This reverse was used by several emperors. It shows the figure of the emperor advancing left or right, dragging a captive by the hair and usually carrying a labarum (military standard). The legend is usually GLORIA ROMANORVM.

Coin 45


AE4 / Half Centenionalis, probably Theodosius I, CE c. 383-392. Mint: Uncertain
Diameter: 12 mm Weight: 0.86 gm
Description: Obverse – Diademed and draped bust right. Legend: [DN THEO]DOSIVS PF AVG. Reverse –Worn but probably emperor advancing left dragging captive. Legend mostly unreadable. No legible mintmark.

4.8 Reverse of Victory dragging captive *(11 coins).*

Victory advancing left, dragging a captive by the hair, carrying a trophy over her shoulder. The legend should be SALVS REIPVBLICAE, except for some coins of Valentinian III who also used VICTORIA AVGG. This reverse combined with a cross in the field limits possible emperors to Valentinian II, Theodosius I, Arcadius, Honorius, Theodosius II, Johannes or Valentinian III.[26]

Coin 50


AE4 / Half Centenionalis, probably Arcadius, Honorius, Theodosius II or Valentinian II, c. CE 383-392. Mint: Uncertain
Diameter: 10 mm Weight: 1.23 gm
Description: Obverse – Diademed and draped bust right. Legend off flan. Reverse – Victory advancing left dragging captive. Cross in left field. Legend: probably [SALV]S REP[VBLICAE]. Mintmark off flan.

4.9 Constantine I posthumous commemoratives *(2 coins).*

In the years immediately following the death of Constantine the Great in CE 337 his sons issued several types of coins in his memory and commemorating his deification. Two examples of one of the most common types were present in the hoard. The reverse legend VN MR is generally considered to be an extreme abbreviation of VENERANDAE MEMORIAE (to his venerated memory).

26 Pina and Marin, 2008-2019.

Coin 62

AE4 / Reduced Centenionalis, posthumous commemorative of Constantine I, CE 342-348. Mint: Antioch?
Diameter: 14 mm Weight: 1.32 gm
Description: Obverse – A posthumous veiled head of Constantine I facing right. Legend: probably [DV CONSTAN]TINVS [PT AVG]. Reverse – Togate figure standing, VN MR in fields. Mintmark in exergue possibly SMAN.

4.10 Seated Constantinopolis reverse with helmeted three-quarter facing bust on obverse *(6 coins).*

Even when badly worn, the distinctive three quarter facing, helmeted and cuirassed bust type combined with the reverse of Constantinopolis seated, holding a sceptre and a Victory on a globe, makes these coins recognisable.

The reverse legend should be CONCORDIA AVGGG. This obverse and reverse combination was only used for the emperors Arcadius, Honorius or Theodosius II over the brief period AD 401-403[27]. Sear dates them all to AD 402.[28]

Coin 68

AE4 / Centenionalis, Theodosius II, CE 402. Mint: Antioch
Diameter: 15 mm Weight: 2.29 gm
Description: Obverse – Helmeted and cuirassed forward three-quarter facing bust with spear over shoulder and shield. Legend: DN THEODOSI[VS PF AVG]. Reverse – Constantinopolis seated holding sceptre and Victory on globe. Legend: probably [CONCORDIA] AVGGG. Mintmark ANT[?] in exergue

4.11 Reverse of soldier spearing fallen horseman *(3 coins)*

The reverse type of a soldier spearing a fallen horseman was used on AE3/AE4 coins by Constantius II, Constantius Gallus and Julian II during the period CE 348-358[29]. The reverse legend is FEL TEMP REPARATIO. Because Constantius Gallus was never

27 Pina and Marin, 2008-2019.
28 Sear, 2014.
29 Pina and Marin, 2008-2019.

raised to the rank of Augustus any diademed busts must represent one of the others. The weight of these coins reduced quickly over time.

Coin 70

AE4 / Reduced Maiorina, Julian II, c. CE 356-358.
Mint: Uncertain
Diameter: 16 mm Weight: 1.76
Description: Obverse – Bare draped bust right. Legend: DN IVLIANVS [PF AVG]. Reverse - Soldier spearing fallen horseman. Legend [FEL TEMP] REPARATIO. Mintmark illegible.

4.12 Reverse of 2 soldiers with standard *(3 coins).*

Two soldiers with spears and shields standing either side of 1 or 2 military standards was a common reverse type on small bronzes of the later years of the Constantinian dynasty, in c. CE 330-342. It appeared on coins of Constantine I, Constantine II, Constantius II, Constans and Delmatius, with the legend GLORIA EXERCITVS.

Coin 73

AE4 / Reduced Centenionalis, probably Constantine II, Constantius II, Constans or Delmatius. c. CE 336-342. Mint: Uncertain
Diameter: 14 mm Weight: 1.61 gm
Description: Obverse – Diademed and draped bust right. Legend illegible. Reverse – Two soldiers holding spears with one standard between. Legend: [GLORIA] EXER[CITVS]. Mintmark in exergue is obscure [???]Δ.

4.13 Reverse of camp gate *(1 coin).*

A camp gate, usually with 2 turrets, was a common reverse type on small bronzes of the Constantinian period, during the lifetime of Constantine I, mainly from c. CE 316-329. At that time the most common reverse legends were PROVIDENTIA AVGG or PROVIDENTIA CAESS, although other variants exist. However, it also subsequently appeared much less frequently on small bronzes up to as late as about CE 455 with several different reverse legends.

Coin 75

AE4 / Centenionalis, probably Arcadius, c. CE 388.
Mint: Thessalonica
Diameter: 13 mm Weight: 1.48 gm
Description: Obverse – Diademed and draped bust right. Legend very blurred due to wear, but probably DN ARCADIUS PF AVG (the legend seems to have only 8 letters between DN and PF AVG indicating Arcadius). Reverse – Camp gate with 2 turrets. Legend: [GLORIA REI]PVBLICE. Mintmark TES in exergue. This reverse design and legend combination was restricted to Theodosius I, Valentinian II and Arcadius in CE 383-388.[30] .

4.14 Reverse of 2 facing Victories with wreath(s) *(2 coins).*

Two facing winged Victories holding a single wreath, or each holding a wreath, was a reverse type on small bronzes of Constantius II and Constans in c. CE 342-348. It reappeared later on coins of Valentinian II, Theodosius I and Arcadius in c. AD 383-388 and finally on coins of Valentinian III around CE 430-437. The reverse legend was usually VICTORIA AVGG or AVGGG.

Coin 76

AE4 / Half Centenionalis, Arcadius, mainly CE 383-388 but possibly as late as CE 395. Mint: Uncertain.
Diameter: 14 mm Weight: 1.38 gm
Description: Obverse – Diademed and draped bust right. Legend DN AR[CADIV]S PF AVG. Reverse – Two facing Victories holding single wreath, unidentified object at feet between. No legend or mintmark visible.

4.15 Reverse of Sol standing *(1 coin)*

Sol standing was a very common reverse design in the Constantinian period, during the lifetime of Constantine the Great, most often with the reverse legend SOLI INVICTO COMITI. Sol no longer appeared after about CE 317-318, when Constantine came under the influence of Christianity and stopped celebrating the old pagan gods.

30 Pina and Marin, 2008-2019.

Coin 78

AE3 / Reduced Follis, Constantine II as Caesar, CE 317-318. Mint: Thessalonica
Diameter: 20 mm Weight: 3.11 gm
Description: Obverse – Bare, draped juvenile bust right. Legend: CONSTANTINVS IVN NOB CAES. Reverse – Sol standing left wearing chlamys, holding globe, right hand raised. Legend: CLARITAS R[EIPVBLICAE]. Mintmark TSB in exergue.

4.16 Contemporary Roman imitations

The 4 examples that we placed into this category are presumed to be contemporary imitations and all show considerable wear. So-called 'barbarous imitations' were produced in many regions fringing the borders of the Roman empire and it is probable that they were imported into Sri Lanka along with the genuine coins. Indeed, there would have been a distinct incentive for Roman traders to offload as many imitations and counterfeits as they could. Of these 4 coins, one imitates two emperors standing, one the soldier spearing a fallen horseman type and 2 imitate Victory with wreath and palm. Refer to the Supplement for details.

5. Classification and description of the Naimana coins

The Naimana moneyors made no serious attempt to produce exact replicas of the genuine coins and the crude representations of the Roman emperors shown on these coins are sometimes only rough outlines.

They were originally named Naimana coins, after the town in the Ruhuna district where a large hoard was found (circa 1912).

There appeared to be no master design for the Naimana coins; instead, there was a persistent, but unskilled attempt to imitate the Roman coinage. Consequently, most of these coins show a crude human bust of varying quality on the obverse and commonly show a poor copy of various pre-existing Roman designs on the reverse.

Although Walburg concludes that only one central mint based in Matara was used for the Naimana coins,[31] many different dies have been used and the quality of both the design and the strike varies considerably from coin to coin. This leads to the conclusion that the coin dies were made by a large number of different moneyers, possibly in more than one mint, and that the quality of the dies varied from reasonable to very poor depending on the engraving skill of the individual, with successive moneyers

31 Walburg, 2008, 77.

simply copying as best they could the designs of previous moneyers. This in turn led to a gradual deterioration of the reverse designs over time so that they eventually bore little resemblance to their earlier starting points. Some examples of this deterioration of design are shown below. Progressive degeneration of the design is particularly clear for the 'Vota in a wreath' reverse types.

6. Representative examples of the Naimana coins

The Naimana coin descriptions below are grouped based on the Roman reverse design that the engraver was apparently trying to emulate. Also included below are some examples of Naimana reverse designs which bear no obvious relationship to any Roman prototype.

6.1 Roman reverse designs recognisably imitated

In this hoard the most common Roman reverses imitated on the Naimana coins were:

- Two soldiers with a standard (8 examples)
- Vota within a wreath (5 examples; 11 examples if 'wheel' derivatives are included)

Note that none of the Roman prototype examples shown in the comparative images that follow, and labelled 'Roman Example', were part of the hoard.

6.1.1 Reverse of votive legend within a wreath *(5 coins).*

The four images below, going from left to right, illustrate the progressive deterioration of this reverse design with repeated imitation, which we believe ultimately resulted in Codrington's wheel type.[32]

Roman Example.
Constantius II,
AE4, CE 347-348
(Collection of an author)

Naimana
Coin 87

Naimana
Coin 89

Naimana
Coin 113

The first Naimana example (Coin 87) shows an obvious, if clumsy, attempt to imitate the Roman prototype. The wreath is crudely represented by short, radial lines between two circles, although there is a faint attempt to reproduce the binding at the base of the wreath. However, the Latin letters of the legend within the wreath were obviously incomprehensible to the local engraver who simply substituted some random marks.

32 Codrington, 1924, 34.

The second example (Coin 89) still has some marks within the inner circle emulating lettering, but the inner circle has become smaller and the two circles with radiating lines between, originally representing the wreath, have become the dominant feature. Ultimately, the circles and radiating lines were the only part of the design to survive repeated copying (Coin 113).

While we are convinced that the wheel type evolved from this Roman prototype, in our grouping of the Naimana coins we have only placed coins into this group where they show some attempt to emulate lettering within an inner circle.

Coin 87


AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 1.32 gm
Description: Obverse – Crude bust facing right. No legend visible. Reverse – Random small shapes and strokes within two concentric circles with 'spokes' between forming a border. Imitating votive legend within wreath reverse type.

Coin 89


AE4, uncertain date. Uncertain local mint
Diameter: 15 mm Weight: 2.27 gm
Description: Obverse – Extremely worn bust facing right. Reverse – Two concentric circles with spokes radiating outwards between the two circles. Some small random marks in centre probably imitating lettering. Probably derived from votive legend within wreath type.

6.1.2 Reverse of 2 soldiers with a standard *(8 coins)*

Coin 92


AE4, uncertain date. Uncertain local mint
Diameter: 12 mm Weight: 1.05 gm
Description: Obverse – Crude helmeted bust facing right. No visible legend. Reverse – Two crude 'stick' figures standing on either side of an unidentified vertical object between them. Naimana issue, imitating '2 soldiers with standard' type.

Roman example: Constantius II, AE4,
CE 347-348
(Collection of an author)

6.1.3 Reverse of 2 facing Victories with wreath(s) *(1 coin).*

Coin 100

AE4, uncertain date. Uncertain local mint
Diameter: 13 x 16 mm Weight: 1.90 gm
Description: Obverse – An extremely crude representation of a bust facing right. Short strokes around margin imitating a legend. Reverse – Two stick like figures facing each other with arms raised to centre. Reverse imitating two facing Victories type.

Roman example: Theodosius II, AE4.
c. CE 402-450
(Collection of an author)

6.1.4 Large Star within a Wreath *(1coin).*

Coin 101

AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 1.36 gm
Description: Obverse – Very crude bust facing right. No legend. Reverse – Very worn, but apparently a 7-pointed star within a circle. Possibly imitating a large star within wreath type (late Constantinian period – eg: Helena and Fausta)

Roman example: Helena, AE4.
c. CE 318-319
(Image courtesy of Classical Numismatic Group)

6.1.5 Large cross within a wreath *(2 coins).*

Coin 102

AE4, uncertain date. Uncertain local mint
Diameter: 14 mm Weight: 1.46 gm
Description: Obverse – Very crude bust facing right. Legend represented by a few vertical strokes. Reverse – Design appears to be a large 'X' or cross inside a circle with dots in quadrants. Possibly imitating 'large cross' type of Arcadius / Honorius / Theodosius II / Valentinian III.

Roman example: Theodosius II, AE4.
c. CE 402-450
(Image courtesy of Classical Numismatic Group)

6.2 Other reverse designs *(18 coins).*

Coin 113

AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 1.07 gm
Description: Obverse – A very crude Roman Emperor bust facing right with rough diadem and crude drapery. No legend. Reverse – A crude 'spoked wheel'. Not obviously imitating a Roman prototype, but probably ultimately derived from votive legend within wreath type.

Coin 105

AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 1.07 gm
Description: Obverse – Worn, crude bust left. Reverse – Three concentric circles linked by radiating spokes. No indication of imitation lettering in centre. Probably a degenerate version of votive legend within wreath type.

Coin 114

AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 0.85 gm
Description: The obverse has a very worn primitive bust probably facing right, with a rough headdress and necklace. A legend is imitated by some complex but meaningless combinations of strokes. Reverse has a number of lines which are indistinct. Not obviously imitating a Roman prototype.

Coin 120

AE4, uncertain date. Uncertain local mint
Diameter: 13 mm Weight: 0.84 gm
Description: Obverse – Crude bust facing right. No legend. Reverse – A left-handed swastika fills all of field inside an outer circle and does not imitate a Roman prototype. The swastika symbol has been used on ancient Sri Lankan coins since at least 100 BC, but this is the only example in the hoard on a Naimana issue.

6.3 Coin of indeterminate origin

One non-Roman coin was of indeterminate origin, possibly from somewhere outside Sri Lanka. Details are provided in the Supplement.

7. Statistical analysis of hoard coin weights

Weights and diameters of all hoard coins were tabulated and analysed. This revealed some significant differences between the main coin groups.

The mean weight of Naimana imitative coins (1.43 gm) is about 13% lower than that of the Roman coins (1.64 gm after excluding 1 larger, pre-337 CE coin). Due to the small number of Naimana coins this difference is not necessarily statistically significant. The 95% confidence limits about the means overlap considerably. However, the severely worn condition of the Roman coins means that they would have lost a significant amount of weight (probably 10-15% or more). So, the difference between as-struck weights may have been more significant.

The mean weight of the other Naimana coins that do not seem to imitate Roman prototypes (1.00 gm) is about 39% lower than that of the Roman coins and 30% lower than the Naimana imitative group. This is statistically significant relative to both the Roman coins and the Naimana imitatives. The frequency distribution chart below shows the differences clearly.

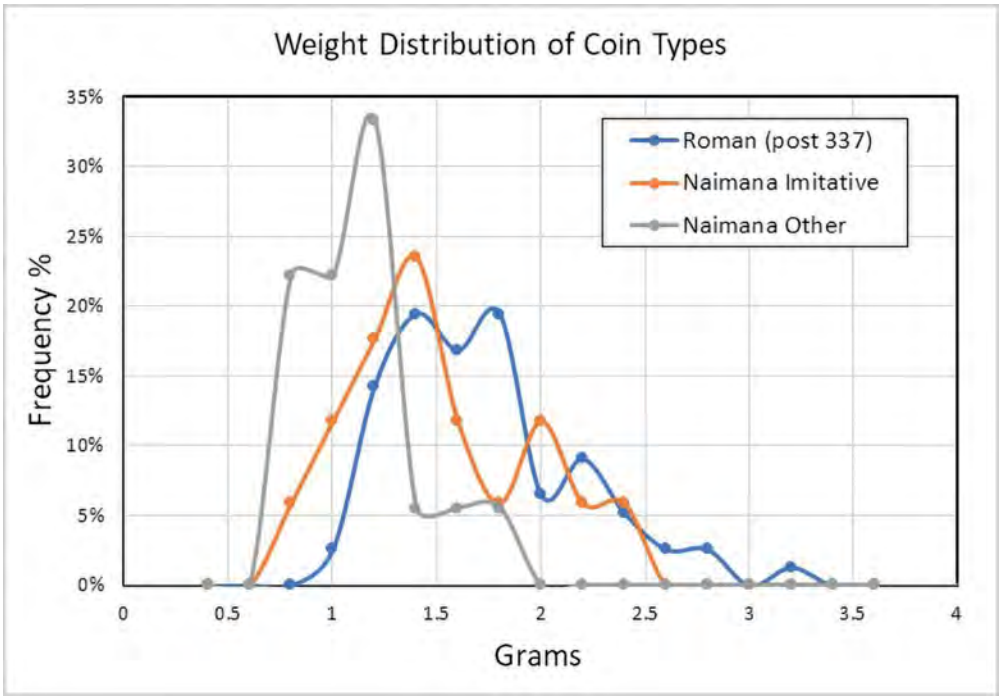

Figure 2

The significant difference between the two Naimana groups strongly suggests that they were not produced at the same time and possibly not in the same mint. It suggests a decline in weight over a considerable period of time in parallel with degeneration of reverse designs with repeated imitation of previous imitations.

Initial obvious attempts to imitate Roman prototypes suggest that Roman coins were still readily available and familiar when production of Naimana coins began, possibly necessitated by new supplies of Roman coins into the local economy being cut off or severely restricted. Circulation losses, perhaps combined with increased demand, would have resulted in the need for production of some additional, local 'small change' coinage. It seems likely that both the Roman and Naimana coins were circulating currency and that they circulated together in the local economy, at least for some initial period during the early phase of Naimana coin production.

8. Tables

Table 1 – Summary of Roman coins in the hoard grouped by reverse type and emperor.

Reverse Type	Legend or probable legend	Emperor(s)	Date	Reference numbers	Number of coins
Sol standing	CLARITAS REIPVBLICAE	Constantine II as Caesar	317-318	78	1
Standing emperor with spear and shield being crowned by Victory	VIRTVS EXERCITI	Arcadius	395-402	3, 8, 9, 10	4
		Honorius		2, 11	2
		Arcadius or Honorius		1, 4, 5,6, 7, 12	6
Victory advancing left with wreath and palm	SECVRITAS REIPVBLICAE	Gratian, Valens or Valentinian I or II	364-392	15	1
	GLORIA ROMANORVM	Uncertain	c. 340-460	17	1
	Uncertain	Valentinian I or II	364-379	14	1
		Uncertain	c. 340-460	13, 16, 18	3
Two standing emperors with spears & shields or spears & globe between	GLORIA ROMANORVM	Honorius or Theodosius II	406-423	19, 20, 21, 22, 23, 24	6
Emperor standing holding spear and globe.	SPES REIPVBLICE	Constantius II	358-361	25, 28	2
		Julian II	358-360	27	1
		Julian II or Constantius II	358-361	26	1
	Uncertain	Honorius	402-408	29	1

Reverse Type	Legend or probable legend	Emperor(s)	Date	Reference numbers	Number of coins
Three standing emperors	GLORIA ROMANORVM	Arcadius	406-408	31, 32	2
		Honorius	406-408	30	1
		Theodosius II	406-408	37	1
		Arcadius, Honorius or Theodosius II	406-408	33, 34, 35, 36	4
Votive legend within wreath	VOT V	Arcadius	383-384	38	1
	VOT X MVLT XX	Theodosius I	379-383	39, 43, 44	3
		Valentinian II	379-388	40	1
		Gratian, Valentinian II, Theodosius I or Arcadius	c. 378-388	42	1
	VOT XX MVLT XXX	Constantius II or Constans	342-348	41	1
Emperor dragging captive	GLORIA ROMANORVM	Theodosius I?	383-392	45	1
		Valentinian I	365-375	49	1
		Uncertain	?	46, 47, 48	3

Table 1 – continued.

Reverse Type	Legend or probable legend	Emperor(s)	Date	Reference numbers	Number of coins
Victory dragging captive	SALVS REIPVBLICAE	Arcadius	388-402	51, 60	2
		Arcadius, Honorius, Theodosius II or Valentinian II	c. 383-392	50	1
		Theodosius I or II	388-425	53, 55, 56, 58, 59	5
		Valentinian II	388-392	54, 57	2
		Uncertain	c.383-430	52	1
Standing togate figure	VN MR	Posthumous Constantine I, probably issued by Constantius II	342-348	61, 62	2
Constantinopolis seated with sceptre & Victory on globe (3/4 facing helmeted & cuirassed bust on obverse)	CONCORDIA AVGG	Arcadius	402	66	1
		Theodosius II	402	65, 67, 68	3
		Arcadius, Honorius or Theodosius II	402	63, 64	2
Soldier spearing fallen horseman	FEL TEMP REPARATIO	Julian II	356-358	70	1
		Constantius II or Julian II	356-358	69, 71	2
Two soldiers with standard	GLORIA EXERCITVS	Constantine II, Constantius II, Constans or Delmatius	c. 336-342	72, 73, 74	3
Camp gate	GLORIA REIPVBLICE	Arcadius?	c. 388	75	1

Two facing victories with wreath(s)	VICTORIA AVGG (or AVGGG)	Arcadius	383-388	76	1
		Uncertain	?	77	1
Unidentified reverse design	Uncertain	Constantine I, Constantine II as Caesar or Constantius II as Caesar	c. 324-329	81	1
		Honorius	393-423	80	1
		Uncertain	?	79, 82	2
TOTAL					82
"Barbarous imitations" of Roman Coins (not included above)					4

Table 2- Distribution of attributable Roman coins by dynasty

Period	Principal Emperors	Approximate date range	Number of coins	Proportion of coins
Lifetime of Constantine the Great	Constantine II as Caesar	Before 337	1	1%
Constantinian dynasty (after Constantine the Great)	Constantine II, Constantius II, Constans, Julian II	337-363	14	20%
Valentinian dynasty	Valentinian I & II, Gratian, Valens	363-392	7	10%
Theodosian dynasty	Theodosius I, Arcadius, Honorius, Theodosius II	379-450	49	69%
TOTAL			71	100%

Table 3 - Distribution of attributable Roman coins by emperor and by Eastern and Western Empires

Emperor	Geographical control	Date range	Number of coins	Proportion of coins
Constantine II as Caesar	East & West (father)	317-337	1	3%
Constantius II	East	337-361	2	5%
Julian II	East	332-363	2	5%
Valentinian I or II	West	321-392	5	13%
Arcadius	East	377-408	11	28%
Honorius	West	384-423	5	13%
Theodosius I or II	East	346-450	13	33%
Subtotals	East		28.5	73%
	West		10.5	27%

Table 4 - Distribution of Naimana Coins by Type

Codrington type	Group	Reverse design sub-group	Coin reference numbers	Number of coins
Naimana	Reverses recognisably imitating Roman types	Votive legend within wreath	87, 88, 89, 90, 91	5
		Two soldiers with standard	92, 93, 98, 94, 95, 96, 97, 99	8
		Two facing victories with wreath(s)	100	1
		Large star within wreath	101	1
		Large cross within wreath	103, 102	2
	Other reverse designs or illegible		113, 114, 104, 112, 105, 106, 107, 108, 115, 116, 109, 110, 117, 111, 118, 119, 120	17
Coin of indeterminate origin			121	1
SUBTOTAL				36

9. Acknowledgements

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The Antinous medallions from Tarsus: fake or fortune?

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Abstract

Tarsus was one of the last places visited by Hadrian and Antinous prior to the drowning of the latter in the Nile in October AD130. The city seems subsequently to have enthusiastically participated in the founding of the cult of Antinous by the Emperor, which included the striking of commemorative medallions with the image of the new god in the mid-130s. Surviving examples are among the most celebrated of the Antinous issues. However, the desirability of Antinous types has engendered intensive forgery since the Renaissance, especially the production of numerous cast fakes called Paduans in Italy and elsewhere in Europe. But hammered fakes have also been struck and old fakes produced according to correct ancient techniques are especially hard to distinguish from originals. This article argues that there nevertheless exist telling discrepancies between genuine and fake medallions and, conversely, that there are validating features that should enhance our confidence in the authenticity of some medallions, when present.

Keywords

[Antinous] [Hadrian] [Tarsus] [Alexandria] [gilding] [Roman Provincial Coinage] [Dionysus] [panther] [Atef Crown] [ivy] [Paduan fake]

Introduction

In the late spring of AD129 Hadrian and his entourage including his favourite Antinous were based in Tarsus in Cilicia on the banks of the river Cydnus (Lambert 1984, p.110), where previously Alexander the Great had discovered the coin prototype for the reverses of his regular silver drachms, tetradrachms and decadrachms. The novel reverse for his standard silver coinage was a seated Zeus holding an eagle, and it is now generally accepted that Alexander borrowed the design from the depiction of Baal on coins issued by Tarsus (Troxell 1997, p.82). The king had also fallen gravely ill in Tarsus after bathing in the River Cydnus just prior to the Battle of Issus in 333BC. Eighteen months after

1 I would like to thank the editor of JNAA and the reviewers for their help in clarifying the complex, interwoven arguments aired in this paper and for their intelligent queries, which have prompted me to incorporate additional explanations and evidence to elucidate the contexts for the production and subsequent faking of these magnificent medallions. I would also like to thank K. R. Moore, the editor of *The Routledge Companion to the Reception of Ancient Greek and Roman Gender and Sexuality* (published August 2022) for his encouragement and support in my authorship of chapter 27 of this compendium on 'Graeco-Roman Worship of the Beloved: The Ancient and Modern Cults of Antinous.' That chapter references this paper and there has been some fruitful cross-pollination between the research for the two publications.

Hadrian's sojourn in Tarsus, Antinous perished by drowning in the River Nile. Cassius Dio and the *Historia Augusta* both speculate about a sacrificial drowning.[2] Sextus Aurelius Victor is even more explicit in discussing Hadrian's subsequent dedication of the city and statues of Antinoopolis at the site of the drowning to Antinous: 'Others see his motives as pious and religious: for when Hadrian was desiring to prolong his life by any means, the magicians proposed that someone should die voluntarily on his behalf; everyone refused, Antinous alone offered himself: from that all the homage rendered to his memory'.[3] So, the sources, and especially Sextus Aurelius Victor, strongly endorse the view that Antinous had been persuaded at the behest of Egyptian magicians to submit voluntarily to ritual sacrifice in the river in exchange for a promise of deification. The objectives may have been to prolong the life of the emperor in the face of failing health and perhaps more generally to end a famine resulting from successive poor inundations in preceding years in the Nile Valley.[4]

This wonderful historical resonance formed part of the incentive for me to purchase a 37mm diameter bronze medallion struck with a profile portrait of Antinous in Tarsus (Figure 1), when it was auctioned by Naville Numismatics on 27th June 2021.[5] The coin was probably minted in the mid-130s, since the main production of Antinous medallions, judging especially by the dated examples struck in Alexandria, seems to be associated with Hadrian's return to the east in AD134-135, during which visit he evidently sponsored the cult of Antinous as well as suppressing the Bar Kokhba revolt. Importantly, the listing provided an excellent provenance for this medallion starting with an article entitled 'Médailles Romaines Inédites' by J. Sabatier containing five pages on this very coin in the first issue of the French numismatic journal, *Annuaire de la Société Française de Numismatique*.[6] Sabatier states that it was owned by H. Hoffmann. I was able to locate an online version of this journal volume prior to the auction and validate that the engraving of the medallion in the 1866 article (Figure 2) was a reasonable match to the lot being offered. I subsequently obtained an original copy of ASFN 1 and confirmed that the coin is engraved life-size in Plate 1 and exactly matches my medallion in its dimensions and in details of the formation of the letters in the inscriptions.

2 Cassius Dio 69, II, 2-4; [Aelius Spartianus] *Historia Augusta*, *Hadrianus* XIV.5-6.

3 Sextus Aurelius Victor, *Hadrian*, XIV; translation in Lambert 1984, p.131.

4 This famine is inferred from a complete interruption in the years 14 & 15 of Hadrian's reign (AD129 - 130) in the normal issue by the Alexandrian mint of coins celebrating the abundance of the Nile by depicting Nilus, the god of the river, bearing a cornucopia (Emmett 2001, pp. 48, 52, 54 & 57) – the Nile flood happened at the start of the Alexandrian year, so a poor flood would have made it tasteless to issue Nilus coins during that entire regnal year. This is supported by an ancient tradition of a youth being sacrificed to the river by drowning to propitiate the Nile (Lambert 1984, pp.135-136) and the similarity of this tradition to the particular sacrifice of Antinous in AD130.

5 Naville Numismatics, Live Auction 66, Lot 437.

6 Sabatier 1866, pp.71-76.

The other side of the coin, so to speak, in the case of an Antinous medallion, is the so-called Paduan fake. The authentic Antinous types have been so sought after historically that they have been forged on a near industrial scale, famously, but far from exclusively, in the Italian city of Padua, since the Renaissance and right through until the present day. Consequently, provenance is a particularly vital issue for the intrepid purchasers of Antinous medallions.

Pursuit of the provenance

This medallion is recorded as having been sold through two major numismatic auctions in the last half century:

1. Jean Vinchon, Monnaies de Collection en Bronze, en Argent et en Or, Hotel Drouot, Paris, 15th November 1965, Lot 136

2. Monnaies et Médailles, Vente Publique 52, Basel, Switzerland, 19th-20th June 1975, Lot 655

I obtained original copies of the catalogues for both of these sales, and both had life-size photos of the medallion (Figure 3). The 1975 sale catalogue also helpfully confirmed that this is the same specimen described by J. Sabatier and cited its weight at 19.55g (Naville Numismatics gave a virtually identical 19.57g). The catalogue vendor also sent me a pdf with the 'Prices Realised' in the 1975 auction, Lot 655 being then sold under the hammer for 5400 Swiss Francs.

The Naville Numismatics listing also made reference to an entry for the Tarsus Antinous medallion in the *Roman Provincial Coins* (*RPC*) database, which exists as an actively updated entity online. I therefore additionally checked this entry, which has the reference *RPC* III, 3286.2 and can be found at https://rpc.ashmus.ox.ac.uk/coins/3/3286.

The entry had exactly the information about the Sabatier article and the two previous sales that had appeared in the Naville Numismatics listing, implying that it had been the source of the information in that listing. Nevertheless, all this provenance information checked out perfectly in matching my medallion.

A spelling dichotomy

When I first checked the *RPC* entry, three specimens of the Antinous Medallion of Tarsus with a panther with its right forepaw resting on a *cantharus* (a large two-handled drinking vessel) on its reverse, type *RPC* III, 3286, were listed. However, only the third example, that is *RPC* III, 3286.3 shown in Figure 4, had a photo accompanying its listing. This example is very unusual in having a serrated edge and its reverse has a Chi-Rho Christian graffito as popularised by Constantine, which is, however, of no particular

significance in respect of the authenticity of this specimen. However, it was its reverse inscription that struck me as being particularly strange.

The inscriptions on my specimen are HPΩC ANTINOOC (The hero Antinous) on the obverse and AΔPIANHC TAPCOY MHTPOΠOΛEΩC NEΩKOPOY (Of the Metropolis of Temple-Keeping Adriana-Tarsus) on the reverse. The city had added the prefix of Adriana to its name in order to honour the Emperor Hadrian (Lambert 1984, p.110). NEΩKOPOC is a correct spelling of a standard classical Greek word, the primary meaning of which is the youth who swept clean a temple or shrine. But a secondary meaning, and the one used here, was as the title for a city in the Roman East in the imperial period which had established an imperial temple or shrine in its midst. This is demonstrated by the fact that NEΩKOPOY on this coin is the genitive form of the word, meaning that the coin was issued by the city (cf. *Thesaurus Linguae Graecae* [*TLG*], s.v. νεωκόρος, see Table I).

The surprise was that specimen 3 (Figure 4) had NEOKOPOY instead of NEΩKOPOY (omicron in lieu of omega). NEOKOPOY (NEOKOPOC in the nominative) is a word which has no lexical authority. However, *TLG* offers several other alternative spellings of NEΩKOPOC, and variant spellings were not unusual in antiquity, so an unusual spelling is not in itself a cause for concern. Nevertheless, even if NEOKOPOY were an alternative spelling found locally in Tarsus, it would be very unusual for both spellings to be used on different specimens purporting to be of the same coin type. That is to say, it is the inconsistency that is disquieting.

One possible explanation is a modern retooling of the O to become Ω or vice versa. However, there is no sign of Ω having been tooled to O on specimen 3 (Figure 4) and on my own specimen, the Ω clearly already existed when the engraving of it in Figure 2 was made in 1866. In order to check for earlier tooling, I have taken high magnification views of the vicinity of the Ω as shown in Figure 5. There are some dark deposits around these letters, but no sign of the grooves expected from retooling.

I quickly discovered that the NEΩKOPOY versus NEOKOPOY dichotomy is manifested across the entire corpus of Antinous medallions from Tarsus. Table II gives a basic inventory of specimens of the fourteen Tarsus types listed by *RPC* and also includes a few catalogue entries and recent auction-lots not in *RPC*. There are seven clear specimens with NEΩKOPOY and also six with NEOKOPOY plus 3 specimens of type *RPC* III, 3292 with the abbreviation NEOK. Although there is no other type than 3286 where both spellings occur among the specimens, there are several very closely related types such as the *cista* reverses 3289 & 3289a and the tripod reverses of 3292 & 3293 and the Cydnus reverses of 3294 & 3296 where the opposite spelling occurs on the first type of each pairing relative to the second.

I contacted *RPC* on this matter and Andrew Burnett responded (personal communication): 'They never seem to have decided on how to spell *neokoros*, and you can find it with both omega and omicron.'

There is one place where the spelling NEOKOPOY occurs as an unambiguous error for NEΩKOPOY. The Sabatier article from 1866 in *ASFN* 1 correctly depicts my Antinous Medallion with the spelling NEΩKOPOY in plate 1 (Figure 2), but at the head of its text on page 71 it mistakenly gives the reverse inscription as reading NEOKOPOY. In the late 19th century, this article is virtually the only specific literature on the Antinous medallions of Tarsus. Sabatier was only looking at my specimen in writing his 1866 article, so his inconsistency in the spelling of NEΩKOPOY was probably an original mistake either by the typesetter or by Sabatier himself, although he states that he was aware that, 'There exist scarcely more than seven or eight bronzes of Antinous struck in [Tarsus] with one of the following three reverse types: a serpent coiled around a tripod; a mystic chest; the River Cydnus.' Sabatier's error is a potential source of later imitation by forgers or alternatively his article accidentally reproduced the NEΩKOPOY - NEOKOPOY dichotomy independently of its existence among the ancient specimens or possibly he had in mind the inscription on another of the Antinous specimens from Tarsus when he wrote down the inscription on my specimen at the start of his article.

The NEΩ prefix may derive from NEΩC a variant of NAOC, meaning a shrine. Hence, the speculation in *TLG* (Table I) that NEΩKOPOC originally meant the sweeper (or more generally the purifier) of a shrine or temple and thereby came to mean a 'temple servant', and by extension a worshipper. Therefore, it is particularly interesting that we see a combination of NEOKOPOY with NEΩ IAKXΩ on the reverses of *RPC* III, 3289a & *RPC* III, 3291 and with NEΩ ΠΥΘΙΩ on the reverse of *RPC* III, 3292. The former refers to the shrine of IAKXOC (Iakchos), often identified with the god Dionysus and the design shows the mystical box (*cista*) and wands (*thyrsoi*) that are symbols of Dionysus. The latter means the shrine of Apollo Pythios (the oracular Apollo of Delphi) and the reverse design has the tripod that is the symbol of Apollo's prophetic powers. Note, however, that on *RPC* III, 3289, NEΩKOPOY is combined with NEΩ IAKXΩ and on *RPC* III, 3293, NEΩKOPOY is combined with NEΩ ΠΥΘΙΩ. This makes it transparent that the *RPC* III, 3289a, *RPC* III, 3291 and *RPC* III, 3292 specimens give two different spellings of the same word, normally NEΩ meaning a shrine, in their reverse inscriptions! The problem again is one of inconsistency: the inconsistency in mixing NEΩ IAKXΩ/ΠΥΘΙΩ with either NEΩKOPOY or NEOKOPOY compounded by an imbalance insofar as NEO IAKXΩ/ΠΥΘΙΩ never appears with either NEΩKOPOY or NEOKOPOY on any specimen.

Incongruities in the third specimen

Sabatier made some errors regarding *RPC* III, 3286.2. He thought that the object beneath the paw of the panther on the reverse was a hare, whereas it is actually a *cantharus*, he did not notice the slightly indistinct traces of a wreath of ivy around the head of Antinous and he misplaced the end of the panther's tail. These corrections are confirmed through comparison with other examples of this type such as *RPC* III, 3286.1 (Figure 7) from the Staatliche Museen zu Berlin.[7] I also discovered a fourth specimen of *RPC* III, 3286 sold as Lot 3048 in Hirsch Auction 303 in 2014 in the online archives and Andrew Burnett added this to the *RPC* database as III.3286.4, when I made him aware of it. Its reverse is strikingly similar to my coin, especially in the length of the panther's neck (Figure 8).

Available details of the four specimens have been collected in Table III. It is immediately clear that as well as differing from other examples in having a serrated edge and in its spelling of NEΩKOPOY, the third specimen is also anomalously heavy, being more than 30% above the standard weight of about 20g. Furthermore, its die axis is stated to be 12h in the *RPC* database, whereas specimen 1 is stated to be 6h, matching my specimen 2, and specimen 4 can also be seen to be 6h by virtue of a bump on its rim which defines the relative orientation of its obverse and reverse faces. Furthermore, specimen 3 appears to exhibit a horizontal band beneath the Atef or Hem-Hem Crown, which is not present in either specimen 1 or 2 (only vestiges of the Atef crown exist on specimen 2, possibly due to the strands of the crown having become clogged on the die before it was struck or possibly due to historical corrosion or cleaning). Specimen 3 also has a 'Star of Antinous' ahead of ANTINOOC on its obverse, which is certainly not present in specimen 2. This new star was seen in the constellation of Aquila (the Eagle) at roughly the time that Antinous drowned. Hadrian associated this star with his cult of Antinous and it appears on some of the Antinous Medallions from other cities. Cassius Dio, (*Roman History, Epitome of Book 69*, 11) is the principal source: 'Hadrian declared that he had seen a star which he took to be that of Antinous, and gladly lent an ear to the fictitious tales woven by his associates to the effect that the star had really come into being from the spirit of Antinous and had then appeared for the first time.'

Additionally, specimens 2 and 4 have only the whole word NEΩKOPOY in the exergue. The same appears to be true of specimen 1, because the letters POY of NEΩKOPOY are just discernible and there is not enough room in the rest of the exergue for more letters than are required for NEΩKOPOY. However, specimen 3 has EΩCNEOKOPO in its exergue thus splitting MHTPOΠOΛEΩC into MHTPOΠOΛ and EΩC and splitting NEOKOPOY into NEOKOPO and Y. Finally, the formation of the *cantharus* on specimen 3 is almost unrecognisable (it has more the appearance of a medieval helm on a helm-stand). The *cantharus* is also indistinct on specimens 2 and 4, but the

7 The accession date of *RPC* III, 3286.1 to the Münzkabinett der Staatlichen Museen zu Berlin is 1901.

explanation in these instances is clearly wear and corrosion. In the case of specimen 3, the hard lines of the body of the *cantharus* are unconvincing as such and its handles are altogether missing. It is dubious whether the engraver of the reverse die of specimen 3 understood that the object beneath the panther's forepaw is a *cantharus*.

These differences are sufficient to make it doubtful whether specimen 3 should properly be recognised as of the same type as the other three specimens. But is specimen 3 just an ancient variant by another die engraver in Tarsus cut in another year, or is it a more modern concoction that is deliberately pretending to be a specimen of type *RPC* III, 3286?

A trick of the tail

One feature of specimen 3 of *RPC* III, 3286 does make it look very much as though the engraver of its reverse die was deliberately and slavishly trying (yet ultimately failing) to copy the details of other specimens of this type.

In specimens 2 and 4 the panther's tail appears to curl up into the lower end of the final lunate sigma C of ΜΗΤΡΟΠΟΛΕΩC (upper images of Figure 9), thus cleverly using the last letter of this word as a final twist to the tail. However, specimen 3 executes a perfectly silly imitation of this feature where the full length of the tail is still present including this final twist with the effect of introducing a spurious C into the middle of ΜΗΤΡΟΠΟΛΕΩC such that it reads ΜΗΤΡΟΠΟΛC ΕΩC. Would anyone who understood the inscription or the intentions of the original designer have been at all likely to perpetrate this horrific pastiche? It would seem unlikely.

One reason why the imitator could have made such mistakes would be that this person was working from poorly preserved specimens in ignorance of the meaning of the Greek, which would in turn require the imitator to have been operating in the modern era, although perhaps before the 20th century. In truth, an ancient copyist of the prototype in Tarsus should at least have been aware of the nature of the *cantharus* and of the extension of the panther's tail to form the concluding sigma of ΜΗΤΡΟΠΟΛΕΩC, because such an individual would certainly have seen many specimens in excellent condition, and it is most unlikely that this engraver did not have access to the original designer. This type was only authentically struck for a few of Hadrian's later years at most.

The glint of gold

When I submitted a colour photo of my specimen 2 to Andrew Burnett for inclusion in the *RPC* database, he added in the *RPC*'s Notes section: 'Traces of gilding on obverse'. This prompted me to investigate whether similar traces of ancient gilding are to be found on other types of Antinous Medallions? The answer proved to be an emphatic yes, tending to confirm that such gilding was an original feature of these types. Some

instances are shown in Figure 10. Interestingly, the gold layer is typically preserved on the high points of the designs rather than in the crevices

Although only relatively well-preserved specimens have such traces surviving today, there are enough cases for it to appear likely that most of the medallions from mainland Greece and Anatolia were originally gilded. This was probably done by coating the medallions with a solution of gold in mercury, then heating them so that the mercury was evolved as vapour.[8] This enhancement reflects their role as commemorative medallions and souvenirs rather than currency. Conversely, the bronze drachms, hemidrachms, diobols and (rare) dichalkons of Antinous from Alexandria were always part of the main currency types issued between the 18th and 21st regnal years of Hadrian (AD134 – AD137) and these do not appear to have been gilded (Emmett 2001, pp. 62 & 64) in common with the rest of the bronze coinage from the Alexandria mint.

I have not seen traces of gilding on any specimen that has been branded as a fake. Nor have I seen mention in the literature that the Antinous medallions from Greece and Anatolia were often gilded, whereas forgers generally prefer to reproduce acknowledged features of famous issues and only a very sophisticated forger would be likely to have taken the trouble of gilding a fake and then have removed almost all the gilding in a manner that credibly imitated real aging. Why would a forger not leave fake gilding largely intact for enhanced value instead? For these reasons, the preservation of mere traces of gilding is probably a good indication of authenticity on those extant specimens where it is evident.

A facsimile before the fax

The obverse of the most famous and well-preserved of all the Antinous medallions from Tarsus, *RPC* III, 3285.1, is a near facsimile of *RPC* III, 3286.1 with details of the hair, the ivy leaves and the surviving letters of the inscription being almost exactly reproduced. In particular, the two profiles are the same size within the limit of assessment accuracy (a few percent) and the beading on *RPC* III, 3285.1 closely follows the line of the actual edge of the *RPC* III, 3286.1 specimen. This can be judged in Figure 11 where the two obverses are shown on the same scale. However, they are not a die match due to the horizontal band and its end-rosettes underneath the Atef or Hem-Hem Crown in *RPC* III, 3285.1 being absent from *RPC* III, 3286.1. Plus, there are other tiny differences: notably that the lower left corner of the Atef Crown is more rounded in *RPC* III, 3286.1 and the gap between the lowest ivy leaf and the mantle is smaller in *RPC* III, 3286.1 and there are slight differences in the formation of the characters HP of the inscription.

It was unusual for an ancient die engraver to copy another die so precisely, because it was an arduous and slow process if done by eye without the aid of modern photographic

8 Pliny, *Natural History* 33.20; Vitruvius 8.8.4.

reproduction techniques. And there was no tangible value in preserving exact details of hair strands or ivy leaves when a perfectly satisfactory approximation could be achieved rapidly on the basis of the artistry of the engraver. The rather more obvious differences between the obverse die of *RPC* III, 3286.1 and that of my specimen *RPC* III, 3286.2 are far more typical of what should be expected. Clearly, it is strange that different dies of the same type were so different, when a pair of dies purporting to be different types were almost identical in the finest details.

Unusually too, the reverse of the Tarsus Antinous Medallion *RPC* III, 3285.1 is a copy of the reverse of the Dionysus-riding-on-a-panther type *RPC* III, 1191 used by Tion in Bithynia (Figure 12).

Despite its excellent degree of preservation, there is no sign that *RPC* III, 3285.1 was ever gilded.

There are some commonalities between *RPC* III, 3285.1 and the dubious *RPC* III, 3286.3: the band beneath the Atef Crown, the Star of Antinous and the spelling variant of NEOKOPOY. But judging by its flan crack, *RPC* III, 3285.1 has the more usual die axis of 6h and at 33.26g it is significantly heavier than any of the *RPC* III, 3286 specimens. *RPC* III, 3285.1 also has a provenance going back to 1898, since its photograph appears in (Dressel 1898, p. 225 & pl. VI, 1 = Blum 1914, pl. IV, 5 = Backe 2005, p. 43, no. 30).[9]

However, the thing that is most suspicious about the *RPC* III, 3285.1 specimen is that there are some features in the much more poorly preserved *RPC* III, 3286.1 (from the same Berlin Museums *Münzkabinett* collection) that resemble the band and rosettes in *RPC* III, 3285.1, but on close examination they appear merely to be hairstyle features or surface damage. Note especially that *RPC* III, 3286.1 has a feature that appears to be surface damage in the same place and of the same size and shape as the right-hand rosette at the end of the band in *RPC* III, 3285.1. It is an overwhelming coincidence that worn hairstyle features and surface damage in *RPC* III, 3286.1 should combine to imitate the band with rosettes in *RPC* III, 3285.1, unless the latter were closely copied from the former after the former had reached its current worn and damaged state, but before the *terminus ante quem* for *RPC* III, 3285.1 in 1898. The scenario that fits these observations is that a 19th century forger worked from a low-quality photo of the obverse of *RPC* III, 3286.1 to concoct the obverse die used to strike *RPC* III, 3285.1.

Therefore, at least two of the Antinous medallions from Tarsus with the NEOKOPOY spelling variant exhibit independent suspicious features.

9 *RPC* III, 3285.1 has an accession date to the Münzkabinett der Staatlichen Museen zu Berlin of 1897.

Alternative histories

The Antinous medallions have been faked since at least the Renaissance (Sayles 2001). Enea Vico wrote about this activity at that time (Vico 1555, Ch. XXII). He listed the most famous 'imitators': Vettor Gambello (Camelio), Giovanni da Cavino of Padua and his young son, Alessandro Greco (Cesati), Leone Aretino (Leone Leoni), Jacopo da Trezzo, Federico Bonzagna of Parma and Giovan-Iacopo, Federico's brother. The dies used by Cavino have survived and have made him the most famous of these imitators, so perhaps that is why these fakes and more particularly casts of them and casts of casts down to more recent times are collectively known as Paduans (Jones 1990, pp. 136-137). Cavino himself made dies for a fake Antinous medallion loosely based on a genuine Hostilius Marcellus issue from Corinth. It is inevitable, therefore, that hammered fakes exist among the extant specimens and indeed quite a few have been identified (including *RPC* III, 1057; *RPC* III, 1058). But old hammered fakes are potentially much more difficult to distinguish from genuine examples than cast coins, because they will exhibit evidence of correct manufacturing technique and by the present day will have acquired a convincing patina and potentially even realistic but nevertheless modern handling wear patterns. The question of whether a specimen 'looks right' as a standalone example is insufficient to address its authenticity in these circumstances. None of the oddities discussed here would have been evident from such a compartmentalised approach.

In these circumstances, numismatic scholarship needs to be vigilant in reviewing the extant specimens for anachronistic errors and other traces of modern interpretation of ancient features: especially, incongruities between specimens. Oddities in the inscriptions also merit careful consideration: apart from the NEΩKOPOY versus NEOKOPOY dichotomy addressed here, the established forgery *RPC* III, 1057 has ANTINOO where we should expect to see something more grammatical. It is especially important that a specimen of a type should fit well within the ensemble of other examples of its type and should have a credible relationship with related types. Any accrual of oddities is grounds for enhanced suspicion.

Specific to the Antinous medallions from Tarsus, there is a disquieting degree of inconsistency imputed to the mint by the inscription spellings NEΩKOPOY and NEOKOPOY being mixed in among parallel issues and even within individual issues of the same basic type. There is also an imbalance in that NEΩKOPOY and NEOKOPOY occur with NEΩ IAKXΩ/ΠΥΘΙΩ, but NEO IAKXΩ/ΠΥΘΙΩ never appears. A feasible modern source for the NEOKOPOY variant exists in the form of a mistake in the Sabatier article of 1866, since it does not appear at present that any of the NEOKOPOY types have a certain provenance that is older than 1866, whereas the NEΩKOPOY specimen *RPC* III, 3286.2 definitely existed before the Sabatier article, of which it is the subject.

Further to this issue, we have seen that two of the NEOKOPOY specimens exhibit independent causes for suspicion:

a. The die cutter of *RPC* III, 3286.3 incorporated a spurious sigma into its reverse inscription due to being unaware that the die engraver(s) of other specimens of the type had used an extension of the panther's tail to form the final sigma of MHTPOΠOΛEΩC: however, it is incredible that a contemporaneous die cutter for a type that was only produced for a few years could have operated in such ignorance.
b. *RPC* III, 3285.1 appears to have been diligently copied from *RPC* III, 3286.1 after the latter had reached its current worn and corroded condition, because a band with rosettes beneath the Atef Crown in *RPC* III, 3285.1 appears to copy wear and corrosion features in *RPC* III, 3286.1, for example, in forming the rosette at the right-hand end of the band.

However, we have also seen that there are some redeeming features which can be seen as enhancing the case for authenticity. In particular, my own specimen *RPC* III, 3286.2 has been designated as exhibiting traces of gilding by the *RPC* database and a survey of other well-preserved Antinous Medallions reveals enough with similar traces of gilding to suggest that this was a very common feature in the authentic 2nd century AD bronzes with the notable exception of the currency issues with representations of Antinous bearing dates from AD134 – 137 from Alexandria in Egypt.

Author

Andrew M. Chugg is a graduate of the University of Cambridge. He is the author of papers on Alexander's tomb published in Greece & Rome *and* The American Journal of Ancient History *and a paper on Alexander's royal journal published in the* Ancient History Bulletin. *He is also the author of four books:* The Lost Tomb of Alexander the Great*,* Alexander's Lovers*,* The Quest for the Tomb of Alexander the Great *and* Concerning Alexander the Great: A Reconstruction of Cleitarchus *with another on* The Pharos Lighthouse in Alexandria *forthcoming. He has also appeared in several TV documentaries on Alexander the Great, including the Alexander's tomb episode of National Geographic's* Secrets of Egypt *series and the same channel's* Mystery Files*. Andrew is also the author of several articles on ancient coins associated with Alexander the Great in* The Celator *magazine and is a co-author of the article on* The Porus medallions of Alexander *in JNAA 29.*

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Table I. Entry for ΝΕΩΚΟΡΟC in the *Thesaurus Linguae Graecae*.

νεωκόρ-ος, ὁ, Dor. νᾱοκόρος GDI 2116.14, al. (Delph., ii B.C.), Hsch.: contr. νᾱκόρος PMagd.35.7 (iii B.C., prob. Dor.), GDI1912.9, al. (Delph., ii B.C.), 5087 (Crete): as fem., IG42(1).393, al. (Epid., ii A.D.); ναυκόρος, ἡ, Buresch Aus Lydien p.58: poet. νηοκόρος AP9.22 (Phil.):—warden of a temple, as a sacred officer, τοῖς ἱεροῖς ν. γίγνεσθαι Pl.Lg.759a; ἱερέας τε καὶ ν. ib.953a; παρὰ Μεγαβύξῳ τῷ τῆς Ἀρτέμιδος ν. X.An.5.3.6, cf. Inscr.Prien.231 (iv B.C.); βωμοῖο ν. AP11.324 (Autom.); ν. τοῦ μεγάλου Σαράπιδος POxy.100.2 (ii A.D.). 2. sacristan, Herod.4.41,45, Paus.10.12.5; ἐνβόλιον ἔχων ν. in a list of silver articles, IG7.3498.25 (Oropus).
II. title assumed by Asiatic cities in Imperial times, when they had built a temple in honour of their patron-god or the Emperor, as Ephesus, ν. Ἀρτέμιδος Act.Ap.19.35; also as Adj., τῷ ν.Ἐφεσίων δήμῳ OGI481.3 (ii A.D.), cf. BMus.Inscr.481*.4 (Ephesus, ii A.D.); δὶς ν. τῶν Σεβαστῶν, of Ephesus, OGI496.7 (ii A.D.); of Smyrna, IGRom.4.1419. (Prob. derived from κορέω, sweep, the orig. sense being prob. temple-sweeper, cf. E.Ion115, 121, 795 (where the word does not occur), νεωκορέω I.2, II, Ph.2.236, Hsch.; but Suid. expl. it ὁ τὸν νεὼν κοσμῶν . . , ἀλλ' οὐχ ὁ σαίρων.)

Table II. Occurrences of ΝΕΩΚΟΡΟΥ or ΝΕΟΚΟΡΟΥ on specimens of the 14 types of Antinous Medallion from Tarsus in the *RPC* database.

Type	Reverse	Inscription spelling
RPC III, 3285	Dionysus riding a panther	1: ΝΕΟΚΟΡΟΥ
RPC III, 3286	Panther pawing a cantharus	2: ΝΕΩΚΟΡΟΥ, 3: ΝΕΟΚΟΡΟΥ
RPC III, 3287	A panther pawing a thyrsos	ΝΕΩΚΟΡΟΥ on Numphil Auction June 2014 Lot 101 and on coin 1336 (Sear 1982, p.123), but unclear on *RPC* specimens
RPC III, 3288	Temple containing an amphora	Unclear on *RPC* specimens
RPC III, 3289	Mystic chest with three thyrsoi	1: ΝΕΩΚΟΡΟΥ, ΝΕΩΚΟΡΟΥ on NAC Auction 80 20/10/14 Lot 96; also ΝΕΩ ΙΑΚΧΩ
RPC III, 3289a	Mystic chest with three thyrsoi	1: ΝΕΟΚΟΡΟΥ, but also ΝΕΩ ΙΑΚΧΩ
RPC III, 3290	Mystic chest with three thyrsoi	Unclear on *RPC* specimens
RPC III, 3291	Mystic chest with three thyrsoi	1: ΝΕΟΚΟΡΟΥ, but also ΝΕΩ ΙΑΚΧΩ
RPC III, 3292	Serpent coiled around a tripod	2: ΝΕΟΚ, 8: ΝΕΟΚ, 9: ΝΕΟΚ, but also ΝΕΩ ΠΥΘΙΩ
RPC III, 3293	Serpent coiled around a tripod	1: ΝΕΩΚΟΡΟΥ; also ΝΕΩ ΠΥΘΙΩ
RPC III, 3294	River God Cydnus reclining	1: ΝΕΟΚΟΡΟΥ, 2: ΝΕΟΚΟΡΟΥ
RPC III, 3295	River God Cydnus reclining	Unclear on *RPC* specimens
RPC III, 3296	River God Cydnus reclining	5: ΝΕΩΚΟΡΟΥ
RPC III, 3297	River God Cydnus reclining	Unclear on *RPC* specimens

Table III. Details of the four specimens of the Antinous medallion with a panther & *cantharus* reverse in the Roman Provincial Coins (*RPC*) online database.

Type & Specimen	Weight (g)	Diameter (mm)	Die Axis	Inscription Spelling	Most Recent Whereabouts
RPC III, 3286.1	20.91	34	6h	?	Staatliche Museen zu Berlin
RPC III, 3286.2	19.57	37	6h	ΝΕΩΚΟΡΟΥ	Collection of A. M. Chugg
RPC III, 3286.3	27.43	34.2	12h	ΝΕΟΚΟΡΟΥ	Künker 133 Lot 8856 12/10/2007
RPC III, 3286.4	?	?	6h	?	Hirsch Auction 303 Lot 3048 25/9/14

Figure 1. Antinous bronze medallion of Tarsus *RPC* III, 3286.2, 37mm, 19.55g (Collection of the author).

Figure 2. Engraving of *RPC* III, 3286.2 from Sabatier's article in *ASFN* Vol 1, Plate 1 No. 4 (1866).

Figure 3. Photos of *RPC* III, 3286.2 from the catalogues of the 1965 Vinchon sale (above) and the 1975 Monnaies et Médailles auction (below).

Figure 4. A serrated edge version of the Tarsus Antinous Medallion with the panther and *cantharus* and a Chi-Rho graffito highlighted within a circle (*RPC* III, 3286.3) – source: Classical Numismatic Group, LLC, http://www.cngcoins.com.

Figure 5. Close-up of NEΩKOPOY on *RPC* III, 3286.2.

ANTINOUS

MÉDAILLON FRAPPÉ A TARSE (Cilicie).

N° 4. HPΩC. ANTINOOC. Buste d'Antinoüs à droite, avec le *paludamentum*.

Ry. AΔPIANHC. TAPCOV. NEOKOPOV. Panthère à gauche, tenant la patte droite de devant sur un lièvre debout. Médaillon de bronze, pl. I, 4.

Je crois qu'il n'existe guère que sept à huit bronzes d'Antinoüs frappés dans cette ville, avec un des trois types suivants pour revers : Trépied entouré d'un serpent. — Ciste mystique. — Le fleuve Cydnus. L'exemplaire de M. Hoffmann nous offre donc un revers nouveau, et la panthère qui y figure est un symbole bachique (1) qu'on trouve

(1) Le Musée de Naples possède trois belles statues de Bacchus en marbre de diverses grandeurs, dont une a été trouvée à Salerne, une en Grèce, et l'autre à

Figure 6. Heading of the Sabatier 1866 article with NEΩKOPOY mis-spelt and mis-identifying the *cantharus* as a hare (lièvre).

Figure 7. Specimen *RPC* III, 3286.1 in the Staatliche Museen zu Berlin (Münzkabinett der Staatlichen Museen zu Berlin, 18281771).

Figure 8. Specimen *RPC* III, 3286.4 from Gerhard Hirsch Nachfolger, 2014, Auction 303, lot 3048.

Figure 9. Formation of the panther's tail on specimens 2 and 4 of *RPC* III, 3286 compared to two images of specimen 3 (lower left photo courtesy of Fritz Rudolf Künker GmbH & Co. KG, Osnabrück and image owner Lübke & Wiedemann KG, Leonberg).

Figure 10. Specimens of Antinous Medallions with traces of gilding, top to bottom: Smyrna *RPC* III, 1980.14, 37.3mm, Numismatica Ars Classica NAC AG, Auction 114, lot 690; Smyrna *RPC* III, 1982.1, 37mm, Source gallica.bnf.fr / BnF, https://gallica.bnf.fr/ark:/12148/btv1b8554963j; Tion *RPC* III, 1191.3, 38.1mm, Source gallica.bnf.fr / BnF, https://gallica.bnf.fr/ark:/12148/btv1b8554795t; Corinth *RPC* III, 260.1, Numismatica Ars Classica NAC AG, Auction 64, lot 1176.

Figure 11. How the profile of Antinous on *RPC* III, 3285.1, 36.9mm (left: Münzkabinett der Staatlichen Museen zu Berlin, 18200843) is almost a photographic copy of *RPC* III, 3286.1, 34mm (right: Münzkabinett der Staatlichen Museen zu Berlin, 18281771).

Figure 12. How the reverse of *RPC* III, 3285.1 (right: Münzkabinett der Staatlichen Museen zu Berlin, 18200843) is a copy of the reverse of Antinous Medallions from Tion in Bithynia (left: courtesy of Stack's Bowers Galleries, The January 2013 N.Y.I.N.C. Auction Session I, lot 5412).

The names of Roman coins

John Melville-Jones

Abstract

This article contains a list of the names used by the Romans to describe their coins, together with some names that occur in the writings of modern numismatists, even though they were not used in this way in ancient times, and other relevant words that were not actually the names of coins. It has been composed to a great extent by purloining (and in some cases correcting or improving) entries in the author's 1990 book, A Dictionary of Ancient Roman Coins *(published by Seaby, but now sold by Spink), and sometimes remodelling them or adding other material. Some of the names of coins that are discussed are known to us from ancient Greek and Roman documents which have been printed with translations in the first volume and explanatory notes in the second volume of* Testimonia Numaria *(Volume 1 published in 1993 and Volume II in 2007 by Spink). The article is a chapter that will (with some remodelling) form a part of the author's forthcoming book* Testimonia Numaria Romana.

Introduction

The intended readers of this article are of two kinds: there are collectors who need help in understanding the names given to the coins that they have, or are considering purchasing; then there are numismatists who may need no help with regard to understanding the coinage that they are studying, but may benefit from learning the reason for its name, or the names of other denominations.

In one case I think that I may have reached an original conclusion. Some numismatists assume that *maiorina*, 'slightly greater' and *maior,* 'greater', the latter of which appears in a later legal document, describe the same coin, and that they are only different forms of the same name. I agree that they may refer to the same coin, but my suggestion is that this is what some numismatists call the Æ2 or Æ3 denomination (Æ1 being the largest and Æ4 the smallest), and that it was renamed 'greater' in the later law because it had now become the greater of the two remaining *aes* coins that were being minted at that time.

There can be difficulties in deciding what some Roman coins were called, and in a few cases we cannot be sure what words that seem to be the names of coins actually refer to. The value of bronze Republican coins was occasionally indicated by the letter S (*semis*, i.e., 'half') and by dots indicating higher fractions of the *as*, but it was unusual for the minting authorities to be so helpful, even though the weights of bronze coins, even if they had the same value, could vary considerably. With the exception of references to

the *solidus*, there are difficulties in attaching the names that appear in some documents from the time of Diocletian onwards to the surviving silver and silvered bronze coins that survive. These are often a matter of convention rather than of any certain association of names with coins.

The arrangement is alphabetical, not chronological. There are a few repetitions, in case a reader decides to look at only one name of a coin, not related ones. There are no illustrations, but it will not be difficult for readers to access online web sites that will provide pictures.

Coin names

aes

Like the Greek *chalkos* (χαλκός), this word can mean either 'copper' or 'bronze', bronze being mostly copper, but containing some zinc, which hardens it, and perhaps other metals, especially lead, which was added either accidentally or deliberately because it was inexpensive and the purity of the metal in the coin was not important, as it usually was with gold (see aureus, first paragraph).

The Romans, starting a long way behind the Greeks, used bronze as a store of wealth and for making payments in bullion by weight at first before they produced what we would call proper coins. The expression *aes rude*, 'rough bronze', or less commonly *aes infectum* or *imperfectum*, ('unmade' or 'unfinished' bronze), could describe metal that was used in this way, although these phrases were not common, being found only in Roman etymological texts such as those compiled by Sextus Pompeius Festus and Isidore of Seville.

We come next to an expression that was not used by the Romans in the way that it is used in modern numismatic publications, '*aes signatum*' bronze marked with a sign'. It was rarely used by the Romans, but when it was, it simply meant (like *argentum signatum*, 'silver marked with a sign'), bronze or silver coinage that was mixed or unfamiliar, and was therefore not identified specifically. However, numismatists have chosen to use it to describe what might be considered an intermediate stage between 'crude bronze' and the first round coins, the rectangular bronze bars with various types, often representations of animals, cast upon them.

This may have been because in his *Natural History* (33.13.43), Pliny the Elder wrote that 'King Servius was the first to mark *aes* with the image of sheep and cattle … it was marked with the design of domestic animals' (*Servius rex ovium boumque effigie primum aes signavit … signatum est nota pecudum*). Early numismatists, who did not realise that even if there was an early Roman king called Servius, he would not have been producing any kind of coinage, decided that this phrase must have described the

bronze bars that preceded round coins. Since there is no surviving text that tells us clearly what the Romans called these bronze bars, it is probably better to leave things as they are, rather than doing anything that might lead to confusion.

Finally, we come to *aes grave*, 'heavy bronze' or 'bronze by weight'. When this phrase occurs in the writings of Livy, the author who uses it most, it refers to a number of fines and other payments made between 492 and 293 B.C. Since for nearly all of this period the Romans were not issuing what we could call coins, the bext explanation is that the words were used to describe payments that were made in bronze, probably measured in Roman pounds, or counted in *asses* of the original libral standard, weighing one Roman pound or *libra*.

In Republican documents the word *aeris* 'of bronze', is often combined with a number to express a number of *asses*, and the word survived for a while as an accounting term, even when the payments were probably made in silver.

From the end of the 4th century A.D. onwards many *aes* (now bronze silver-washed) coins of different weights and sizes were minted, and there is considerable uncertainly about their denominations. For this reason, early numismatists described them according to their size, with Æ1 being the largest and Æ4 the smallest. It is common nowadays to replace this form of nomenclature with other names, but many of these are no more than guesses.

antoninianus

The word is an adjective meaning 'of Antoninus', which was one of the names used by a number of Roman emperors, starting with Antoninus Pius (A.D. 138-161). For no good reason numismatists have attached the name to some coins that were first issued by an emperor whom we call by his unofficial name of Caracalla (who also had Antoninus as one of his names), in A.D. 214, and continued to be issued for 130 years after that.

The reason for their being given this name in modern times is that in an ancient collection of biographies of Roman emperors from Hadrian to Carinus and Numerian, usually called the *Historia Augusta*, there are, for example, in the life of Probus (3.5), references to *argentei Antoniniani* and *aurei Antoniniani*, 'silver and gold coins of an Antoninus'. Modern research has made it clear that this work contains much material in the form of supposed imperial documents, material that was simply invented in the hope that it would persuade readers of the truth of what was written there.

These coins weighed about one and a half times as much as the contemporary *denarius*, and although some numismatists have suggested that this was what they were worth, it is clear that in fact they were overvalued, and were tariffed at two *denarii*, which might have been the way in which they were described. This judgement is supported

by the fact that the head of the emperor on the obverse wears a radiate crown, which is normally in Roman coinage a sign of a double denomination. It is also possible that they were called *biniones* (see *binio*), but no surviving document uses the word in this way.

The *antoniniani* were issued as silver coins, but by the time that they began to be produced, the proportion of silver in *denarii* had been lowered, and these coins contained only about 40% silver. By the time that they ceased to be minted, they contained only about 5% of silver, although it is a little hard to judge the exact amount, because it is clear from surviving specimens that have not been subjected to much wear, that at some time during the period when they were being issued they were subjected to a process which enhanced the silver that they contained on the surface. There are various ways in which this could have happened, and it should be distinguished from the process of 'plating', which is almost always a sign of a coin's being counterfeit.

argentarius

This word, an adjective that became a noun, was used to describe someone who worked with silver (*argentum*). It was also sometimes applied to persons who changed money, after Roman coinage came to be issued in silver (and later in gold) as well as in bronze (see *mensarius*).

argenteus

This word, meaning 'of silver' appears in Pliny's *Natural History* (33.13.47), where he uses the expression *argenteus nummus* to distinguish the first Roman silver coin to be produced (which he mistakenly assumed was the *denarius*) from the first gold coin. In this case, *argenteus* was purely descriptive, and cannot be considered to be the name of a coin denomination. However, modern numismatists have chosen to use it as the name of a coin weighing about 3 grams with a fairly high silver content that was minted from the time when Diocletian reformed the coinage in A.D. 294 to about A.D. 310. A late historical document of poor quality, the *Historia Augusta*, which has already been mentioned above, uses the word to refer to several fictitious coins, so it cannot be used to prove anything unless further evidence is available.

The emperor Carausius who ruled for a while in Britain (A.D. 286/7-293), issued some coins with a higher silver content, and a higher weight, than current *denarii*. They showed the emperor with a laureate, not radiate, head. This suggests that they were not double *denarii*, but it is not possible to say what they were called – *argentei* is only a possibility. He might have been able to do this because, as with gold, he had access to mines with these metals in Britain. Later in the century Aurelian, who was attempting to stabilise the currency, issued a radiate silver coinage weighing about 4 grams, with the letters XX I on the reverse (KA at Greek mints). This probably meant 20 : 1, showing

that the metal contained 1/20 of silver. Some numismatists like to call them *argentei*, although there is no ancient evidence to support the name for this coin. Others call it an *aurelianus*, again using this name for convenience, since it does not appear in any ancient document.

Then, after Diocletian's *Edict on Prices* was issued in December 301, a few large silver coins averaging a little over 23 grams were minted. We can perhaps legitimately call them *argentei*, because a surviving inscription may be referring to them. The inscription was published by K.T. Erim. J. Reynolds and M. Crawford in *The Journal of Roman Studies* 1971, pp. 171-177, and at the beginning of fragment *b* what seems to be a (*nummus a*)*rgenteus* worth a hundred *denarii* is mentioned. By this time the *denarius* was no longer being minted, but it still remained a unit of account. *Nummus* was restored in the gap in the inscription because the word was of the right length and grammatical gender, and this is one of the reasons for suggesting that at this time the word was beginning to be used to describe a silver coin, while *pecunia* was used to describe silvered bronze coinage.

argentum

This word means either 'silver', or more specifically 'silver coinage', when a sum of money can be described with a numeral and the genitive *argenti*, 'of silver' (coinage). The word continued to be used in this way even when the proportion of silver in the alloy that was used for late Roman silver coinage fell to a low level. In some reports the expression *argentum infectum* ('unworked silver') could be used to describe silver bullion. W.V. Harris, 'A revisionist view of Roman money', in *The Journal of Roman Studies* 2006, pp. 1-24, at pp. 3-4, has warned us not to overestimate the extent to which large payments were principally made in bullion, and insists that there must have been many other ways in which financial transactions could be conducted.

argyrion (ἀργύριον)

This is the Greek word for silver, occasionally used in Greek documents in the same way as the Latin *argentum*.

as

The word *as* could sometimes be the name of a coin, or of a weight of a pound, but in Roman legal terminology could also mean the totality of something, so that someone who inherited property *ex asse* received the whole of it. For this reason, some have suggested that the Latin word was derived from the Greek εἷς, the masculine singular form of the word meaning 'one', but that proposal has not been generally accepted. The statement by Varro in his work *On the Latin Language* (*De Lingua Latina*) 5.189

that the word comes from *aes*, 'bronze', is also unlikely, as is the vague assumption (not impossible, but not linguistically proven) that it comes from the Etruscan language.

The *as* was divided into parts which were named according to the number of ounces that they contained. These were the *deunx*, *dextans*, *dodrans*, *bes*, *septunx*, *semis*, *quincunx*, *triens*, *quadrans* or *teruncius*, *sextans*, *sescunx* or *sescuncia*, and *uncia*, consisting respectively of 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1½, and 1 ounce. Of these divisions the following were represented by coins: the *semis*, *quincunx*, *triens*, *quadrans* or *teruncius*, *sextans*, and *uncia*. There is a solitary instance of the existence of the *dodrans*, in a coin of the Cassian family, bearing an S and three dots. We have no precise information as to the time when these divisions were first introduced, but some of them were probably used nearly as early as the first coinage of bronze money.

The first *asses* weighed one Roman pound, (the theoretical weight of the Roman *libra* being about 327 grams, but it is often more convenient to use the figure of 324 grams, because it is more easily divisible). Their weight fell a little, then again, to half a pound (six *unciae* or ounces, since the Roman pound weighed twelve ounces), then at the time of the Second Punic War there was a sharp reduction to two ounces, or one-sixth of a pound (what is called the 'sextantal' reduction). By the first century B.C. the weight of the *as* had fallen to half an ounce.

assarius

This was an early longer form of the Latin word *as*, which fell out of use, although it was adopted by some Greek cities as the name of the unit of their bronze coinage when they began to strike coins in this metal. In Greek, instead of being a masculine noun, like the Latin name, it became neuter (*assarion*, ἀσσάριον).

aureus

This is an adjective, meaning 'golden', but it soon morphed into a noun, and became the name of a gold coin, after the Romans began minting in this metal in the early years of the Second Punic War, perhaps as early as 218 B.C. It was nearly always struck in gold that was as pure as Roman technology could make it, with a reduction in weight from 1/40 of a Roman pound to 1/45 of a pound during the reign of Nero, and to 1/50 of a pound during the reign of Caracalla. Following that there were more reductions in weight until until it reached 1/70 of a pound, then at a time after the middle of the third century A.D., some financial crises that we do not fully understand, although several reasons have been suggested, led to slight reductions in purity and what seem to be almost random variations in weight.

In the reign of Diocletian the weight of the *aureus* (which is described as a *solidus* in the Edict on Maximum Prices, but because this was so unusual numismatists prefer to

save the word for the coin introduced by Constantine I a little later) was first stabilised at 1/60 of a Roman pound, then lowered to 1/72 of a pound by Constantine, who used the name of *solidus* regularly, perhaps to assure users that it was going to remain a stable coin.

Although these coins continued to be minted, the Roman government began preferring to receive large amounts of money paid as taxes in bullion, rather than in coins that took time to check and weigh (see *obrussa*). For this reason, in the later empire, a list of public offices and officers that we call the *Notitia Dignitatum* refers to a *primicerius* (chief administrative officer) of gold by weight (*auri massae*) and to another of gold (coins) by tale (*auri ad responsum*).

aurelianus, see *argenteus*
barbarous radiate, see *radiate*

bes

This is the Latin name for a fraction of two-thirds. A very rare bronze coin issued by Gaius Cassius Longinus in 126 B.C. has been identified as a *bes* because it bears the mark of value S**:** on it, meaning *semis,* 'half', plus two dots representing *unciae* or ounces, making a total of eight *unciae*. The Roman pound originally contained twelve ounces, although by this time the weight of the *as*, originally one pound, or *libra* had been considerably reduced, so this mark of value was necessary, because at this time the *as* was not being minted, and it was necessary to make it clear that it was not an *as* that had been further reduced in weight (see also *dodrans*).

bicharactus

This word appears only once in any surviving document, in the first line of fragment *a* of an inscription found at Aphrodisias in Caria that can be dated to A.D. 301, and was published by K.T. Erim. J. Reynolds and M. Crawford in *The Journal of Roman Studies* 1971, pp. 171-177. It was originally thought to be a part of Diocletian's Edict on Maximum Prices, but further investigation showed that it was a separate edict. The inscription is broken, and hard to read in some places. The line begins with BICHARACTAM, followed by a not very clear vertical line that could be part of the letter O, in which case, since the inscription certainly deals with coinage in some way, we might read BICHARACTA MONETA. The letter might also be P, and so BICHARACTAM PECUNIAM is also possible.

The reason for suggesting that the incomplete word is *moneta* (not in its original sense of 'mint', but of 'money' or 'coinage', which it acquired in the later Roman empire), or *pecunia* (which by now was regularly used to refer to base metal silver-enhanced coinage) is that *bicharactus*, a mongrel word with a Latin prefix and a Greek body,

means 'twice stamped', and it is difficult to think of any context in which a word of this kind (which is not found in any other surviving document) could be used, except for the production of coinage, although there are some similar ones, *bisignatus*, *dicharaktos*, *disignatus* and *disignim*.

bigatus

'With a *biga* (a two-horse chariot)', a word that appears for the first time in Livy's history of Rome (23.15.5), when he tells us that money of this kind was used in 216 B.C. to win the support of Bantius at Nola in Campania during the Second Punic War, and in a number of later passages, beginning at 33.23.7, when he reports on the booty collected from the Insubres and Cenomani, tribes located in Cisalpine Gaul, which is now part of northern Italy, which included thousands of units of *argentum bigatum*. This is difficult to understand, because the *denarii* that had a *biga* as a reverse type did not begin to be issued until the 150s B.C., whereas the triumphs at which these coins were supposedly displayed began in 197 B.C. Some scholars believe that Livy was quoting a source that was not part of an official record, words used by an earlier author who was using the word in the general sense of *denarius*. This is hard to believe, and an alternative suggestion, that the official reports of booty displayed in triumphs or ovations used the word to described the coin called a *victoriatus*, because it was half the weight of a quadrigatus, should not be dismissed automatically (see L.H. Neatby, 'The Bigatus', in *American Journal of Archaeology* 1951, pp. 241-244, and J. Melville Jones, *Schweizer Münzblätter* 2022, pp. 41-42). The coin type may have been inspired by coins that were minted for Philistis, the wife of Hieron II, at Syracuse during the Second Punic War.

Later, the word was used by Tacitus (*Germania* 5.5), who wrote that the German tribes (who did not mint coins themselves) preferred silver coins that were either *bigati* or *serrati*, probably because these could be easily identified as containing a higher amount of pure silver than later ones. This question has been discussed by G. Marinelli, 'Sulla preferenza dei Germani per bigati e serrati (Tac. Germ. 5.5)', in *contributi di Storia Antica in onore di Albino Garzetti*, Genoa 1966, pp. 269-300. There is no need to interpret this as a reference to *victoriati*, because by Tacitus's time the Germans would have known that early *denarii* with a two-horse chariot, or with serrate edges, would have a better silver content and weight than contemporary Roman silver coins.

binio

This word means a 'double unit' of anything, and although there are only a few occasions on which it could refer to a coin, it is clear that this could happen. An ancient glossary explains it for Greek readers, in this way: 'binio δίνουμμα', 'a binio is two *noumma*'. An early Christian witer, in a work sometimes attributed to Saint Hegesippus and sometimes to St Ambrose, refers in one passage (5.24.3), which seems to be a slightly

elaborated translation from the Greek of Josephus's account (*Bellum Iudaicum* 5.13.4) of the capture of Jerusalem by the Romans, to the time when some Jewish captives were eviscerated by some of the Roman army because it was discovered that their faeces contained gold coins. The statement in the later translation that the soldiers found *biniones aureos* there cannot be right. No double *aurei* were minted for the Romans before the time of Caracalla, so the author was simply trying to make the discovery appear more exciting.

For an unusually good collection of such pieces, see V. Drost and G. Gautier, 'Le trésor dit "de Partinico": aurei et multiples d'or d'époque tétrarchique', in V. Drost and G. Gautier, *Trésors Monétaires* 24, 2009/2010, pp. 153-176 at p. 162, where four coins are described by the authors as *biniones*, nine as *quaterniones* and two as *octoniones*, because of their weights. Because such denominations are so rare, they might also be described as 'money medallions', issued to honour some persons on particular occasions, which could also be used as currency.

biunx

A coin of two Roman ounces (cf. *uncia*).

centenarius

From the time of the Roman Republic this adjective (formed from *centum*) was used to describe anything that contained a hundred units, just as *denarius* described anything that contained ten units. In the later Roman Empire the neuter form became a noun which came to mean a hundred pounds of gold, and *centenarius*, *ducentenarius*, etc., were used to describe officials whose annual salaries were fixed at a hundred or two hundred pounds of gold, probably paid in coin, which would enable them to pay their households and other staff as well as themselves. It was not the name of a coin.

centenionalis

In two late Roman laws (*Codex Theodosianus* 9.23.1-3 of A.D. 356 and 9.23.2 of A.D. 395), this word is used. The statement in the first document is: 'And if by chance ships come to any provinces with merchandise, everything shall be sold with the customary freedom, except for the coins that they usually call *maiorinae* or *centenionales communes*, or others that they know are forbidden.'

The first problem arises with the word 'or', because it is not clear whether the *maiorinae* and the *centenionales* were different coins, or whether they were alternative ways of describing the same coins, and whether *communes* describes only the *centenionales*, or both words. However, in the following document, dated nearly forty years later, they seem to be different coins. This law says, 'We command that only the *centenionalis*

nummus is to be handled in a public transaction, after the coining of the *maior pecunia* has been discontinued. No one should therefore dare to exchange the *decargyrus nummus* for another coin, knowing that the coinage, if it can be detected in a private transaction, is to be vindicated to the *fiscus*.' This suggests that the *decargyrus nummus* and the *centenionalis* might be two different names for the same coin, and that the latter must therefore be a small silver denomination (see *decargyrus nummus*).

One thing is clear: *centenionalis* must (in spite of the attempts of some scholars to interpret it as meaning 'one-hundredth' of something, although the Latin for this would be *centesimus*) mean a hundred of some unit. By the middle of the fourth century the numbers of coins were no longer being expressed in *asses* or *sestertii*, and the only possibility is that a coin of this kind was valued at a hundred *denarii*. By this time the *denarius* was a unit of account, not a coin that was a regular item in commercial transactions, and the rapid decline in the value of the silvered bronze coinage at this time (as opposed to the value of gold) meant that the sum of a hundred *denarii* was in fact not a large amount. This law was issued during the joint reigns of Arcadius and Honorius. Since their successors issued in silver only a small coin that numismatists like to call a *siliqua*, which was first minted during the reign of Arcadius (A.D. 383-408), this coin is perhaps the one that is referred to as a *centenionalis* in this emperor's law. It is also possible that it was soon after that that it was decided to withdraw the silvered bronze coinage from circulation (see also the entry on *maiorina*, where an attempt is made to explain the difference between *maiorina* and *maior pecunia*).

chrysochalkos, see *orichalcum*

cistophorus

This is the Latin form of a Greek word that means 'basket-bearing'. The word appears first in the inventories of treasures stored in a Delian temple in the second century B.C., and clearly describes a coin issued by Pergamum, and later by other cities in Asia Minor controlled by Pergamum, that had an obverse type showing a basket surrounded by a wreath of ivy, alluding to the cult of Dionysus, and a bow case between snakes, referring to the cult of Herakles/Hercules at Pergamum in Mysia. It weighed about 12.6 grams, nearly three quarters of the weight of an Attic weight tetradrachm. It seems that the coin was overvalued and circulated mostly within the territory that was controlled by Pergamum. For a number of years after it was first introduced, it was not hoarded because those who were selecting coins to hoard preferred others that were in a more valuable metal.

The date of its introduction has been much discussed, and numismatists now generally assume that this happened about 160 B.C. However, a report in Livy's history of Rome mentions coins of this kind being displayed in a triumphal procession celebrating a

victory that had occurred in 194 B.C. Coins of this kind have not yet been discovered in hoards before the 160s, but this may be because people were choosing other coins to save; see J. Melville Jones, 'Philology versus Numismatics; two different points of view regarding Livy's reports of cistophori', in *Latomus* 2022 part 4 (forthcoming).

After the Romans acquired Pergamum and its territory in 133 B.C., coins of cistophoric weight continued to be struck, but with different types. They continued to be minted for the Romans until the reign of Hadrian.

contorniate

This word comes from the Italian *contorniato*, 'surrounded'. It has been used since the 17th century to describe some coin-like pieces with an average diameter of 40 millimetres struck (or occasionally cast) in orichalcum, with their obverse and reverse types surrounded by a *solco di contorno* or 'surrounding furrow'. Their style has led some to suggest that they that they were made in the fourth and fifth centuries A.D., but a recent doctoral thesis by P.F. Mittag, *Alte Köpfe in neuen Händen. Urheber und Funktion der Kontorniaten*, Bonn 1999, suggests that they have predecessors as far back as the reign of Antoninus Pius, so may have begun to be made rather earlier. Some of their obverse types show busts of emperors from Caracalla to Anthemius (A.D. 211-472), but there are also many imaginary 'portraits' of famous figures of antiquity such as Homer, Euripides, Sallust and Horace, and their reverses bear representations of scenes from the Roman circus, or the amphitheatre, or from Greek or Roman mythology or the life of Alexander the Great. A few are uniface. They are certainly not coins, although perhaps they may have been used as small change at some time. The most likely explanation for their existence is that they were used as counters in board games.

decargyrus nummus

A law of A.D. 395 (*Codex Theodosianus* 9.23.2, see also *centenionalis*), published early in the reign of Honorius, is the only document that mentions this coin, which from its name, 'the ten-silver coin', should mean that it was worth ten times as much as another silver coin. Otto Seeck (in an article on this word in Paulys's *Realencyclopädie der classischen Wissenschaft*), referring to his earlier article, 'Die Münzpolitik Diocletians und seine Nachfolger' in *Zeitschrift* für *Numismatik* 1890, pp. 36-89, made what I consider a courageous decision, when he declared that it was the smallest silver coin, weighing very approximately 1 gram, that was issued by Honorius. Also, his suggestion that it could also be described as the *argenteus minutulus* that is mentioned in the *Historia Augusta* is doubtful, because many references to coins in this work are pure inventions.

The words used in this law are, 'We command that only the *centenionalis nummus* is to be handled in a public transaction, after the coining of the *maior pecunia* has been

discontinued. No one should therefore dare to exchange the *decargyrus nummus* for another coin, knowing that that coinage, if it can be detected in a private transaction, is to be vindicated to the *fiscus*' (see also *maiorina*). It should be noted that by this time *pecunia* was becoming a way of describing bronze coinage, so the use of *nummus* with *decargyrus* suggests that these coins were not bronze.

The otherwise excellent book by Philip Grierson and Melinda Mays, *Catalogue of Late Roman Coins in the Dumbarton Oaks Collection and in the Whittemore Collection from Arcadius and Honorius to the Accession of Anastasius* (Washington D.C. 1992) shows no knowledge of what Seeck had written, and on p. 128 equates the *decargyrus nummus* with with the *maior pecunia*, which to them (possibly correctly) means the current Æ2 bronze coins. But the identification of the Æ2 bronze coin with a 'ten-silver' coin is not possible.

decussis

This word can describe the number ten, but it can also describe a cast bronze coin worth ten *asses* (identified as being of that value by the number X that appeared on it) that was issued briefly c.214 B.C. It was at about this time that the first *denarii* began to be issued, but although for a while they too were worth ten *asses*, this word does not seem to have been generally used to generally describe them (see also *quinques/quinquessis*).

denarius

This word began as an adjective meaning 'of ten, containing ten', and when it was first used to describe a coin the word *nummus* was understood, even if it did not appear with it. It then became a noun, describing a silver coin worth ten *asses* at first, and sixteen later, that continued to be issued for more than five hundred years after it was first minted during the Second Punic War. It could also have been called a *decussis*, but that name seems to have been reserved for a sum of bronze coinage. Over a long period in the Roman Empire, beginning in the reign of Nero, it was gradually debased until it contained only a nominal amount of silver.

The date of its introduction is now firmly established as being a few years before 211 B.C. The traditional date of 269 which was proposed in the past because Pliny the Elder (*Natural History* 33.13.44) confused this coin with the first silver coins issued by the Romans, and the much later date of 187 B.C. that was proposed by some scholars because of a passage in a play by Plautus called the Trinummus (see the entry under this word) have now been shown by hoard evidence to be incorrect.

When the *denarius* was first issued, it weighed about 4.5 grams, and the contemporary *as* (now sextantal), weighed one-sixth of a pound, about 54 grams. This suggests that the relative values of silver and bronze were 1 : 12. The Romans did not measure

weights in grams (the metric system came into being in 1799), so at first the *denarius*, tariffed at that time at ten *asses*, could be said to weigh 1/72 of a Roman pound, or four scruples (*scrupuli*).

Soon after the middle of the second century B.C. there was a change in the relationship between silver and bronze coins in the Roman system. It must have happened because there had been a gradual alteration in the relative values of these metals, with silver having become more valuable. The *denarius* was also now retariffed at sixteen *asses*, a number perhaps chosen because it was easily divisible into halves and quarters.

In the eastern Roman empire the relationship between the Roman *denarius* and the bronze coins that were called *assaria* seems to have been 16 : 1 also. There are some documents which suggest that it might have been 18 : 1, but when they are examined carefully it is clear that they relate to transactions in which payments that were denominated in silver were being made in bronze, perhaps through a money changer, this was because the money changer was charging an *agio* or transaction fee (see J. Melville Jones, 'Denarii, Asses and Assaria in the Early Roman Empire', in *Bulletin of the Institute of Classical Studies* 18, 1971, pp. 99-105, and D. Mac Donald, 'The Worth of the Assarion', in *Historia: Zeitschrift* für Alte *Geschichte* 1989, pp. 120-123).

With the exception of short periods during the brief reigns of Gordian I and II and Pertinax and Didius Julianus, when the silver content of the *denarius* was increased, its silver content fell as the years passed. In the end, it contained only a small amount of silver, its poverty being notionally concealed because the Romans had developed a process of 'surface enrichment' which made the coins look silvery until they had circulated for a while. Also, after the introduction of the *antoninianus*, the *denarius* was minted much less often. This must have been because there were enough *denarii* in circulation to make it possible to make a payment in an odd number of coins, with the rest mostly or completely made in *antoniniani*. A base metal coin weighing about 3.3 grams, issued by Aurelian in small quantities until the time of Diocletian's coinage reform, was probably the last *denarius*, although the term continued to be used to describe sums of money, like its predecessors the *as* and the *sestertius*, for a long time after that.

In Egypt during the time of the Roman empire the *denarius* is occasionally mentioned in papyri as being worth four Egyptian drachmas. A typical example would be 'thirty *denarii*, which make a hundred and twenty drachmas' (P.Meyer lines 15-16). Since *denarii* do not seem to be hoarded in Egypt, this type of statement suggests that the *denarius* was being used only as a unit of account, and this conclusion is supported by the fact that some of the documents, like the one mentioned above, show that they related to the activities of Roman soldiers who were stationed there.

denarius communis

This expression was never used in any surviving ancient text, although in some mediaeval documents *denarii communes* means 'public funds'. However, towards the end of the nineteenth century a French numismatist wrote an article in which he described the way in which the *denarius* became effectively a copper coin, rather than a silver one, and for some reason said that he would call it *le denier comun*. This was picked up by later numismatists, mostly writing in English, who assumed that it might be an official name for the *denarii* that were used for the maximum prices in the Edict of Diocletian on Maximum Prices. Even in the early twenty-first century some authors were still using this phrase (abbreviating it to 'd.c.'); see J. Melville Jones, 'The myth of the *denarius communis*', in *Schweizer Münzblätter*, 2017, pp. 59-61. It should not be used again.

denarius usualis

In A.D. 274 (Aurelian's time), a few *denarii* bore the letters VSV in the exergue. This is difficult to understand. If it is an abbreviation, *usitatus* or *usualis*, 'in common use', is the only likely possibility, although this would be appropriately described as 'unusual'. D. Woods, in his article 'Aurelian and the mark VSV: Some Neglected Possibilities', in *NC* 2013, 137-49, reviewed all the suggestions that had been made (his study being only slightly unsatisfactory because some of what he wrote assumed that *denarius communis* was a phrase that actually existed in ancient times – see the article by Melville Jones (2017) mentioned in the previous entry). His final suggestion was that VSV could be expanded to mean *veniens sol vicit*, 'Sol (the sun), coming, conquered', and that this referred to some victories won by Aurelian's soldiers over the Palmyrene army, led by Queen Zenobia ruling as regent for her young son Vaballathus, and by their general, Zabdas, in A.D. 272. The final victory was at Emesa, from where the cult of Sol had been introduced to the Romans by the short-lived emperor Elagabalus in A.D. 218. This is a more attractive suggestion than any of the others, although it is unprovable.

dextans

A fraction of 10/12, and therefore a weight of ten *unciae* in a Roman pound. A few of these were minted during the second Punic war, with the denomination indicated by the letter S (for *semis*, half a pound or six *unciae*), with four dots added to make up the number ten (see also *quincunx*).

dicharaktos (διχάρακτος)

In an inscription of the 2nd century A.D. found at Cadi in Phrygia (*Inscriptiones Graecae ad res Romanas pertinentes* 4.595), a tombstone prescribes a charge to be paid to the local treasury, if the tomb is reused, to be paid in '*denaria* of bright *dicharaktos* (coinage)', λαμπροῦ διχαράχτου δηνάρια. The editor, René Cagnat, surmised that *dicharaktos*, which has the literal meaning of 'twice struck', might have meant coinage that was *asper*, 'crisply minted' on both sides. If this suggestion is correct (and in that case it might mean 'firmly struck'), it would have meant that the types on both sides of the coins that were used to pay this charge had to be clearly formed, which should mean that the coins were of full weight, although the previous word, λαμπρός, 'bright', might have covered that requirement. Perhaps διχάρακτος was used to reinforce the previous word, rather than describing something different. It is easy to imagine that if this provision had not been made, someone might have tried to use as many worn coins as could be obtained to make the payment.

dichoneuton

This word, meaning 'twice melted', occurs only once, in a Roman imperial law of April 7, A.D. 371 (*Codex Theodosianus* 11.21.1) : 'The emperors Valentinian and Valens, *Augusti*, to Modestus, Praetorian Prefect. The bronze that is called *dichoneuton* is not only from now onwards to be brought to the Largesses, but it is to be completely withdrawn from use and from being exchanged, and no one is to be allowed to possess it publicly.'

The document is written in Latin, but the word is a Greek one. Michael Hendy (*Studies in the Byzantine Monetary Economy c.300-1450*, Cambridge 1985, at pp. 452-3 and 472-3), suggested that the intention of this regulation might have been to remove from circulation certain billon coins that had been issued earlier, perhaps because they were pre-Christian in their types. This explanation does not explain the meaning of *dichoneuton* adequately. It is more likely that the following sentence, which prescribes the ultimate penalty for those persons (probably mint workers) who melted existing billon coinage so that they could extract the silver from it before reminting it, makes clear to us what the real reason was. The crime of melting this coinage, described here as 'bronze', could either have consisted of melting it a second time to extract from it the small amount of silver that it contained, or more probably, if the mint workers had received appropriate weights of silver and bronze to create an alloy for this coinage, of melting the silver separately and storing a small amount of it away from the rest before proceeding with the process of minting the official coinage. Then the remaining bronze, with a smaller proportion of silver, could have been used to mint a number of coins, perhaps weighing slightly less than their theoretical weight, which in billon coinage would not be noticed.

dinomon, see *nomos*

disignim

An article by Daniel Sperber ('Moneta Bicharacta-disignim', in *Classical Quarterly* 1974, pp. 134-136) suggests that a word *disgnim* or *discnim* in a Jewish text might be expanded in Latin to *disignim*, representing an equivalent to the word *bicharactus* that appears in an inscription that refers to a coinage reform in Diocletian's time (see *bicharactus* above). *Signim* and *bicharactus* (the latter a Latinised form of the Greek διχάρακτος) are both words that can refer to the marking or stamping of coins, and *di-* is the Greek equivalent of *bi-* in Latin, referring to two of something, or something done twice.

In the Hebrew text it is clear that this word refers to coins. It records a ruling by a rabbi which dealt with a possibility that might arise when someone came to Jerusalem in the years when the 'second tithe' (a tenth of the produce of the food that he had produced, which would feed him on his visit, with the rest left over for the poor) was required, and wished to pay in coinage instead. In the first place, he had to acquire coins from a money changer that at that time and place equalled the value of the grain or oil or vegetables or fruit that he would take to Jerusalem, so that he could buy the same foodstuffs there. That would be convenient for anyone who had to travel a long way, and did not wish to pay more for donkeys or mules to carry his offering to Jerusalem. When he arrived in Jerusalem, he could buy an equivalent amount of fresh produce there with this money. But the Rabbi's ruling made it clear that if by the time that he arrived there, the value of the grain or other things had increased, or the value of the coinage had decreased, he could purchase only as much as the money that he had would allow him to buy. Since it is not likely that the cost of foodstuffs would vary substantially in a short period, Sperber suggested that the most likely reason for making this ruling by a rabbi who died in A.D 309 was that the *disignim* coins were the silver-washed coins that had recently been issued by Diocletian, coins that had been made to look silvery, when they were issued, by a process of surface enhancement, but soon revealed their low metallic value, and therefore became less valuable, perhaps the ones that were referred to in an inscription that uses another word, partly Latin and partly Greek, *bicharactus*.

dizodios (διζώδιος) or *dizodos* (δίζῳδος) or *dizotos* (δίζωτος)

This word, meaning 'with two figures', is found only in some Egyptian papyri tentatively dated to the fourth century A.D. (see F. Preisigke, *Wörterbuch der griechischen Papyrusurkunden* Berlin 1931, volume 3 p. 346), and appears in contexts where gold *nomismatia* or *solidi* are also mentioned. However, these papyri should probably be dated a little earlier, because it is possible that it refers to some gold coins of A.D 266 that have an obverse type that shows two busts, the Gallic emperor Postumus and the god Hercules with whom he was associating himself. No coins of this kind have been

found in Egypt, so the word may reflect the fact that these coins were unusual or more probably that it describes something quite different.

dodrans

This is the Latin name for a fraction of three-quarters. A very rare bronze coin issued by Marcus Metellus and Gaius Cassius Longinus in 127 and 126 B.C. has been identified as a *dodrans* because it bears the mark of value S**:.** on it (meaning *semis,* 'half', with three dots representing *unciae* or ounces; the Roman pound contained twelve ounces. By this time the weight of the *as*, originally one pound, or *libra,* had been considerably reduced, so a mark of value was necessary, because the *as* was no longer being minted, and it was necessary to make it clear that it was not an *as* that had been further reduced in weight (see also *bes*).

drachma (Attic)

In Greek writers this word sometimes appears in contexts where it clearly refers to the Roman *denarius*. The weights of the Attic drachma and the Roman coin were approximately the same, so it is not surprising that Greek historians chose to use this word, to preserve the purity of their language, or in case their readers did not understand the Latin form, which in Greek would have been *dinarion* (δινάριον). See also *tetranomon*.

dupondius

'Two-pounder', a bronze coin, originally cast, weighing two *asses*, which was first minted in small quantities at about the time of the introduction of the *denarius*, when the weights of Roman bronze coinage had been dramatically reduced. From that time onwards *dupondii* were occasionally minted in bronze, then in the reign of Augustus they were minted more regularly, and like *sestertii*, began to be minted in *orichalcum*. Also, from the time of Nero onwards the *dupondius* began to show the emperor's head with a radiate crown, which is usually a sign of a double denomination. It probably continued to be minted until the time of Diocletian, because there are some bronze coins of that emperor showing him with a radiate head (also a sign of a double denomination), which cannot be classified as belonging to any other denomination of coin.

exagium

This is one of several words derived from *exigo*, one of the meanings of which is 'test, examine'.

Some early *exagia*, in glass or metal, the earliest ones found in contexts which fit the time of Constantine I, bear the legend EXAGIVM SOLIDI. It is clear that they were created so that the weights of *solidi* could be tested. Some texts, including some

manuscripts of a Byzantine vocabulary (the *Suda*), include the word with a rough breathing, making it *hexagion*, but since that would imply that it contained six of something, that must be incorrect.

follis

This word originally meant 'bag, wallet or purse'. It was then applied to a bag containing coins, the number being identified by a ticket (*tessera*) that was attached to it. This would have made it unnecessary for the bags to be opened and checked each time they passed from one person to another. A mosaic in a house at Piazza Armerina, Sicily, dated around A.D. 300, shows bags with the number 12,500 on them. This number would be hard to explain, except that it seems that certain radiate silver-washed coins that had begun to be issued a little earlier during the reign of Aurelian had now been tariffed at twelve and a half *denarii*. Since these early specimens of what was probably called a *nummus* at this time weighed about ten grams, a *follis*, unless some more valuable coins were included, would have weighed about twelve and a half kilograms. At the beginning of their life some Italian mints produced smaller coins which appear to be intended to be halves and quarters of these *nummi*, but unsurprisingly, as the weight of the *nummus* declined significantly over the years, these ceased to be issued, because they might have caused confusion.

The coins that modern numismatists often call *folles* were first issued by Diocletian, bronze coins with a diameter of 25-28 millimetres at first, gradually shrinking to a diameter of about 15 millimetres. They initially had a reverse showing a figure representing the spirit of the Roman people, with the legend GENIO POPVLI ROMANI. Other personifications followed, and one that became popular showed the gate of a military camp. There is no evidence to support the guess that these coins were called *folles*, and perhaps *nummus* was the name actually used. Then in A.D. 498 an official working for the eastern Roman emperor Anastasius issued coins that were called either *terunciani* or *follares*, which we can identify as the largest of the three *aes* coins that were introduced at that time (see *teruncianus*). They bear the mark of value M. This is one of the ways of expressing numbers in Greek, using the letters of an early form of the alphabet (*alpha* = one, *beta* = 2, *gamma* = 3 and so on, so *iota* = ten, *kappa* = twenty and *mu* = forty). From this time onwards *follis* occurs occasionally in Greek documents as the name of a coin.

hexagion

This may be only a variant Greek spelling (with the first vowel aspirated) of *exagium*, but in a Greek medical writer of the fourth century A.D. it seems to be a weight of one and a half drachmas. It was never a coin, only a description of the weight of an element that was to be mixed into a medication.

hexas (ἕξας)

The Greek equivalent of the Roman *sextans*.

holokottinos (ὁλοκόττινος)

'Completely cooked', a word used, like *nomisma*, to describe a *solidus* in Greek texts, implying that these coins were in pure gold.

hypochalkos (ὑπόχαλκος)

'Bronze/copper beneath', the Greek equivalent of the Latin *subaeratus*, used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal.

keration or *kokkion* (*siliqua*)

Both the Greek word κεράτιον (sometimes found in a diminutive form κόκκιον) and the Latin word *siliqua* mean 'carat'. See *siliqua*.

lepton (λεπτόν)

This word means 'light, small', and the best-known example of its use in a monetary context is in Mark 21.42 and Luke 21.2, part of the story of the 'widow's mite', which tells us that this very small contribution of two of these coins from a poor person to the temple was as valuable as the much larger sums that rich people were contributing. In Mark's version, it is explained that 'two *lepta* are a *quadrans*', the *quadrans* being the smallest Roman denomination at that time, and the smallest Jewish coin at that time was called a *prutah*. Since Mark and Luke were writing in Greek, they were not using the Hebrew word, but just looking for a Greek equivalent, so this does not provide evidence that *lepton* was ever the name of a coin, except in the sense that 'mite' was, in English – a word that could be used in a general way to describe a coin of very small value (there were in the late Middle Ages some small Flemish coins to which the name 'mite', spelt 'myte' or mijht' was applied). In modern Greece since 1827 *lepton* has always been the name of the smallest unit of its currency, but that is a different matter.

libella

'Little pound', a diminutive form of *libra*. In the work *De lingua Latina* written in the first century B.C. by a formidable scholar called Marcus Terentius Varro, it is stated (5.174) that it is a tenth of a *denarius* (*nummi denarii decuma libella*), but there is no such coin. Also, in a much later work of the second century A.D. by Volusius Maecianus on the fractions of the *as* (*Assis Distributio* 66.1), it is stated that the *libella* is one-tenth of a *sestertius* (*sunt enim in sestertio libellae decem*). But it was never a coin. It is also

mentioned in some literary texts, but contrary to what some modern writers have assumed, it does not seem to have been a coin.

libra (and *litra*)

This word (like its Greek cousin *litra*), probably goes back to a time when coins began to be made, and originally meant 'scale (for weighing)'. It then became the name of the standard unit of weight, a pound. The 'libral' weight standard was the standard of the earliest Roman bronze coins, before the process of reduction began. Its theoretical weight may have been as high as 327 grams, lower than that of the British Imperial pound, but many numismatists find it more convenient, because its fractions can often be calculated more simply, and more aligned with the weights of coins that have suffered a little wear, to use a weight of 324 grams.

maior and maiorina

These words, like some others, such as *centenionalis*, *miliaresion and minutulus*, that seem to refer to late Roman coins, appear only rarely in surviving documents. Some scholars have assumed that they refer to the same coins, and that the different words are only an example of what might be called 'elegant variation' of language (*variatio elegans*). This might be correct in more literary forms of writing, but these documents are legal ones, so we must assume that the wording was intended to be precise, also, that they would be referring to the situation exactly at the time when these decisions were promulgated.

In a law recorded in the *Codex Theodosianus* (9.21.6) of February 349, when Constantius II was ruling in the eastern Roman empire and Constans in the west, it is stated that 'We have learned that some *flaturarii*, both criminally and repeatedly, are purging the *maiorina pecunia* by separating silver from the bronze.' This is easy to understand. At this time, *pecunia* usually refers to bronze coins with a silver-enhanced surface. The *flaturari*i 'blowers', worked to make the furnaces in which metal was melted as hot as possible. If they were given certain amounts of silver and bronze to melt together, it would have been possible for them to put aside a small proportion of the silver and keep it for themselves, because it would have been impossible to analyse the coins that were produced with enough accuracy to determine what had happened. The law made this a capital offence, but even in modern times, in places where capital punishment still takes place, this has not deterred people from doing something that is forbidden.

Maiorina pecunia is an odd expression. Adding the diminutive suffix *-inus* to a word that means 'greater' may give a sense of 'slightly greater', *i.e.* not the greatest. This may support the identification of the *maiorina pecunia* with the coins that are now most often described by numismatists as being the third (in descending order) of the base metal

coins of the period (described as Æ3 in older publications), because they were 'slightly greater' than the smallest coins. In that case, the law would refer to the larger of the two coins that Constantius II and Constans introduced in A.D. 346 (sometimes described incorrectly, as shown elsewhere, as being a *centenionalis* and half-*centenionalis*). These two coins replaced the smaller Æ4 coin issued by Constans in the west, and the Æ1 and Æ2 coins were no longer being issued. We may assume that the reason why it refers to only one kind of silver-enhanced coin is because the mint workers had only recently begun stealing some of the silver that should have gone into the larger of the new coins (or because this had not been noticed before).

We then find something slightly different, *maior pecunia*, in a later law of April 12, A.D. 395, delivered at Milan during the reigns of Arcadius in the east and Honorius in the west (*Codex Theodosianus* 9.23.2). This law orders that 'only the *centenionalis nummus* is to be handled in a public transaction, after the minting of the *maior pecunia* has been discontinued'. This implies that one denomination of the silver-enhanced bronze coinage was no longer to be minted. At this time there were three denominations of silver-enhanced bronze coinage being produced, none large enough to be called Æ1, and the others Æ2, Æ3 and Æ4 (*maior*) *pecunia*. There was indeed a brief cessation of the bronze coinage after this, although in A.D. 409-410 Priscus Attalus, a puppet of Alaric, issued some Æ3 coins, and a small number of bronze coins, mostly Æ2, Æ3 or Æ4 ones, except for a single Æ1 issue, were minted by later emperors until the reign of Anastasius I (A.D. 491-518). No certainty is possible, but my interpretation of this legislation is that in April 395 minting of bronze coins was being discontinued, and after one denomination was no longer being minted, leaving only two, the larger of which was described as the *maior pecunia*, and the smaller denomination was also discontinued, this left only what was still being called the *maior pecunia* to be no longer minted, at least for a while. This could mean that a different name was being used in legal documents to refer to the same coin at different times. Perhaps this can be compared to the practice followed in English schools in the days when Latin was a normal subject, and boys were identified by their surnames. Someone who entered the school might be identified, if there were already two other boys there with the same surname, by adding *terts* (for *tertius*) to his name, and would gradually move up to *minor* and *major*.

The use of *nummus* and *pecunia* here is significant. By this time the word *pecunia* was regularly being used to describe the silvered base metal coinage. This vague general word was useful when it came to describing coinage that might originally have been denominated as consisting of silver, but, as most people would have realised, now contained little silver. The use of *nummus*, not *pecunia*, on the other hand, with *centenionalis* is one reason for saying that the *centenionalis* was a silver coin.

In the inscription *CIL* VIII, 17896, an edict issued by Ulpius Mariscianus, the governor of Numidia (A.D. 361-363), a passage lists the fees that should be paid for *charta* (papyrus) by persons engaging in civil trials. For a first application, it is said that *singuli nummi maiores* will be sufficient, and when a legal case has been fully established, for defendants it will be four, and for prosecutors up to six. The legislation was clearly designed to rein in the tendency of members of the legal profession to use as many words as possible (perhaps, like modern lawyers being paid 'per folio', for each hour allegedly worked). Here we have a different situation from the matters referred to in the *Codex Theodosianus*, because *nummi* would have referred to silver coins, and therefore this would have referred to the heavier of the two coins that are sometimes called heavier and lighter *siliquae*.

mensa/mensarius

Mensa is the Latin word that means a table in any sense, whether in a house, or a religious building, or in a workshop. It was also used to describe the table at which a money changer would sit, preparing to exchange coins. For this reason, the word *mensarius* is often found in contexts where it means 'money changer' (see also *argentarius*).

miliarensis (Latin) or (Greek) *miliaresion* (μιλιαρήσιον)

The Latin adjective *miliarensis* is derived from *mille* (a thousand), and could be used to describe a number of things. As a noun, becoming the name of a coin, it sometimes took the neuter form *miliarense* (*miliarensia* in the plural), like the later Greek word *miliaresion*. Some numismatists prefer the neuter spelling. The names of Roman coins, however, are not usually neuter in gender, and therefore *miliarensis*, perhaps with the noun *nummus* understood, is more likely to be the correct form, although no surviving text uses it in a case that would settle the matter. The fact that the Greek word is neuter is not relevant, because some names of Greek coins, or Greek equivalents of the Latin names of coins, have a neuter form, for example *denarion* or *dinarion* for the *denarius.*

Those who wish to study the history of this name should read J.P. Callu, 'Les origins du "miliarensis" in *Revue Numismatique* 1980, pp. 120-130. The first mention of this coin occurs in a work composed by St Epiphanius, written in A.D. 392 at Salamis on Cyprus, which is generally known by the title 'On Weights and Measures', although this subject forms only a part of what it contains. Most of the Greek text of this work has been lost, except for a few quotations preserved in other writers, but Syriac, Armenian and Georgian translations survive. A translation of the Syriac version was made by James Elmer Dean (Chicago 1935). Epiphanius attempted to explain the name by deriving it from the Latin word for 'soldier' (*miles*), claiming that the coins were originally called *militarensia* because they were given as donatives to soldiers. This explanation, although it is repeated with some slight variations in other texts

(John Lydus, *De Mensibus* ed. Bonn p. 56 and Cedrenus, *Historiarum Compendium* Vol I, ed. Bonn, p. 296), may be disregarded.

The consensus of opinion seems to be that *miliarensis* described something that was 1/1,000 of something else, and numismatists have decided that it must have referred to a silver coin that was worth 1/1,000 of a pound of gold. This seems a reasonable interpretation, although we have no document that actually describes a payment being made in coins of this kind. The first coins that might have fitted this interpretation, since the silver-enhanced bronze coins of the late empire would certainly not have been worth as much as this, are silver coins issued between the reigns of Constantine I and Arcadius and Honorius, the larger ones weighing about 5.4 grams and the smaller a little over 4.5 grams. Numismatists get round the problem of deciding which coin might have been a *miliarensis* by using the terms 'heavy *miliarensis* (or *-e*)' and 'light *miliarensis*', expressions which the Romans are not likely to have understood.

By Diocletian's time silver coins had become rare, and most of the currency consisted of gold and the silvered bronze coinage already mentioned, so it is possible that the *miliarenses*, which seem to have been produced in small quantities but are well made and are often discovered with piercing that suggests that they were worn as ornaments or even as amulets, were distributed in this way.

An undated and now incomplete document, probably compiled in the late fourth century and revised in the early fifth century A.D., known as the *Notitia Dignitatum* or 'List of Dignitaries', contains some entries naming officials and departments in the western and eastern parts of the Roman empire whose duties were concerned with finance and coinage. One title has always given me much pleasure. The chief financial officer (perhaps equivalent to 'Treasurer' or 'Chancellor' or 'Chief Financial Officer'), whose duty it was to administer certain major forms of taxation and, of course, distribute appropriately what had been collected, was known as the *Comes Sacrarum Largitionum*, the 'Count of the Sacred Largesses' (by this time anything connected with the emperor might be designated as 'sacred'). I have pointed this out to several Australian Treasurers in various governments, but not a single one has followed my suggestion that a similar title might be constructed for his position.

One department in this list is described as the *scrinium a miliarensibus*, the Bureau for *miliarenses*, which had only a small staff. Since at this time silver coins of two different weights were being minted, it is possible that the word *miliarensis* had come to mean silver coinage in general, just as *pecunia* was being used to describe silvered bronze coinage.

So much for the miliarensis. What seems to be a reference to the Greek word *miliaresion* as a coin occurs in one of the *Novels* of Justinian (105.2.1, the Latin version dated to December A.D. 536 and the Greek version a year later). In this paragraph Roman consuls

are forbidden to scatter gold coins to the populace (this being reserved for emperors; see *sparsio*). Consuls may scatter items of lesser value, including *miliaresia*. This leaves us with two questions: are *miliarensis* and *miliaresion* (the latter word appears in the same form in both the Latin and Greek versions, except that in one Greek manuscript it is spelt with a double *lambda*) different forms of the same name, or different names for different coins? Because of this text it is probably correct to call the larger of the two silver coins issued by Justinian, weighing about 4 grams, a *miliaresion*, not a *miliarense*, as some cataloguers do (often describing a lighter coin half its weight as a light *miliarense* or *siliqua*, and an even lighter silver coin issued at the mint of Carthage as a half-s*iliqua*). No certainty is possible, but this text shows that the statement at p. 184 of my *Dictionary of Ancient Roman Coinage* (1990), that this word applies only to a Byzantine silver coin that was introduced in A.D. 720, is incorrect.

mina (μνᾶ)

Mina is the Latin form of the Greek μνᾶ, which began as the name of a weight, although later it became the name of a sum of money. It was the weight of a hundred drachmas of Attic weight, or seventy coins of Aeginetan weight, and a higher μνᾶ was used to weigh market produce (this was raised from about 600 grams to about 650 grams in the second century B.C. to make it equal to two Roman pounds).

minimi and *minimissimi*

Many Roman sites in Britain have provided hoards of coins which from the later third century onwards have provided large numbers of poorly executed copper or brass small coins, some with the emperor's head laureate, others with a radiate head, and they are also found elsewhere. Because it is not clear what their denominations were, modern numismatists call them *minimi* 'smallest', or 'minims' in English. Their poor execution and variable weight suggest that they were local attempts, official or semi-official, to provide small change, as more and more people began to use coinage for the purchase of the goods that they wanted.

minutus/minutulus

The first of these words appears only in the *Historia Augusta I* (*Severus Alexander* 22.8 and *Aurelian* 9.7 and 12.1), usually as an adjective describing the noun *argenteus*, so like many other descriptions of coins that appear in this work, it should not be regarded as a genuine name. The second appears in old publications on Roman coins describing the *denarius* of Caracalla, as opposed to the heavier *antoninianus*, but again this is not a description used in any ancient source.

missilia, see *sparsio*

niketerion (νικητήριον)

A Greek word meaning 'prize of victory' (νίκη). It is used by modern (but not by ancient) writers to describe a medal awarded to commemorate a victory. It cannot be proved that any Greek or Roman coins were issued for this purpose, although it has been suggested, probably incorrectly, that this might have been the reason for striking the fourth century B.C. decadrachms of Syracuse, or more probably, the Abukir and Tarsus medallions produced in the fourth century A.D.

nomisma (νόμισμα)

A general word for coinage, which was, like *holokottinos*, used in Greek texts to describe the *solidus*. A diminutive form, *nomismation*, is also found.

nomos (νόμος), and *nummus*

The first word, a Greek noun (with the alternative forms *noummos* (masculine) and *noummion* (neuter), was used as the name of a standard unit of silver Greek coinage in southern Italy and to a lesser extent in Sicily from the fifth century B.C. onwards, and also in some Italian cities as the name of a bronze coin.

When the Roman *denarius* began to be issued a few years before 211 B.C., its name, an adjectival form, was probably understood at first as being applied to the Latin noun *num(m)us* (which is often spelt with only one *m* in early Latin, a form which is followed in modern languages in words such as 'numismatics' and 'numismatist'). Similarly, *quinarius* and *sestertius* were originally adjectival forms, although they soon became nouns.

With regard to the Latin noun *num*(*m*)*us,* the Oxford Latin Dictionary cautiously describes it as being 'related at least ultimately to Greek νόμος; original meaning 'regular or statutory unit of currency'. This Greek word, which has a number of meanings, may be related to the verb νέμω, meaning 'apportion, divide', which leads to the meaning 'statutory / standard unit' (of currency) for the noun νόμος.

In the later Roman empire, *nummus* can sometimes be the name of a specific coin denomination, beginning with a coin that some numismatists have called a *follis* and others a *nummus*, issued in the time of Diocletian. These names are both sometimes associated with the small silver-enriched coinage that began to be produced between A.D. 293 and 296, with its weight declining in later years (but see *pecunia*). Also, in Egypt, some documents refer to financial transactions in talents and *nummi*. For example, some *ostraca* from Douch in Egypt (numbers 32, 54 and 272) records financial transfers in this way, but it is unclear whether they are coins, or just units of currency.

For a number of years, starting about 190 B.C., the inscriptions that published inventories of valuable items kept in the temple of Artemis on the Greek island of Delos recorded the presence of 29 *tetranoma,* 11 *dinoma* and 10 *nomoi* (four-*nomos*, two-*nomos* and *nomoi*); see *Testimonia Numaria* text **259**, Volume 1, at p. 189 and the commentary, Volume II, at p. 152. It has been suggested that these are coins issued by a western Greek mint, perhaps Syracuse, but this must be wrong, because the cataloguers on Delos always found ways of indicating which city or ruler had minted the coins that were kept there. This must therefore have been a way of describing the coins that were actually *denarii, quinarii* and *sestertii*, using Greek words. A later inventory, dated about 154 B.C., uses the word *dinarion* for the Roman *denarius*, but this is the only example of its use in these documents.

obol (ὀβολός)

The ancient Greek word ὀβελός means 'spit', a metal rod used for roasting pieces of meat, and the original meaning of 'drachma' was 'handful'. Six roasting spits made a 'handful', and since in a very early stage before coinage became normal these words were used to describe metal items that could have a value as currency. When coinage developed, ὀβολός, with a slightly different spelling, became the name of a coin worth one-sixth of a drachma. At Alexandria in the Ptolemaic and Roman periods some coins can be identified as obols or multiples of obols.

obrussa (ὄβρυζα)

This word, found first in Latin authors although in fact it seems to have been formed first in the Greek language, had a number of different meanings at different times. In the first place it seems to have meant 'assaying', literally applying to the testing of the purity of gold, and sometimes used in a metaphorical sense, then simply 'pure gold'. In the later Roman Empire, it became the name of a tax levied on taxpayers if they paid their taxes in gold coins rather than in ingots of gold. This was because it was more difficult and took more time for tax collectors to test large numbers of coins rather than ingots (see J. Melville Jones, '*Obrussa and* Ὄβρυζα. Their History and meanings', in *Journal of Ancient Civilisations* 2021, pp. 115-136).

octonio

Although this word does not survive in any ancient text, it would be a correctly formed name, on the analogy of *binio,* for a multiple coin or money medallion of eight *aurei*.

orichalcum

ὀρείχαλκον, literally 'mountain bronze', is mentioned by ancient Greek writers occasionally, with no clear indication of what it was, except that it was bright and shiny.

For this reason, Roman writers perverted its name to *aurichalcum*, 'gold-bronze'. The word is used by numismatists to describe an alloy of bronze and zinc, like modern brass, that was shiny when the coins were new, making them seem almost like gold. *Sestertii* and *dupondii* were struck in this metal from the later 40s B.C. until the third century A.D. It is impossible to say exactly when the use of this metal came to an end, because the zinc was increasingly replaced by lead.

pecunia

This word, like some others listed here, changed its meaning as the years passed. Originally, it seems to mean 'wealth' in a general sense, and is perhaps connected with the word *pecus*, meaning a domestic animal, although some modern philologists believe that it is connected with an Indo-European word *peku* that means 'movable wealth'. In classical Latin it was used to describe coinage of all kinds. However, in the later Roman Empire it is clear that it described base silver-enhanced coinage. This may have been a polite was of saying that although these coins may have had a silvery appearance when they were first minted, they consisted of bronze and perhaps some lead. *Nummis* now came to describe the rare silver coins. This change in meaning can be seen in a document called the *Notitia Dignitatum*, a list of different departments or bureaux in the administration of the empire, one of which was headed by the *primicerius* of the *scrinium* for *pecuniis*, who was distinguished from the head of the department for silver coinage, the *primicerius* of the *scrinium a miliarensibus* (see *miliarensis*).

pentassarion (πεπεντασσάριον)

Although the *as* was a Roman coin, Greek mints sometimes denominated bronze coins in *asses*. The only examples of a coin of five *asses* were issued at Marcianopolis in Moesia in the third century A.D. They bore the letter E or ε (the fifth letter of the alphabet) to indicate this. We do not know why coins of this denomination were issued (they are far too late to be *quincunces*).

philippeus or *philippus*

This word occurs in many ancient texts where it is clear that it may sometimes refer to Greek gold coins of Philip II of Macedonia, but in most other cases has become a name for any kind of Greek gold coin of Attic weight.

pseudomoneta

This word was used by some early modern numismatists to describe *contorniates* and *spintriae*.

quadrans (κοδράντης) and (*te*)*tartemorion* (τε)ταρτημόριον

The Latin word, meaning 'quarter', was used from the time when Roman coinage began to describe a coin of three ounces, a quarter of a Roman pound, this being indicated by three pellets to indicate its value. From about 90 B.C., when inflation had reduced the value of coinage, and the size of bronze coins had decreased, the *quadrans* became the smallest coin, which among other things could be used to purchase the cheapest form of entry to the public baths, or a short session with the cheapest kind of prostitute. It survived until the time of Antoninus Pius. The Greek (*te*)*tartemorion* was not usually used to describe a coin, and the Greek version of *quadrans*, κοδράντης, appears only in Matthew 5.26, where it is said that a wrongdoer will not be allowed to leave prison until he has paid the 'last κοδράντης'.

quadrigatus

A *quadriga* was the Latin name for a chariot drawn by four horses. Some Greek coins minted in South Italy or Sicily have this as a reverse type. In the middle of the third century B.C., before the *denarius* was introduced, *nummi quadrigati* (the word, like some other coin names began as an adjective) were issued by the Romans, minted either at Rome or (because their weight standard of 6.8 grams suggests that they were didrachms) in the south of Italy. Towards the end of the time when they were being minted, their weight dropped a little, and the purity of the silver in them was also reduced slightly. The suggestion by K. Harl (*Coinage in the Roman Economy 300 B.C. to A.D.* 700, at pp. 8, 29 and 481) that these coins were heavy *denarii* preceding the minting a few years before 211 B.C of lighter coins called *denarii,* is wrong. Half-*quadrigati* and halved *quadrigati* are also sometimes found, which shows that they were being used for small payments at this time (see *bigati*).

quadrussis or *quattrussis* or *quattus*

This was a weight of four *asses*, which does not seem to have been the name of a coin, although it has been suggested that some of the lighter bars of the *aes signatum* might have had this name.

quartarius

This word was the name of a Roman measure of volume for liquids and grain, about 1/6 of a litre. In the *Historia Augusta* it is stated that Severus Alexander planned to issue a coin of this name, but no such coin exists.

quartuncia

This word, meaning 'quarter-ouncer' may have been the name of a coin one-quarter of an *uncia* or one forty-eighth of an *as*, issued briefly during the second Punic War. It

may also have had the name *sicilicus*, perhaps derived from 'sickle'. The reason for giving them the later name is that some of these coins have a C or a reversed C (in the shape of a sickle) in the field of their reverses. No ancient text describes any payments that were made or demanded using either of these names.

quaternio

This is the Latin word for a group of four people or things. It does not survive in Latin literature in a numismatic context (although we find, in the unreliable *Historia Augusta*, references to gold coins of 'quaternary form'). There are two reasons for suggesting that this might be an appropriate name for some coins or medallions. The word is of the same kind as *binio* and *octonio*, and some coins or medallions are of a suitable weight, starting with an Augustan issue that survives in very small numbers, and is so rare, and of such an unusual weight, that it may be considered a special striking, perhaps a medallion produced to honour a small group of persons, rather than a genuine coin. For a recently discovered hoard containing a number of such 'money medallions', see *binio*.

quinarius, see *sestertius*

quincunx

'Five *unciae*', the denomination of some rare bronze coins issued in central Italy in the middle of the second Punic war, their denomination made clear by five little blobs on the reverse (cf. *quincussis* and *quinquessis*).

quincussis

This word, meaning 'five *asses*', is formed on the analogy of *quadrussis* and *decussis*, but does not appear in any surviving documents. Some early bronze ingots weighed five pounds, or five libral *asses*, and in the earlier part of the Second Punic War some bronze coins that were issued on a weight standard a little below the semi-libral one, showed the numeral V to indicate that they were worth five *unciae* (see *quincunx* and *quinquessis*).

quinquessis (sometimes contracted to *quinques*)

This word means 'five *asses*' according to the Roman writer Festus. It was not the name of a coin, only of a sum of money (see *quincunx* and *quincussis*).

radiate

In Nero's reign some orichalcum *dupondii* show his head with a radiate crown rather than a laurel wreath. It is reasonable to assume that because of what happened later it indicated a double denomination, two *asses*, which prevented confusion with the *sestertius*. Radiate crowns then became normal for double denominations in all metals, although for some reason Galba, and Hadrian, after A.D. 119, did not issue *dupondii*

that showed them with radiate crowns. In the later Roman Empire the radiate crown became an attribute of Sol, the sun god.

In A.D. 259 some *antoniniani* began to be issued in the western provinces, which had been detached from the Roman Empire by Postumus. They were mostly in such a poor style that it is difficult to believe that they were the product of official Roman mints. They continued to be minted until these provinces were recovered in A.D. 274 after Tetricus II had been defeated. A small number were also issued in other places. They seem to have been issued to make up for a shortage of coinage, and were not forgeries, so the Roman government allowed them to circulate. Modern numismatists often refer to them simply as 'radiates'.

ramo secco

'Dry (*i.e.* leafless) branch', an Italian phrase used to describe cast ingots of bronze or impure copper, probably made by the Etruscans, which have been found in northern or central Italy in archaeological contexts ranging from the sixth to the third century B.C. The name is inspired by the branch or herring-bone pattern with which they are decorated, and this decoration suggests that they were official productions. However, their weights vary greatly, and the fact that it is rare for them to be found entire suggests that when they were used for payments, or handed over to make objects in bronze, they would be weighed, and then the required proportion of the metal that they contained would be hacked off. There is no evidence to make it clear why they were decorated with this pattern, and we can only suppose that after the first ingots of this kind were made with this decoration, later ones were decorated with the same decoration to authenticate them, perhaps to indicate that the metal that they contained was of acceptable quality, suitable for making bowls or other objects.

scripulum or *scrupulum*

This is the name of a weight in the Roman system, and the ancestor of the English 'scruple'. It was not a coin, but a weight that is usually given as 1.137 grams. However, as with the pound or *libra*, it is easier to use a weight of 1.125 grams, because it makes the arithmetic easier, and allows for the fact that many coins and other objects have lost weight through wear or cleaning. Some Etruscan silver coins bear marks which seem to represent their weight in *scrupula*, and the weights of Roman gold and silver coins often seem to have been calculated in the same way; for example, Nero's *denarius* was of three *scrupula*, and the *solidus* issued by Constantine I was of four *scrupula*.

sembella

A combination of *semi* and *libella*, used by some Roman writers to mean a half pound. Some numismatists have used the word to describe a coin which is a half of a libral *as,* but there is no justification for this.

semis

The more common name for a coin that was a half of an *as*, sometimes shown to be this denomination because of the alterations in the weight of the *as*, by the letter *s* or six dots on these coins. It was issued for the last time during the reign of Hadrian, by which time it had become a very small coin.

semuncia

The half of an *uncia* or ounce, first appearing as a small cast bronze coin in the third century B.C., its denomination indicated by the Greek letter Σ, which suggests that it was intended to circulate in Greek areas of Italy. After a while it began to be struck instead of cast and was last issued soon after the introduction of the *denarius*.

septunx

A Roman weight of seven ounces or seven-twelfths of a pound, denoted by the sign S. (*semis* plus one dot). It was never a coin.

serratus

This word means 'notched', and when applied to coins, means that around their edge there are little notches. The historian Tacitus, writing at the end of the first century A.D. (*Germania* 5.5), reports that the Geman tribes to the north of Italy, who did not at that time issue coins, nevertheless showed a preference for two types of coin, the *bigatus* and the *serratus*. *Serrati* can be identified as coins struck occasionally between the middle of the Second Punic War and the mid-60s B.C. The reason for their striking is not clear. If it was intended to make it more difficult for forgers to produce plated coins, this might not have succeeded, because plated *serrati* have been found. Theories that link these coins with some Gaulish ornaments that have serrated edges are not convincing, particularly since the *serrati* do not seem to have been produced specially for distribution in Gaul. Also, some gold and silver coins issued by the Carthaginians during the second century B.C. were struck on serrated flans, together with some approximately contemporary bronze coins of the Seleucid and Macedonian coins. The existence of the latter suggests that the discouraging of counterfeits was not a primary purpose of their being made.

sescuncia or *sescunx*

A word derived from *sesqui-* (one and a half) and *uncia* (ounce). It was normally only a weight, but some Roman mints in Italy issued a few bronze coins at the time of the Second Punic War of this value, which was denoted by the letters .S or .Σ, accompanied by a dot, on them, signifying *semis* + *uncia*.

sestertius

The Latin word is a combination of *semi-* and *tertius.* The literal translation would be 'half-third', and in Latin this could mean 'two and a half'. The *denarius* was originally worth ten *asses*, and so the *sestertius* was worth a quarter of that. When after the middle of the second century B.C. the value of the *denarius* was raised to sixteen *asses*, the *sestertius* then became a coin worth four *asses* instead of two and a half. In spite of this, its name, and that of the *quinarius*, were not changed. In documents it was usually written in the form of two upright strokes, usually joined by a horizontal line, making H (= 2), followed by an S (for *semis*) making HS followed by a number, expressed in Roman numerals or in words.

The silver *sestertius* was not issued between about five years when it was first minted at the time of the introduction of the *denarius*, and its last appearance in 44 B.C. A bronze version, a much larger coin, was briefly produced for Mark Antony after that, perhaps because he was short of silver to pay his troops, and this denomination was useful for petty expenses. Then in the time of Augustus it began to be issued in orichalcum, which probably made it more attractive. These coins continued to be produced until the time of Trajan Decius, although by that time they had reverted to being only bronze.

The neuter form *sestertium* was used to denote 1,000 *sestertii*, and as with other numbers that described amounts of coinage or other things, this was expressed by writing the number with a horizontal line over it; for example, Pliny tells us that seven years before the Second Punic War began, the Roman *aerarium* contained only 22,070 pounds of silver by weight – *pondo ... argenti* . $\overline{\text{XXII}}$LXX

In the second century B.C. large amounts of money were often reported as being in *asses* or *aeris* ('of bronze'), even though their high value makes it obvious that they would have been in silver. In the same way, the *sestertius* later became a unit of account, even though large sums of silver would have been paid in *denarii*. In French, *argent* can mean 'money in general, just as in Yorkshire in the past 'brass' could mean any kind of money.

sextans (ἕξας)

In Greek coinage the words ἕξας, 'sixth', (or διόγκιον, 'two-ouncer', or δίζας, 'pair') were used in some cases to describe a coin valued at one-sixth of a *litra*. In Roman coinage

the Latin *sextans*, also meaning 'sixth', because a Roman pound had twelve ounces, was a bronze coin that weighed one-sixth of a pound when it was first issued, although like other bronze coins its weight fell considerably. Because of this, its value was later made clear by two raised dots. It was discontinued soon after 100 B.C.

sextula

This word also means 'one sixth', but it was never used as the name of a coin.

sicilicus

This word, perhaps derived from 'sickle', may have been the name of a coin one-quarter of an *uncia* or one forty-eighth of an *as*, issued briefly during the second Punic War. The reason for giving it this name is that some of these coins have a C or a reversed C (in the shape of a sickle) in the field of their reverses. It might also have been called a *quartuncia*, 'quarter-ouncer'. No ancient text describes any payments made or demanded using either of these names.

siliqua (*keration, carat*) and *half-siliqua*

The seed of the carob tree (*siliqua Graeca*), gave its name to the smallest weight in the Roman system, one-sixth of a *scrupulum* or 1/1728. The Greek equivalent was *keration* (κεράτιον). In the fourth century A.D. the *siliqua* also began to be mentioned as a unit of value. It seems to have been worth one twenty-fourth of a *solidus* of full weight (72 to the pound), or 1/21 of a light-weight *solidus* (84 to the pound). There was also for a time a sales tax at Rome called the *siliquaticum*, of 1/24, *i.e.* one *siliqua* to a *solidus*.

There is no evidence that *siliqua* or *half-siliqua* was ever the name of a coin weighing about 1.9 grams or half that. However, modern numismatists have often decided to apply these words to various coins, even thought their weights are quite different, with no justification. This is because there are no other names that can be applied to them.

singula

See *sembella*.

solidus (and *light weight solidus*)

This word is usually used to describe a gold coin issued for the first time by Constantine I in A.D 309/10 (as stated previously in the article '*aureus*'). *I*t is used in one document in Diocletian's time (the *Edict on Maximum Prices*) to describe the earlier gold coin, but it is convenient to ignore this, and use the name for the later coin that had a very long history, surviving with this name into the Byzantine period as late as the tenth century). It was known in Greek as the *nomisma* or *holokottinos*. It weighed 1/72 of a Roman pound, or about 4.5 grams. An entry in Diocletian's *Edict* tells us that the *solidus* and

gold bullion (a pound's weight of *solidi* or a bar of gold weighing a pound), had the same value, so it seems that at this time taxes might be paid in either of these, or both, with no deductions being made to cover the cost of inspecting or testing coins. This means that these coins were treated as a commodity at first, but later things changed. It took more time for *nummularii* to collect and bag coins after attempting to ascertain whether they were not plated, clipped or of lower weight that they should be, so the government in Constantinople decided that taxes of high value should be paid in bullion, and if they were not, then an extra charge, called *obryza* (*ὄβρυζα*) would have to be paid (see John Melville Jones, '*Obrussa and* ὄβρυζα. Their History and meanings', in *Journal of Ancient Civilisations* 2021, pp. 115-136).

In the early Byzantine period some light weight *solidi* were issued in Gaul, and legislation survives forbidding tax collectors to be forced to accept them (*Novellae Maioriani* 7.14, issued in A.D. 458).

sparsio

'Scattering', a word that was used to describe the practice of scattering coins or other objects of value, as practised by various victorious generals at Rome, newly elected consuls and emperors. The objects thrown were sometimes called *missilia*. During the Roman Empire *sparsio* became a regular ritual, and the actual throwing of separate coins became less common, being replaced by a more dignified transfer of money in bags or other containers. In the later Roman Empire, *sparsiones* in gold were restricted to emperors (see the last paragraph of *miliarensis*). Some Roman writers described them using the names of the containers in which these presentations were made, but these were not the names of the actual coins, as some early numismatists believed. An exceptional example of *sparsio* is reported by Jerome (*Letters* 22.32). This was wrongly attributed to Theodosius I by J.W.E. Pearce ('A half-siliqua of the Treveran mint' in *The Numismatic Chronicle* 1943, pp. 97-99); in fact, Jerome tells us that a rich Roman lady was trying to buy her way into heaven by distributing *nummi* to the poor, but when someone tried to jump the queue to get a second *nummus*, she got a fist in her face instead of a *denarius.*

spintria or *sphintria*

This word, derived from the Greek σφιγτήρ or σφιγτής, in the sense of 'anal muscle', became a Latin masculine noun occasionally used to describe a male prostitute who offered anal sex. At some time in the past numismatists began to use the word to describe a kind of round *tessera* that showed scenes of sexual intercourse, which sometimes bore numbers. These seem to date to the first century A.D. As Theodore Buttrey noted ('The *spintriae* as a historical source', in *The Numismatic Chronicle* 1973, pp. 52-63 and pls. 3-4), there is no evidence that the Romans used this word to describe these *tesserae*, but

it is convenient for us to do so. It is possible, although as Buttrey showed, unlikely, that they were used as tokens in brothels, either to show the workers what position clients who could not speak their language wished them to adopt, or to indicate what place a client had in a queue, or perhaps so that they could be called upon when their time was up, like people who had hired small boats to circulate in a large pond: 'Number twelve, leave now or pay more.' We can only speculate.

stater (στατήρ)

'Weighing, weight', a word used in some parts of the Greek world to describe the major coin in a series. Modern numismatists sometimes use it to describe coins in areas associated with the Romans to which they are unable to assign an exact denomination.

subaeratus

'*Aes* beneath', the Latin equivalent of the Greek *hypochalkos* (ὑπόχαλκος), used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal. The French *monnaie fourrée* ('stuffed') is sometimes used to describe a coin of this kind.

talentum

A talent (from the Greek τάλαντον). When used in the Greek world, the word was originally the name of a large weight, usually about 26 kilograms (an Attic talent containing 6,000 drachmas, and an Aeginetan one 2,100 staters), although there were differences in some other parts of the Greek world. It also became the name of a large sum of money, so that a very rich man might be described in Greek as 'many-talented'.

In some places in southern Italy and Sicily, and in Alexandria in Egypt, the word was used to describe a number of much smaller weights. It is not clear why this happened, although it has been suggested that occasionally these words were used to describe 'little talents' that represented the value of amounts of bronze coinage that were valued in terms of gold. However, this certainly does not explain these weights with complete satisfaction.

tartemorion (ταρτήμοριον)

A shortened form of *tetartemorion*.

teruncianus

This word, meaning 'three-ouncer' is a modern editorial correction of a word that appears in a manuscript of the 6th century, the *Chronicle* of Count Marcellinus. This tells us that in A.D. 498 the emperor Anastasius 'removed a form of exchange that was pleasing to the people, by introducing coins "marked with their own name", [presumably meaning

that they had signs of value on them], which the Romans [which is what the inhabitants of Constantinople called themselves] called *terentianos* and the Greeks *follares*'.

'Pleasing to the people' suggests that the change that Anastasius introduced (meaning that the bronze coins that he introduced began to have marks of value I (10), K (20) and M (40) *nummi*) was unpopular is hard to understand. There are two possibilities. The word 'not' might have been omitted before 'pleasing to the people', and in that case these words might mean that it had become very difficult, because of fluctuating weights, to decide what some coins were worth. On the other hand, it is possible that at least some persons were benefiting from being able to claim that some coins were worth more than they really were. No certainty is possible.

Terentianos ought to mean that the coins were connected with someone called Terentius, and this makes no sense (although Theodor Mommsen tried to defend it when he edited the chronicle in 1894 in the series *Monumenta Germaniae Historiae Historica*. But by changing the second *e* to *u*, and the second *t* to *c*, (the latter change causing no problems because in many mediaeval manuscripts there is little difference between the form of these letters), a more acceptable text can be created, writing *teruncianos*.

As I argued in an article published in 1993 ('Nummi Terunciani' in Volume III of the *Proceedings of the XIth International Congress*, pp. 9-13), a work bearing the title *Assis Distributio*, or 'Division of the *as*', written by Volusius Maecianus in the middle of the second century A.D., provides a clue to what Marcellinus might have meant. This work consists of what we might call 'lecture notes', which the author, a jurist, prepared for the young Caesar Marcus Aurelius. In this work it seems that *teruncius* could mean 'one-fortieth'.

In A.D. 498 Anastasius issued some new coins that weighed about 8 grams, and these weighed approximately one-fortieth of a pound, allowing for the fact that bronze coins were struck with less attention to exact weight, and the coins that have survived in hoards and are held by collectors and museums and dealers tend to be the better specimens.

tessera

The word comes from the Greek *tessares* or *tettares*, meaning 'four', and can describe a four-sided object, such as one of the stones used to form a mosaic, or a variety of objects that are not coins, such as small plaques, tokens, gambling counters or pieces for use in board games. Two special classes of *tesserae* are the *tesserae nummulariae* that were used by *nummularii* to mark bags of money that they had counted and tested, and perhaps *spintriae*.

tetartemorion (τεταρτημόριον)

'Fourth part', a Greek word which, like *kodrantes*, was sometimes used to describe an *as* as a fraction of a *sestertius*.

tetradrachmum (τετράδραχμον), plural *tetradrachma* (τετράδραχμα)

The name of a Greek coin (or sum of money) worth four drachmas, mentioned in a small number of Roman documents. In Livy's *History of Rome* a shorter form of the word, *tetrachmum*, is found in one passage.

tetranomon (τετράνομον) see *nomos*

A coin, or sum of money, worth four *nummi* or *nomoi* (see *nomos*).

tetras (τετρᾶς)

'Fourth', meaning a quarter, a Greek word that could be used to describe the Roman *quadrans*.

tetrassar(i)on (τετρασσάριον)

A coin of four *asses*, the Greek word occasionally used to describe the Roman *sestertius*.

tremissis

This is a rare word, meaning 'one-third'. If it had appeared only in the *Historia Augusta*, we might have been justified in assuming that it was never a coin. However, in some late documents it appears in records of financial transactions, and seems to be a variant of the more usual *triens*. A gold coin weighing 1.5 grams was struck from A.D. 383 in the reign of Theodosius I until the 9th century, which must have been one-third of a *solidus*. Some other slightly heavier gold coins weighing 1.7 grams that were occasionally issued from the time of Constantine I until the time of Arcadius have sometimes been called *tremisses*, although their weight might also justify their being called coins of one and a half scruples (*scrupula*), and a metrological writer writing in the late third century A.D., and not referring to coins, says that 'the *tremissis* contains one *scripulum* and a half'. For convenience, modern cataloguers may decide to use *tremissis* or *triens* to describe one or both of these gold coins, although there is no evidence to prove that this is what they were called by the Romans.

tressis

A rare coin of three *asses*, issued occasionally in the early history of Roman coinage, with its weight identified by the numeral III. Some modern writers seem to prefer the

form *tripondius*, 'three-pounder', but although this is not bad Latin, no ancient text uses it to describe a coin.

triens

See the note on tremissis above.

trinummus

'Three-*nummus*', a word that appears in a play with this name by the Roman poet Plautus, which was produced soon after 200 B.C. It was never the name of a coin, only of a sum of money.

See the note on *tressis* above.

tripondius, see *tressis*

τροπαικόν, see *victoriatus*

uncia

'Ounce', or one-twelfth of the Roman pound of twelve ounces, weighing about 27 grams. As a coin it was struck from the beginning of Roman cast bronze coinage until the end of the 2nd century B.C., by which time, like all other bronze coinage, it had lost a great deal of weight. See also *biunx*.

hypochalkos (ὑπόχαλκος)

'Bronze/copper beneath', the Greek equivalent of the Latin *subaeratus*, used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal.

victoriatus

Several literary texts and inscriptions ranging over a long period of time use this word, which can be interpreted at the name of a coin with a reverse type representing Victoria, the Roman personification of Victory, placing a victory wreath upon a trophy. A post on which a cuirass captured from an enemy is portrayed, perhaps with captives sitting miserably at the foot of it is a regular reverse type. Some found their way into the offerings placed in a temple on the Greek island of Delos, where the cataloguers used the word 'trophied' (τροπαϊκόν) to describe them.

The original coin had an obverse type of a head of Jupiter. Hoard evidence suggests that it began to be issued at about the same time as the *denarius*, but weighed less, only about 3.4 grams. It circulated in the south of Italy at first, so it was probably designed to make payments there, and was tariffed as a kind of drachma or half-*nomos*. It also circulated

in Cisalpine Gaul after it had been circulating in Southern Italy for a while. It replaced the *quadrigatus*, which ceased to be issued. A few double *victoriati* are known, but it is not known what they were called.

Some coins using a similar weight standard were minted by Greek mints on the western coast of Greece in the second century B.C., but there is no reason to suppose that their weights were the result of the existence of the *victoriatus*. Pliny the Elder (*Natural* History 33.13.46), followed by Volusius Maecianus, claimed that the *victoriatus* 'was brought from Illyria', *ex Illyria advectus*, which is incorrect, and was 'treated as merchandise', probably implying that it circulated in Roman commercial settings at bullion value, which may be correct.

It ceased to be minted about 170 B.C., but at the end of that century its name began to be used occasionally to describe another coin, the *quinarius*, which was minted only occasionally. This may have been because the *victoriati* that were still in circulation had lost a little weight – when they were first issued they definitely weighed more than half a *denarius*. The new *quinarius* had the same types as the *victoriatus*, and was popular in Gaul, perhaps because the Gauls, at a time when the *denarius* had begun to have a variety of coin types that might have made them feel that Roman coinage might be untrustworthy, they recognised coins with these types and felt that they could trust them.

For a discussion of the possibility that the word *bigatus* might also be used to describe the *victoriatus,* see *bigatus* above.

Author

John Melville-Jones completed a degree in Classics and Ancient History at the University of Cambridge in 1956, and later returned, after he had worked at The University of Western Australia for three years, to study for the Postgraduate Diploma in Classical Archaeology there. A short introduction to ancient numismatics formed a part of this course, and he was so excited by the experience of handling ancient coins under the guidance of an excellent teacher that he decided to specialise in this area. Since Western Australia was not a suitable place to collect ancient coins or study hoards, he decided to use his knowledge of Latin and Ancient Greek to collect and comment on the ancient written documents that mentioned coins.

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Coins as teaching tools: the integration of numismatics and conservation

Emy Kim and Cristiana Zaccagnino

Abstract

The Department of Classics and the Master of Art Conservation program at Queen's University at Kingston own the Diniacopoulos Collection, a diverse assemblage of unsorted artefacts which includes more than 600 Greek and Roman coins. What makes this collection unique is that it does not belong to a museum, and it was acquired in 2001 with an educational purpose: the ancient artefacts are to be used as teaching tools for Art Conservation and Classics students. The collaboration between the two programs results in a crucial formative experience, since students become acquainted with the principles and methods of both disciplines.

Keywords

[Art conservation] [Archaeometry] [Coin collections] [Experiential learning]

Dedicated courses in ancient numismatics are almost non-existent in North American university curricula, despite academic interest and the availability of coin collections in several North American university museums.[1] Coins are frequently shown in courses of classical art and history as illustrations of the iconography of statue types, layout of monuments, and portraits and titles of ancient rulers. Coin iconography is indeed a dynamic and active vehicle of communication.[2] However, little detailed consideration tends to be given to the technical aspects of coin production and the purchasing power of the denominations. Even less attention is paid to their conservation and the treatments needed to stop deterioration. In an effort to bridge these gaps in the study of ancient coins, the Department of Classics and the Master of Art Conservation Program at Queen's University (Kingston, Ontario) have been training their respective students to collaborate across disciplines. By broadening students' awareness about the limitations of traditional fields of learning, they gain new insights into Ancient Numismatics.

The cornerstone of this novel collaboration at Queen's University is the accessibility of the Diniacopoulos Collection. The Department of Classics and the Master of Art Conservation program acquired a portion of the Diniacopoulos collection in 2001.[3] This collection is unique in that it is accessible to undergraduate and graduate students

1 See for example the Yale University Art Gallery, which includes a Numismatics collection. It is possible to search the collection online: http://artgallery.yale.edu/coins-and-medals.

2 Krmnicek, Elkins 2014.

3 Spirydowicz 2006, 303.

and that it is a diverse assemblage of unsorted artifacts. It includes Egyptian alabaster vessels, Luristan bronzes, Athenian black- and red-figure vases, Tanagra figurines, Islamic pottery, and more than 600 Greek and Roman coins.[4] The artefacts are often fragmentary and sometimes in very poor condition and lack information about their original contexts or prior treatments. The ancient coins arrived in a variety of states—some previously restored and others left with heavy archaeological and post-excavation encrustations. The untreated state of many of the coins has been an especially fortunate situation for Art Conservation graduate students, who have the unique opportunity to discover archaeological and atmospheric corrosion structures.

Diniacopoulos artefacts are housed in the conservation laboratory space, making them immediately available for study. Several North American University museums own coin collections, which may also be used as teaching tools, but in the majority of cases, students do not have direct access to the artefacts. Oftentimes they are on display in cases or preserved in the museums' storerooms, which are not always easily accessible. Therefore, handling and working with coins are not generally an option for students.

The Diniacopoulos Collection, like many collections of antiquities, has an unclear history, as its creation did not follow modern legal and ethical standards. Regretfully, the provenance of its pieces is undocumented, as the Diniacopoulos family was little concerned with this information. Therefore, graduate students in the Department of Classics and Master of Art Conservation program have been documenting, examining, treating, and sharing information about collection objects as a part of their university studies.

Background of the Diniacopoulos Collection

Vikentios 'Vincent' Diniacopoulos was born to Greek parents in 1886 and spent his life gathering, restoring, and selling ancient artefacts and paintings. In the early 1920s, while in Egypt, he met Olga Nicolas, a woman from the local Egyptian community. The couple married in 1926 and moved to France. There, in the south of the country, they ran an art gallery called La Ciotat.[5] In 1951 the couple immigrated to Canada, to avoid having their son Denis drafted into the army because of the growing tensions between France and Algeria. Furthermore, the art market had been severely impacted by World War II.[6] In the early 1950s they settled in Montreal, and they tried to find a home for their antiquities that had been shipped to Canada in crates from storage facilities in France, Egypt, and Syria.[7] Their collection was a reflection of their ethnic and geographic origins, as well as the different countries they lived in. It was housed and

4 Spirydowicz 2006, 303.
5 Epstein 2004, 19f; Blumer 2017, 12ff.
6 Epstein 2004, 20; Blumer 2017, 21f.
7 Epstein 2004, 20; Blumer 2017, 29. The Egyptian government, however, did not allow the Diniacopoulos to remove several artefacts which were left in Cairo.

displayed in the Valleyfield Seminary until 1965.[8] In the same year, the Gérard-Filion school in Chambly hosted an exhibition of artefacts of the collection from the ancient Near East, Egypt, and Greece.[9]

In 1956 the Diniacopouloses opened their art gallery *Ars Classica* in Montreal's art district. The gallery also displayed modern Canadian art. After Vincent's death in 1967, Olga and her son, Denis, maintained the gallery until 1969, when it was closed.[10] The artefacts that Olga did not sell after the death of her husband were moved to her own home, where they were stored until the late 1990s. Artefacts were hoarded throughout the house: 'fragments of Greek vases were strewn in fruit baskets just above a toilet', 'silver coins sat in cookie tins', and 'a three-thousand year old Egyptian sarcophagus leaned against the washing machine.'[11]

After the death of her only child, Denis, Olga became concerned about the destiny of the collection. Even though she was at first reluctant to part with her collection, she accepted the idea of dispersing it. With the help of Concordia University in Montreal, where Denis was professor until his retirement in 1995, the collection was sold to different private and public institutions. This sale created an endowment that finances 10 scholarships per year.[12] Queen's was among the public institutions that acquired pieces from the collection.

The collection was acquired by Queen's University with an educational purpose: the ancient artefacts had to be used as a teaching tool for students from Classics and Art Conservation. The Master of Art Conservation graduate program is the only one of its kind in Canada; thus, there is an opportune circumstance in which to advance numismatics research through the alliance of two specialist fields.

Since 2016, undergraduate and graduate students from Classics began to document the coins in the artefact conservation labs, where they are stored. The coins needed to be inventoried, as many were bundled together in large plastic bags. They were sorted into separate paper envelopes and a unique inventory for coins was created using an acronym, 'DN', for Diniacopoulos Numismatics. Information collected on each coin includes weight, diameter, identification of types and mints. Classics students consulted

8 Epstein 2004, 22; Blumer 2017, 32ff.
9 Blumer 2017, 37.
10 Epstein 2004, 20f; Blumer 2017, 38ff.
11 Epstein 2004, 18; Blumer 2017, 47 quoting Epstein.
12 Blumer 2017, 54. Concordia University has digitised documents from the Diniacopoulos's fonds (P/174). They are accessible at the following link: https://concordia.accesstomemory.org/vincent-and-olga-diniacopoulos-fonds

numismatic texts and online databases, such as, the *Sylloge Nummorum Graecorum*[13] and the *Roman Provincial Coinage*.[14]

Each numbered coin was digitally photographed (Fig. 1). Some pictures have been taken using raking light to enhance details and aid in identification. In the case of DN 7, an Alexandrian tetradrachm, the details of the portrait of Divus Augustus became much more visible with the aid of raking light (Fig. 2).[15]

Figure 1. A student takes digital photos

13 http://www.sylloge-nummorum-graecorum.org/

14 https://rpc.ashmus.ox.ac.uk

15 DN 7, Billon tetradrachm minted in Alexandria. Diameter: 23 mm; weight: 4.80 g. Obverse: Laureate head of Tiberius l. ΤΙΒΕΡΙΟΣ ΚΑΙΣΑΡ ΣΕΒΑΣΤΟΣ. Before the neck ΛΙΔ (year 14). Reverse: Radiate head of Augustus r. ΘΕΟΣ ΣΕΒΑΣΤΟΣ.

Figure 2. DN 7 photographed with normal light, left, and with raking light, right

Research and educational opportunities

A case in the hallway of the Department of Classics displays some of the artefacts studied and treated in recent years by graduate students in Classics and Art Conservation (Fig. 3).

Figure 3. Display of artefacts from the Diniacopoulos Collection at the Department of Classics

The display is a result of sharing a collection between two academic departments, as diverse points of views are included. In 2018 planning began to create a project that involved students from both programs in a more active way. By the Fall of 2019 a class was created that included both first-year Classics graduate students and graduate students specialising in artefact conservation (Fig. 4).

Figure 4. Class together. Professor Zaccagnino (left) with students Anton Strachan, Emma March, and Emilee Lawrence

Other than some preliminary numismatics readings,[16] students did not have backgrounds in numismatics, nor had they ever handled ancient coins. In class students were introduced briefly to ancient coin manufacture, as well as descriptive terms and cataloguing techniques. Then, students were divided into groups of three to four students from both programs, and each group was assigned a coin from the Diniacopoulos Collection. With gloved hands, each group was given 30-40 minutes to examine their coins. When the class reconvened, each group reported on the assigned coin, describing the type, the legend, and the conservation status. The intended outcome of the activity was not just the identification of the coin, but rather the understanding of the interdisciplinary approach needed in the study of archaeological artefacts. For many this was the first time that they formally combined two approaches to better interpret an archaeological object.

16 Schaps 2011, Chapter 16 Numismatics.

In the winter of 2020, some students from Classics joined their conservation peers in the conservation laboratory, where the coins were being examined for treatment. The instructors chose seven coins in various conditions; some were illegible or unstable due to heavy corrosion and other factors. Classics students helped their colleagues in a preliminary identification of the coins, which helped to guide conservation students' treatment goals. Artefact conservation students researched alloy composition, manufacturing techniques, previous restorations, and cleaning methods. They performed conservation treatments according to current standards, while their Classics peers identified the coins and provided historical contexts.

Typically, Classics professors show their students only very well-preserved coins and do not include coins that require extensive conservation work. Only students who participate in an archaeological dig have the opportunity to see how a coin appears upon its discovery. There is much excitement among students when a coin is discovered; this was the case for a silver denarius of Vibius Pansa issued in 90 BCE found in 2012 in Cerveteri,[17] an excavation project run by Fabio Colivicchi, a professor at Queen's University (Fig. 5).[18] In this case, the coin was very well-preserved, and identification was possible even before it was treated by an art conservator (Fig. 6).[19] This was not the case for other coins found during the same campaign that presented corrosion and accretions on their surfaces.

Figure 5. Coin of Vibius Pansa from Cerveteri before treatment

17 On the obverse, laureate head of Apollo right; before the neck control-mark (vase); the legend *Pansa* has been off-centered and is not present; border of dots. On the reverse, Minerva in quadriga left, holding spear and reins in right hand and trophy in left hand; in the exergue *[C] Vibius C.F.* For a similar coin of Vibius Pansa see Crawford 1974, 342/5b; Ghey, Leins, Crawford 2010, 342.5.2.

18 For the Queen's excavation see Colivicchi et al. 2016.

19 The coin was treated site on by Krysia Spirydowicz from the Queen's Art Conservation Program, who that year joined the excavation with the student Anna Weiss from the same Department, who was doing her required summer internship. On the surface a compact layer of silver chloride was mixed with silver sulfide, which was mostly removed with the exception of a very few stubborn patches.

Figure 6. Coin of Vibius Pansa from Cerveteri after treatment

After examination it became clear that Diniacopoulos coins had been neglected—some had aged restorations and others were left with heavy corrosion.[20] The presence of extensive corrosion gives conservation students the unique opportunity to examine corrosion on various metal alloys. Corrosion structures may give clues about the elemental composition, manufacture, and dating of the coins. Corrosion types also indicate the history of the coins in archaeological and atmospheric contexts; by analysing the compositions of the corrosion products, conservation students are able to trace the environments in which the coins existed. There are some types of materials on copper-alloy coins that conservators would expect from one with an archaeological past and other materials that indicate post-excavation interventions. For example, in 2020 a student documented a white layer on copper on a pair of alloy coins that were conjoined through corrosion (DN 232) (Fig. 7a).[21] A sample of this white layer, indicated as Layer 4 in the stratigraphy (Fig. 7b), was analysed using Fourier Transform Infrared Spectroscopy (FTIR), one example of analytical equipment available through the Master of Art Conservation program at Queen's. The white layer was found to contain shellac and silicates—in other words, a restoration coating and likely soiling.

20 A few of them were analysed using Micro-focus X-Ray Computed Tomography and Neutron Computed Tomography in a project that intended to experiment with 'digital cleaning', see Nguyen *et al.* 2011.

21 The two conjoined coins weighed 19.38 g. The conjoined coins were documented and treated by an Artefacts Conservation graduate student, Marianne LeBel. The stratigraphic drawing is her work.

Figure 7a. DN 232 pair of conjoined coins

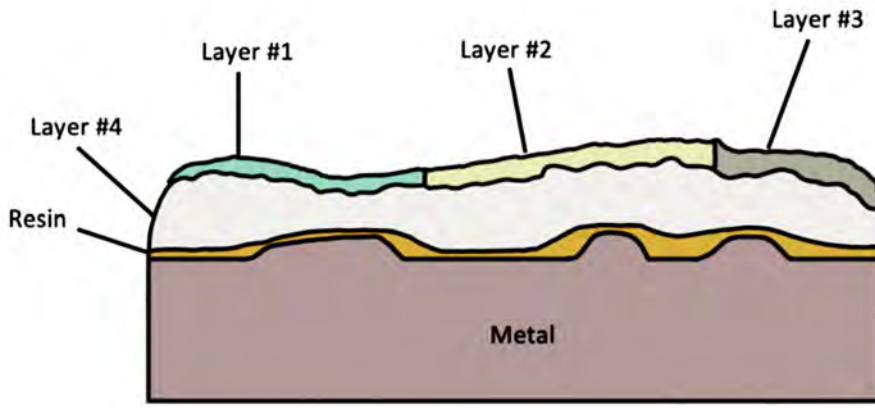

Figure 7b. Stratigraphy of DN 232

This finding of restoration materials further corroborated a previous conservation student's 2017 archaeometric analyses using X-ray Fluorescence (XRF) and FTIR, with the intent to recognise traces of previous treatments. Olga Diniacopoulos had trained as a restorer at the Louvre during the 1930s. Some of her restoration materials were also included along with the collection that was acquired by Queen's.[22] Paraffin wax found

22 Spirydowicz 2006, 305.

on the surface of a bronze drachm of Antoninus Pius (DN 120) was comparable to a sample of wax from Olga's kit; therefore, it was probably treated by her.[23]

After being detached, one of the two coins (DN 232-1) was treated by a student from Art Conservation, making it possible to see the reverse for the first time.[24] With the help of students from Classics, the coin was identified as a billon tetradrachm issued in Alexandria. On the reverse there are two clasped hands and the legend ΠΑΤΗΡ ΠΑΤΡΙΔΟC (Father of the Fatherland). On the obverse, is the laureate and cuirassed bust of the emperor Hadrian; the legend states ΑΥΤ ΚΑΙ - ΤΡΑΙ ΑΔΡΙΑ CƐΒ (Emperor Caesar Trajan Hadrian Augustus) (Fig. 8).[25]

Figure 8. Obverse and Reverse of DN 232-1

Because of wear, accretion, and corrosion on coin surfaces, a complete identification is not always possible. X-ray microtomography, also known as micro computed tomography, was employed in order to do a preliminary identification of the coins and to guide slow, mechanical cleaning by art conservation students.[26] This became an opportunity to involve undergraduate and graduate students from the Department of Mechanical and Materials Engineering.[27] For the engineering students, it was their

23 About this coin see p. 7 note 29 and Fig. 12. The paraffin wax was detected by Art Conservation student Mikaela Marchuk who web-published the results of her research in a poster accessible at the following link:

https://www.queensu.ca/art/sites/webpublish.queensu.ca.artwww/files/images/Marchuk%20-%20posterfinal.jpg

24 After the treatment, DN 232-1 weighed 9.52g; the diameter was 25 mm.

25 For a similar coin see RPC III, nr. 5728.

26 Conservation students learned about the advantages to slow, sometimes painful mechanical cleaning in their course with Emy Kim. For further information, consult Stock 1999, 43.

27 Graduate student Adric Heney and undergraduate Caroline Baril worked in the lab of Mark Daymond on an Xradia micro-CT.

first experience dealing with an ancient artefact and ancient alloys. One coin that was chosen for scanning via micro-CT, DN 43, was heavily encrusted, especially on the reverse. While it was possible to recognize a portrait of Tiberius on the obverse with the naked eye, the reverse was completely illegible (Fig. 9). Thanks to the image obtained (Fig. 10), it was possible to see the radiate head of Augustus and the legend. This helped the Classics student in identifying the coin and guided the Art Conservation student in treating it.

Figure 9. Encrusted reverse of DN 43

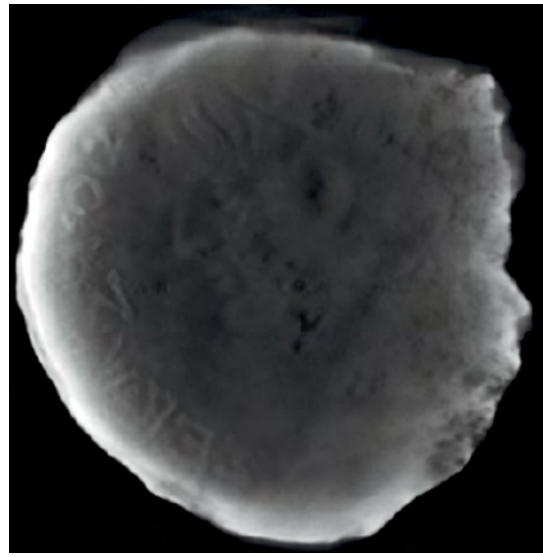

Figure 10. Micro-CT scan of the reverse of DN 43

This project has not focused on the coins alone. Students have learned about the importance of different kinds of data when dealing with coins, including the fact that the lack of any information about their original contexts prevents us from fully understanding their historical, economic, and social significance. The work thus far has revealed that the collection is an assemblage of coins issued in the Eastern Mediterranean, including Greek Hellenistic and Roman Imperial issues. These were probably uncovered during excavations in Egypt and the Levant in the early 20th century and acquired by the Diniacopouloses, who were based in Egypt at that time. Even though the assemblage is the result of un-systematic collecting, they appear to be representative of the currency circulating in the area. The collection includes many interesting coins celebrating historical events and representing myths and deities. A large number were issued by the mint of Alexandria and date from the Ptolemaic kingdom until the Roman period, with a prevalence of the latter. There are bronze drachms as well as several billon tetradrachms, especially of the Julio-Claudian period. Several specimens are dated to the reign of Claudius with on the reverse Messalina standing, veiled and holding two small figures and corn stalks, leaning on a column such as DN 107 (Fig. 11).[28]

Figure 11. Obverse and Reverse of DN 107

Among the bronze drachms, several were issued under the reign of Antoninus Pius, such as DN 120 with a laureate portrait of the emperor on the obverse and a representation of Isis *Pharia* on the reverse (Fig. 12).[29]

28 DN 107, Billon tetradrachm. Diameter: 25mm; weight: 4.16 g. Obverse: laureate head of Claudius, r. TI ΚΛΑVΔΙ ΚΑΙΣ ΣΕΒΑ ΓΕΡΜΑΝΙ ΑVΤΟΚ(Ρ); Lς (year 6). Reverse: Messalina veiled, standing l. She holds two small figures and corn stalks, leaning on column. Legend: ΜΕΣΣΑΛΙΝΑ ΚΑΙΣ ΣΕΒΑΣ. The coin has been published in Sodhi, Brodersen, Boccia, Anastassiades, Zaccagnino 2018. With regard to the much lower weight of this specimen (the standard weight of Claudius' billons should be ca. 13.3 g) and the loss of weight of Alexandrian tetradrachms see Christiansen 1988, 13 note 48 and Butcher K., Pashley V., Somerfield Ch., Ponting M., Evans J. 2014, 91.

29 DN 120, AE drachm. Diameter: 34 mm; weight: 22.10 g. Obverse: laureate portrait of Antoninus Pius r. faded inscription: AVT K T AIΛ AΔP ANTϢNƐINOC CƐB ƐVC(B). Reverse: Isis *Pharia* standing, holding sail and sistrum. Faded inscription: L ΔƐKATOV (year 10).

Figure 12. Obverse and Reverse of DN120

Students experienced exciting moments of learning and discovery through inquiry-based learning. Guided by professors from different departments, students formed questions and answered them using their peers, database searches, and scientific examination (Fig. 13).

Figure 13. Students from Classics and Art Conservation working on the identification of a coin

Sharing and advancing knowledge

Queen's University is a member of the Matariki Network of Universities (MNU).[30] In 2015 the MNU held a conference on the digitisation of university coin collections, which spurred interest in the Diniacopoulos collection.[31] The Diniacopoulos collection is currently a Matariki shared facility accessible to other partners of the network.[32] Thanks to work done in the last five years with Classics students, it is now possible to

30 For the Matariki Network see https://www.matarikinetwork.org

31 "Digitizing Matariki University Museum Coin Collections," International Conference at the Institut für Klassische Archäologie, Eberhard Karls Universität, Tübingen, 22nd to 23rd October 2015.

32 https://www.matarikinetwork.org/resources/shared-facilities/

browse some of the coins in a dedicated website, designed with the help of a Queen's School of Computing Masters student.[33]

Queen's students have presented their work within the university. One of the Classics students, Alysha Strongman, presented the results of the directed study in a poster entitled *The Diniacopoulos Coin Collection at Queen's* at the annual undergraduate conference called *Inquiry at Queen's* in March 2017.[34] Mikaela Marchuk, a conservation graduate student, presented and web-published a poster titled, 'Analysis of Corrosion Products and Superficial Residues to Illuminate the Treatment Histories of the Diniacopoulos Coins at Queen's University.'[35]

Faculty have also begun a series of archaeometric analyses with the University of Toronto colleagues from the Department of Chemical Engineering & Applied Chemistry. Preliminary results of our research have been presented in conferences and published.[36]

In conclusion, the study of the coin collection has involved students not only from Classics and Art Conservation but also from other departments, who have contributed with their different skills. The main intention was to teach our students to look beyond easy sources of knowledge. As a result, they learned the principles of numismatics and metals conservation, while experiencing the benefits of collaboration first-hand.

This project would not have been possible without the support of Queen's University and the enthusiastic participation of undergraduate and graduate students.

Authors

Emy Kim is an objects conservator and has been teaching at Queen's University as the Assistant Professor of Artifacts Conservation since 2018. She moved to Canada from the United States, where she received her conservation training from the Institute of Fine Arts at New York University, an MA in art history at Williams College, and a BA from Princeton University. One of her current research interests involves the conservation of metals using sacrificial coatings.

Cristiana Zaccagnino is a classical archeologist. Trained in her native Italy, moved to Canada in 2006 where she is currently Professor at Queen's University in Kingston, Ontario. She is the author of several books and articles on topics of Greek, Etruscan, and Roman archaeology. Her research deals mostly with ancient artefacts, iconography and iconology in ancient Greece and Rome, and the reception and use of Classical tradition in

33 https://diniacopoulos.omeka.net The graduate student who helped in designing the website was Bernard Cheng.

34 General information about the conference can be found at https://www.queensu.ca/iatq/

35 This project was a part of a research project course led by Alison Murray and supported by Gus Shurvell, Alice Paterakis, Amandina Anastassiades, and Cristiana Zaccagnino. For the link to the poster see note 23.

36 Sodhi, Brodersen, Boccia, Anastassiades, Zaccagnino 2018; Sodhi, Brodersen, Zaccagnino 2020.

Italian culture (literature, art and the politics) from the Middle Ages to our current days. With the other author of this article, she is studying the coins from the Diniacopoulos Collection at Queen's University.

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My life's work: numismatics at the University of Messina (Sicily)

Maria Caccamo Caltabiano

Abstract

This article gives a personal account of the career and achievements of one of the world's leading numismatists, Maria Caccamo Caltabiano. She was was 29 years old, married and with two girls, when she was assigned to the teaching of Greek and Roman numismatics at the University of Messina. This came after her doctoral research into Greek Federal coinages. She went on to research the Greek monetary lexicon from precurrency to currency and organise the 1st Seminar of Studies on Greek and Latin Technical Lexicons (Messina 1990). Her DRACMA Project, realised with the collaboration of the Numismatic Museum of Athens, the Archaeological Museum of Cyprus and the Sicilian Archaeological Museum of Agrigento, was supported by the European Union (Raphael Program 1996-1998). This Project resulted in many significant outputs. In 2000, together with professors of numismatics at the universities of Bologna, Genoa and Milan, she promoted the project: 'Imagery and power: for an iconographic monetary lexicon,' and studied monetary types as a real language through the Lexicon Iconographicum Numismaticae (LIN). *She also created the collection:* Semata e Signa. Studi di Iconografia Monetale *and is working on the* Lexicon Iconographicum Numismaticae Classicae et Mediae Aetatis. *In the iconography of a mint, Maria presumes the existence of an 'iconic programme' and a 'semantic system' which can be reconstructed by numismatists, demonstrated in this paper by the example of the 'Iconographic numismatic romance of Hipparis and Kamarina.' In 2015, Maria and the other numismatists at Messina organised the highly successful XV International Numismatic Congress (Taormina). Part of the reason for organising the conference was to make numismatics more accessible to scholars who work in other areas.*

Introduction

When I was a child, I spent the summer months in the area of S. Alfio in the province of Catania (Sicily). There I heard stories about numerous villagers who had emigrated to Australia where they found work and comfort for their families. Perhaps it is no coincidence that a synthesis of my university activity as a numismatics teacher at the University of Messina has 'emigrated' to Australia, where it has found a cordial welcome and great generosity. For this I am grateful first of all to Professor John Melville-Jones: his weighty volumes of *Testimonia Numaria*, prominently displayed in the library of the Department of Ancient Sciences of the University of Messina, have always aroused in me the greatest admiration. It is to him I owe the invitation to recall my long experience as a numismatics teacher. I also thank the Managing Editor of the *Journal of the Numismatic Association of Australia*, Associate Professor Gil Davis, for his careful reading and editing of my work and his valuable recommendations.

1. The first Chair of Numismatics in Italy

In 1967, Consolo Langher entered a lecture hall in the University of Messina, and informed us that she had won the first numismatics tenure competition in Greek and Roman Numismatics held by an Italian university. I was a third year student, studying classical literature, and the joy with which my teacher made that communication still remains in my memory.[1] Other winners of the competition included Laura Breglia from the La Sapienza University of Rome and Attilio Stazio from the Federico II University of Naples.

The thesis that I later completed was dedicated to the coinage of the Greek confederation of the Arcadians. This formed part of a wider scientific project in which Professor Consolo Langher intended to demonstrate how Greek federalism had found expression in the coins minted on behalf of the whole community;[2] today we would say of the entire nation, not only on behalf of the citizens of a single city, as had occurred in Athens or Corinth. After my graduation, she insisted that I participate in the competition to become an Assistant to the Chair of Numismatics. The study of numismatics was still absent from the vast majority of both ancient and modern scientific studies, and my supervisor after winning tenure as a professor of Greek History in 1970, went on to teach this discipline. So the seeds had been planted that led to the teaching of numismatics at this university in its own right, rather than just a minor adjunct to other subjects.

The role of Professor of Numismatics at the University of Messina was next taken on by Giacomo Manganaro. A graduate of Ancient History at the University of Catania, he had enriched his cultural preparation in a multidisciplinary way at European universities and research centres. He arrived to teach his classes with a bag full of books, and photocopies of articles from scholars he had known personally, some of whom he invited to give lectures at this University. This included an invitation to Herbert Cahn, the author of *Die Münzen der Sizilischen Stadt Naxos*, Basel 1944, which led to a conference on Solon's timocratic reforms. I investigated this topic in advance and was able to discuss it with him, laying the foundations for a friendship that has been fundamental to my numismatic career.

Having won the competition for Professore Ordinario (a full professorship, with tenure until retirement) in 1974, Professor Manganaro was invited to take the position of Chair of Greek History at the University of Catania. Following this, my faculty then decided

1 For Professor Consolo Langher's academic career, see De Sensi Sestito G. 2010, 'Il profilo scientifico di Sebastiana Nerina Consolo Langher', in M. Caccamo Caltabiano and E. Santagati (eds), *Tyrannis, Basileia, Imperium. Forme prassi e simboli del potere politico nel mondo greco e romano. Giornate seminarili in onore di S. Nerina Consolo Langher* (*Pelorias* 18), Messina, pp. 17-31, and M. Caccamo Caltabiano 2010, 'Sebastiana Nerina Consolo Langher studiosa di Numismatica, in the same publication, pp. 33-43.

2 Caltabiano M. 1969-70, *Documenti numismatici e storia del* koinòn *arcade dalle origini al V sec. a.C.*, 'Helikon' 9-10, pp. 423-459.

to assign the teaching of Greek and Roman numismatics to me. I was 29 years old, married, with two girls aged three and one. In my first year of teaching I taught a course on metallographic methods and analysis of coins, a topic on which I was collecting material. I also supervised a student who wrote a thesis on a numismatic topic. Later I became passionate about the economic history of money and my students began to grow in number. They found it particularly interesting, and would fill the lecture hall when I started explaining numismatic iconography. At the same time, another experience had important repercussions on the number of my students. At the Interdisciplinary Regional Museum of Messina, there was an exhibition of coins from the collection of the old Peloritano Civic Museum (founded in 1806) and the Messina-born collector Giuseppe Grosso Cacopardo (1789-1858). Due to work on the expansion and refurbishment of the museum, the coins had been removed from their cases and kept in a safe. But when this was moved without taking into account of its contents, almost all the remaining coins became separated from their inventory numbers and fell to the bottom. Wanting to give my students some practical experience, I asked permission of the museum's management to identify the coins during weekly lessons. For three consecutive years, my students identified the coins and reallocated their inventory numbers. Following that experience, which was interrupted after the appointment of a numismatic officer at the Museum, numerous degree theses were dedicated by my students to Sicilian and ancient Greek coinage and iconographic themes, and some of them are now university professors of numismatics.

2. The focus on the iconography of the coins

In 1975 Salvatore Calderone, Professor of Roman History, and at that time also Director of my Department, suggested that I study the silver staters of Locri depicting ROMA seated and armed, crowned by PISTIS standing in front of her (the two characters

being identified by their legends). Scholars had wondered if the *Pistis* celebrated by the coin was the *Fides* (Faith) of Rome towards the city of Locri or vice versa. According to Calderone, this doubt was resolved by the syntax of the image: Rome crowned by *Pistis* was equivalent to the phrase 'Rome is *pistè*' (Rome is faithful - subject, copula and nominal predicate) using an iconographic syntax similar to that of verbal languages.[3] In the same year I participated in a conference in Naples dedicated to the city of Cyme in Campania. I had observed that on its own coinage, from the early fifth century BC, the city had used the KYMAION legend in the plural genitive (a coin 'of the Cymaeans') with the exception of three cases in which the legend was only KYME, coupled respectively with a female head, a shell, or a helmeted head. The anonymous lexicographer of the *Etymologicum Magnum* recalled how the name of the city of Cyme was derived *apò enkýmonos gynaikós*, 'from a pregnant woman'. On the Cumaean coinage both the issuing city and the shell accompanying it on the reverse were indicated by the KYME legend, since shells are a frequent symbolic attribute of mother deities. But KYME was also defined as a helmeted female head. This is generally interpreted as the head of Athena, but it corresponds better to the Amazon Cyme, the eponymous founder of this homonymous city of Aeolis, whose inhabitants had taken part in the founding of the Campanian city.

Tradition traced the foundation of numerous cities, especially in Asia Minor, to the Amazons, mythical warriors supposed to have their origin on the southern coast of the Black Sea, who organised themselves into a kingdom of women ruled by a queen. In Southern Italy we also find traces of sagas in which the Amazons play the role of eponymous heroines. The Amazon Cleta, mother of Caulon, the mythical founder of Caulonia, came to Italy according to the myth and founded a city of the same name, over which she herself reigned. Her royal power was passed onto women who in turn would take the name of Kleta. Although there has not been any other report of an Amazon Cyme as the founder of the city of Campania, the anonymous lexicographer of the *Etymologicum Magnum* specifies that the name Cyme is derived from a *basilissa* who ruled the city of the same name.[4]

I learned from this that the examination of the monetary types of a mint could not be limited to a single iconography but, when possible, had to be extended to the entire chronological span of its activity to understand its cultural unity and the kind of iconic language expressed in its coinage. In the same year 1979 Cecilia, my third child, was born, so my life was busy on many fronts.

3 Caccamo Caltabiano M. 1978, 'Nota sulla moneta locrese Zeus/Roma e Pistis', in E. Livrea e G. A. Privitera (Eds), *Studi A. Ardizzoni*, Roma, pp. 101-116.

4 Caccamo Caltabiano M. 1979, KYME ENKYMON. *Riflessioni storiche sulla tipologia, simbologia e cronologia della monetazione cumana*, Archivio Storico Messinese – Società Messinese di Storia Patria, pp. 19-56.

Another two decades passed before I got to experience the extraordinary methodological skills of the scholars of the London Warburg Institute, to study the monetary lexicon with Paola Radici Colace, and above all, to collaborate from 1990 to 1998 with the editorial staff of the *Lexicon Iconographicum Numismaticae* of Basel in the iconographic examination of 44 subjects (Cities, Rivers, *Virtutes* …) represented on coins,[5] which strengthened my opinions regarding the structural analogy between spoken and iconic languages. This analogy was able to provide a scientific method for the reading of monetary images by making use of the analytical categories already used and tested in the study of verbal languages.

3. The direct approach to coins and coin collections

In my first teaching years, my numismatic studies were mainly concerned with the history of the discipline and the study of money as an historical source. But thanks to the generous aid of some collectors (in particular the pro-tempore Rector of the University of Messina, Professor Salvatore Pugliatti, a distinguished jurist) and the heads of several museums in Southern Italy, in 1977 I published a monographic study on the coins of the Petelia mint, a city in Southern Italy.[6] According to previous studies, the city had minted coins in two different chronological periods (280-216 BC; 204-89 BC). Thanks to the careful examination of literary sources, monetary types, secondary symbols and signs of value, I instead deduced that there would have been no break in the issues. The people's party of Petelia had minted money in the years of the Second Punic War in support of the Carthaginian Hannibal Barca, who wished to hinder the expansion of Rome in Southern Italy. In fact, the Petelian popular party had standardised its weight standard to match Hannibal's coinage, also adopting some of its monetary types, while the city's *optimates* had found refuge in Rome.

However, I only felt the sensation of having become a 'true' numismatist when, in order to study the coinage of ancient Messana located on the Sicilian promontory of Capo Peloro, I reconstructed, through the collection of specimens and the study and sequencing of issues of coinage, the coin series that had been minted by the city from the

5 Caccamo Caltabiano M.1990, in *Lexicon Iconographicum Mythologiae Classicae* (*LIMC*), V, Zürich-München, s.vv. *Himera*, *Hipparis*, *Hyele*, *Hypsas, Kamarina*, *Kaulos,* pp. 424-425, 432-433, 553-554, 948-949, 973-974; Eadem 1992, in *LIMC* VI, Zürich-München, s.vv. *Knepeleos*, *Koinoboulion*, *Krimisos*, *Kyamosoros*, *Leucaspis*, *Liparis*, *Lissos*, *Longanos*, *Messana,* pp. 85, 88-89, 135-137, 150, 273-274, 290-291, 292, 558; Eadem 1994, *LIMC* VII, Zürich-München, s.vv. *Orethos*, *Palankaios*, *Patron*, *Pelorias*, *Pheraimon*, *Pistis*, *Rheon*, *Sagras*, *Satyra I*, *Sepeithos*, *Sibyllae*, *Sosipolis II*, *Symaithos*, *Taras*, *Terias*, *Terina*, *Tharragoras*, *Tyras*, pp. 77, 149-150, 203, 287-288, 371, 412-413, 635, 650, 701-702, 730, 753-757, 799-780, 892-893, 909; Eadem 1998, *LIMC* VIII, Zürich-Düsseldorf, s.vv. *Akis, Diokaisareia I, Iokastos*, *Iustitia*, *Lakydon*, *Leukippos II*, *Makestos*, *Morsynos*, *Narbis*, *Sebethis*, *Tyras*, pp. 152, 515-516, 562, 658, 661-663, 768, 776, 803, 867, 1089-1090.

6 Caccamo Caltabiano M. 1976, 'La monetazione annibalica di Petelia', *Numismatica e Antichità Classiche* 5, pp. 85-101, and M. Caltabiano 1977, 'Una città del Sud tra Roma e Annibale. La monetazione di Petelia', *Kleio* 2 (Palermo), Studi Storici a cura di S. Calderone, Palermo.

5th - 3rd century B.C. To start the document collection, I again had the help of Herbert Cahn who offered me the opportunity to consult the rich library of his company *Münzen und Medaillen* in Basel. There I consulted many hundreds of price lists and auction catalogues and photographed or photocopied illustrations of the coins that interested me. For the preparation of this monetary corpus, I also received funding from the University of Messina and the Ministry of Education, University and Scientific Research of Italy (MIUR) which allowed me to visit the most important museums that held coins of ancient Messana. This correct and almost complete collection of data was confirmed by a comparison with those present in the *General Catalog* of the American Numismatic Society of New York where I became friendly with the head of this section, Dr Carmen Arnold Biucchi. Having completed my work, on the advice of Herbert Cahn, I presented the manuscript to the Deutsches Archäeologisches Institut in Berlin, which accepted it for printing as the 13th volume of the prestigious *Münzen und Medaillen* series, 1993.[7] A year later my monograph on the coinage of Messana (dedicated to my husband Carlo Caccamo and our now four children, Daniela, Gaia, Cecilia and Davide) won the XIII International Prize for Numismatic Literature awarded by the Commission des Numismates Professionels. The University of Messina then opened a competition for a post of Professore Ordinario of Numismatics and I, already an Associate Professor, won the competition, becoming a full professor of the discipline I had been teaching since 1974. So it can be seen that although numismatics is a subject that is not often taught to a high level in universities, when it is taken seriously, it can provide a satisfactory career.

In 1997, I was able, thanks to the collaboration of two students, Dr. Emilia Oteri and Dr. Benedetto Carroccio, to publish the corpus of coins issued in Syracuse in the name of Hiero II and the main members of his family.[8] The Sicilian *basileus* (king) had ruled Syracuse in the years between 269 and 215 BC. The coinage, in consideration of the peculiarity of its types and the plurality of weight standards adopted, highlighted the historical and political role of Sicily in the third century B.C. as a privileged interlocutor of numerous Hellenistic kingdoms, and especially of Ptolemaic Egypt. Inspired by a dynastic ideology, the coinage consisted of issues that were hierarchically issued in the name of the *basileus* (octodrachms), of the *basilissa* (queen - tradrachms), of the son destined to succeed his father (didrachms) together with lower denominations struck in the name of the Syracusans themselves and bearing signs of value. This Syracusan experience significantly anticipated the emperor / senate diarchic monetary system of the Roman imperial age, but above all confirmed the Sicilian origin of the Roman monetary system proposed by me, on the occasion of the International Numismatic

7 Caccamo Caltabiano M. 1993a, 'La monetazione di Messana, con le emissioni di Rhegion dell'età della tirannide', *Antike Münzen und Geschnittene Steine* XIII, Berlin-New York.

8 Caccamo Caltabiano M., Carroccio B., Oteri E. 1997, *La monetazione 'regale' di Ierone II, della sua famiglia e dei Siracusani*, Messina (Pelorias 2).

Conference in Brussels in 1991, after the discovery in Sicily of a small hoard containing the first Roman aurei with the type Mars / eagle on thunderbolt.[9]

4. The Greek monetary lexicon: the words that 'tell' the phenomena of the coins

Collaboration with the philologist Paola Radici Colace enabled me to learn more about the nature of the Greek monetary lexicon. We had been fellow students at the University of Messina, and she had become an Assistant to the Chair of Greek and Latin Philology. With Paola, I often discussed the meaning of Greek terms useful for the interpretation of monetary phenomena, until we eventually decided to study the *peri nomismaton* together, the section that the lexicographer Pollux had dedicated to monetary terminology in the eighth book of his *Onomasticon*. The outcome of that experience was ten works published between 1979 and 1990, subsequently collected in the volume: *From the precurrency to currency. Greek monetary lexicon between semantics and ideology* (Pisa 1992).[10] We analysed the movement from precurrency to currency, and the highly social and conventional character of money, starting from the language, in a Mediterranean dimension that from Greek society had expanded to confront oriental reality, in particular Persian, and its later contact with the Roman world. While the silver *stater* in Greece had kept the same name as when, in the premonetary phase, it was still a metal weight, its counterpart in Sicily had been called a *nomos*, the term that identified it as a 'law', promulgating the eminently trustworthy nature that the currency had assumed on the island, which provided a heterogeneous environment characterised by frequent colonial flows.

In the same period we organised the 1st Seminar of Studies on Greek and Latin Technical Lexicons (Messina, 8-10 March 1990) at the Accademia Peloritana dei Pericolanti di Messina.[11] We were connected on a national level with Professor Giuseppe Nenci, Director of the Seminary of Classical Philology and History of the Scuola Normale Superiore of Pisa and with Professors S. Alessandrì and M. Lombardo of the Department of Ancient Sciences of Lecce for the implementation of a project to promote the *Greek and Latin Technical Lexicon*. The project was funded by the Italian Ministry of Public Education (MPI) and subsequently by the newly-founded Italian Ministry of University

9 Caccamo Caltabiano M. 1993b, 'Il tesoretto di oro marziale da Agrigento 1987 e le origini del sistema denariale romano', in *Actes XI Congrès International de Numismatique. Bruxelles 1991, Louvain La Neuve*, pp. 109-116, and Caccamo Caltabiano M. 2018, 'Giacomo Manganaro, "Grandseigneur der sizilischen Numismatik", e l'introduzione del denarius romano', in *SIKELIA/SICILIA. Convegno di Studi in memoria di Giacomo Manganaro*, Catania 24.XI.2017, *Mediterraneo Antico* XXI, 1-2, pp. 195-209.

10 Caccamo Caltabiano M.- Radici Colace P. 1992, *Dalla premoneta alla moneta. Lessico monetale greco tra semantica e ideologia*, Pisa.

11 Caccamo Caltabiano M. - Radici Colace P. 1991, *Lessici tecnici greci e latini,* Atti del I Seminario di Studi sui Lessici Tecnici Greci e Latini (Messina, 8-10 marzo 1990), suppl. 'Atti Accademia Peloritana dei Pericolanti'.

and Scientific and Technological Research (Ministero dell'Università e della Ricerca Scientifica e Tecnologica, or MURST).

5. The DRACMA Project (1996-1998)[12]

An experience that proved to be fundamental for the enlargement of our research group and for the acquisition of computer knowledge – still not very widespread in those years – was the promotion and realisation of the DRACMA Project (***D**iffusion and **R**esearch on **A**ncient **C**oinage of the **M**editerranean **A**rea*) over a three-year period from 1996 to 1998. The project was initiated by me in my role as Chair of Greek and Roman Numismatics of the University of Messina with a team of 11 young numismatists from Messina and Reggio Calabria, in collaboration with three Museums: the Numismatic Museum of Athens (Director Dr I. Touratsoglou, Vice-director Dr. H. Psoma, and Dr D. Tsangari), the Archaeological Museum of Cyprus (Curator Dr P. Flourentzos) and the Sicilian Archaeological Museum of Agrigento (Superintendent Dr G. Fiorentini, Director G. Castellana). The project was supported by the European Union, in the context of the Raphael Program for the triennium 1996-1998, which offered financial aid to initiatives that promoted a wider appreciation of the cultural heritage of European museums. In 1996 the *DRACMA Project* was the only European project relating to monetary documents to be approved out of 147 different projects, and among a total of 485 altogether that were presented to Brussels. A quarter of the total cost was financed by the community's funds with the remaining percentage obtained independently from existing resources or through sponsors. This showed that the study of ancient monetary history could be relevant to the study of more recent monetary history.

Among the outputs of this innovative project was the work: *The ancient Greek coin, means of meeting and exchange between peoples, economies, cultures and religions in the Mediterranean Sea*, written in Italian, English and Greek by the numismatists of the University of Messina in collaboration with Greek and Cypriot partners. The work was published on CD-Rom between 1999 and 2004, in collaboration with SEED Edizioni Informatiche of Messina. In this work we considered all the most important and meaningful aspects of ancient Greek coinage. The topics were: politics (issuing authorities and monetary legends, political regimes and wealth distribution, decrees, alliances); technical features (metals, mines, production; mints); economics (monetary systems, economic areas, real value and fiduciary value, monetary markets, banks); art (typology, styles, fashion, iconographies); religion (major deities, minor deities, cults, myths); history (numismatics, names of the coins, what came before coins?, the invention of coins, the spread of coinage). It also presented a summary of the issues of the main cities of Sicily and the examination of various iconographies of Sicilian coins,

12 Caccamo Caltabiano M. 2000, 'The DRACMA PROJECT. La moneta antica: documento storico e bene culturale', in *Beni Culturali e Nuove Tecnologie*, in Atti IV Congresso Internazionale (Torino 1999), Roma, pp. 136-142.

finding confirmation in ancient jewellery, or in archaeological documents. The work ended with a list of the following items: cities and rulers, museums, glossary, curiosities and bibliography. It was a good example of the way in which students of numismatics can produce material that is important for improving the study of other subjects which normally do not venture into this area.

Another production of which we were proud was purely numismatic. It was the first volume produced in Italy for the famous *Sylloge Nummorum Graecorum* series; it described the Greek coins kept at the Regional Archaeological Museum of Agrigento. It was published in 1999 with the authorisation of the British Academy and the patronage of the International Numismatic Comission and the European Commission's Raphael Program 1996-1998, and funded by the Regione Siciliana. Eleven young numismatists worked on this volume under my direction.

The exhibition: *Meetings among peoples and cultures in the Mediterranean. Myths and Cultus of the Straits of Messina in Ancient Coins*, was also an element of the DRACMA Project. This exhibition aimed to illustrate, through Greek and Roman coin iconography and comparison with other archaeological documents, the most meaningful and characteristic myths of the area around the Straits of Messina (Scylla and Charybdis; the Scythe of Cronus and the port of Zancle – the first name of Messana; the oxen of the sun; the giant and the giantess; Glaucus and Colapesce), originating at different times and in different ways from various peoples of the Mediterranean area. Through the iconographic and narrative evidence provided by the monetary documents it was easy to attract public attention to the myths, traditions and other cultural aspects of the area of the straits. This made clear both the importance of the geographical position of the strait of Messina and its role as a liaison point between the eastern and western Mediterranean. Again, numismatics could be used to improve and refine our understanding of historical or cultural topics. A combination of this exhibition and a number of scientific seminars also introduced people who might have had no previous interest in humanistic studies to numismatic documents.

6. The coordination of the PhD in Archaeological and Historical Sciences (1994 to 2016)

My appointment from 1994 to 2016 as Coordinator of the PhD in Archaeological and Historical Sciences, which was created from a consortium of archaeologists, numismatists and historians of the Sicilian Universities of Messina, Catania and Palermo, stimulated in me a greater interest in archaeological documents, drew my attention to the importance of multidisciplinarity in our research and, once again, focused on the need to communicate antiquities to the general public in a clear, understandable and engaging way. Hence my request to all PhD students (many of whom now work at Italian and foreign universities) to communicate the results of their research in a

suitable way, not only using computerised methods but taking into account, as far as possible, of the level of knowledge and likely interests of the possible audiences.

7. Participation in the XII International Numismatic Congress Berlin (1997)

The results of the research carried out for the DRACMA project were presented in 1997 at the International Numismatic Congress in Berlin.[13] For the first time in an international context I also drew attention to the strong analogy existing between verbal language and iconic language (a language communicated through images) of money.[14]

I insisted on the importance of a more general reading of the iconic elements present on the coins, which also took into account their use in documents of a non-monetary nature. I was inspired by the extensive and continued presence on Sicilian coins of the type of the quadriga driven by a charioteer, represented both walking and galloping, traditionally interpreted by scholars as relating to to tyrannical governments or the victories achieved by cities during the Olympic Games. In my opinion the theme of the chariot race in the classical age had undergone a process of democratisation made possible by its belonging to the more general and 'superclass' sphere of the sacred. This iconographic theme, in fact, was present both in the funerary field and on the reliefs of temples, and was also used on objects of the minor arts, from ex-votos to the decoration of the edges of the basins (*louteria*) intended for religious washing rituals. Furthermore, on Sicilian coins, the *quadrigae* appeared to be driven both by male charioteers and by persons easily recognisable as women: on the tetradrachms of Selinus by the divine brothers Artemis and Apollo, on those of Aitna and Camarina by the goddess Athena; to Enna, Segesta and Syracuse by the goddess Demeter; in Messana a carriage drawn by two mules, at first with a male driver, came to be guided by the personification of the City, identified by her name. Then in particular, both at Syracuse and at Leontini, beneath the moving *quadriga* a running lion appeared, which not only represented the speaking symbol of the city of Leontini but was first of all a distinctive attribute of Apollo, the solar divinity, whose full splendour and great power it symbolised. The racing chariots presented on the coins could therefore only be symbolising the 'race of life', imitating that of divinity. Only under these conditions could the iconic theme of the chariot or *quadriga* race be presented over time by any type of political government, from aristocratic to tyrannical and from democratic to monarchical.

8. The *Lexicon Iconographicum Numismaticae*

The realisation of the DRACMA project was rewarded by my colleagues with my appointment as Director of the Department of Ancient Sciences (1998-2004), which

13 Caccamo Caltabiano M. 1997, 'The DRACMA Project', in B. Kluge & B. Weisser (eds), *Akten XII Internationaler Numismatischer Kongress Berlin* [2000] I, pp. 43-45.

14 Caccamo Caltabiano M. 1997, 'Immagini/parole: il lessico iconografico monetale', in B. Kluge & B. Weisser (eds), *Akten XII Internationaler Numismatischer Kongress Berlin* [2000], I, pp. 179-184.

enabled me to introduce numismatic matters into some subjects to which it might formerly have been considered irrelevant. This function facilitated some subsequent scientific initiatives. In 2000, together with the professors of Numismatics of the University of Bologna (Professor Emanuela Cocchi Ercolani), of Genoa (Professor Rossella Pera), and of Milan (Professor Lucia Travaini), I promoted the research project entitled: Imagery and power: for an iconographic monetary lexicon. The project was co-financed by the Italian Ministry of University and Scientific and Technological Research (MURST), which has now been renamed as the Ministry of Instruction, University and Research (MIUR). At the end of the first two years of the investigations, the research group clearly understood the cognitive potential inherent in understanding the meaning of monetary images. To achieve the goal of using coins or other forms of money as true historical documents, it was necessary to study the monetary types in their entirety as a real language through the creation of an iconographic lexicon of ancient and mediaeval money. With this aim we organised the conference: 'The iconic tradition as a historical source. The role of numismatics in iconography studies. Study meeting of the *Lexicon Iconographicum Numismaticae*' (University of Messina 6th-8th March 2003).[15]

A new grant of MIUR co-financing (2003-2004) made a second international congress possible. This was entitled: 'The Imagery of Power and the Lexicon Iconographicum Numismaticae', which ended with a conference organised in Genoa from 10th-12 November, 2005. We called the Acts of this second meeting that were published: *The meaning of images. Numismatics, Art, Philology, History,* to highlight how a multidisciplinary scientific approach was necessary for the understanding of monetary images.[16]

In March 2005, thanks to a proposal made by my colleague Giovanni Gorini, Professor of Numismatics at the University of Padua, the LIN project received the patronage of the Commission Internationale de Numismatique, then chaired by Dr Michel Amandry, Director of the Cabinet des Médailles of Paris. The project was also supported by numismatist Professor Carmen Arnold Biucchi of Harvard University, Boston, who was appointed Advisor for the creation of the LIN. Later, in 2009, the project also obtained the patronage of the prestigious Italian Accademia dei Lincei, following the proposal of the numismatist Dr Ermanno Arslan, Direttore del Museo Archeologico di Milano

15 Caccamo Caltabiano M., Castrizio D., Puglisi M. (eds) 2004, 'La tradizione iconica come fonte storica. Il ruolo della Numismatica negli studi di Iconografia', *Atti del Primo incontro di studio del* Lexicon Iconographicum Numismaticae (Messina, 6-8 Marzo 2003), *Semata* e *Signa* n. 1, Reggio Calabria 2004. See also Travaini L. – Bolis A. (eds) 2004, 'L'immaginario e il potere nell'iconografia monetale. Dossier di lavoro del seminario di studi, Milano 11 marzo 2004', *Società Numismatica Italiana, Collana di Numismatica e Scienze Affini* nr. 5, Milano.

16 Pera Rossella (ed.) 2005, *L'Immaginario del potere. Studi di iconografia monetale,* Roma; Pera Rossella (ed.) 2012, 'Il significato delle immagini. Numismatica, Arte, Filologia, Storia', *Atti del Secondo Incontro Internazionale di Studio del* Lexicon Iconographicum Numismaticae (Genova, 10-12 Novembre 2005), Roma.

(1975-2003), Sovrintendente del Castello Sforzesco e direttore delle Civiche Raccolte d'Arte di Milano (2003-2005), together with the archaeologist Professor Antonino Di Vita, an academician and a leader among the major Italian archaeologists of the twentieth century.

9. The *LIN* project

With the *LIN* we intend to reconstruct 'the history of the coin type', or the 'stratigraphic representation' of its meaning, which strips bare the structure of iconic language and, using a multidisciplinary method, retrieves the relationship between the images and the realities which they represent, and between the images and the cultural context in which they are used.

Defining their meaning in this way means referring to the entire history of these images, and following the course of their development in the widest possible areas. It will not be sufficient to look at the documents sector by sector, or to analyse either those of an individual geographical area or those of a brief period; in the field of coin iconography, which is that of political power and the ruling authority, we have the advantage that the themes and meanings of the iconography and symbolism remain unchanged for very long periods, projected well beyond the ancient classical period and with roots in a clearly more distant past. Knowledge of them will help us understand the cultural heritage of the ancient and mediaeval world in the contemporary world.

Compared with the *Lexicon Iconographicum Mythologiae Classicae*, the *LIN* aims to engage in the collection and study not only of mythological characters but of all subjects (historical characters, animals, plants and inanimate objects), which form the vast iconographic heritage of coins, and which often become a substantial part of complex scenes depicted on archaeological documents. All the studies conducted in recent years by our research group on coin types of the Greek, Roman and mediaeval ages, have had the character of real sample surveys, or 'excavation essays' to probe a cultural context that has so far not been extensively investigated, but which is very complex and multifaceted. An attempt was made to differentiate the investigations within the three macro categories of characters – mythical and historical, animals and *res* (Latin for flora, naval matters and other objects) – to better understand the rules and criteria of this particular visual communication. This has already made it possible to verify the consistency of the iconographic choices of the issuing authority with what was already known from literary sources, but at the same time to highlight historical phenomena not yet investigated. The research group has organised congresses and seminars whose *Proceedings* have been published, and the *LIN* method has already been experimented with good results both through monographic surveys and in numerous graduate and doctoral thesis works. The collection *Semata e Signa. Studi di Iconografia Monetale* has been created to bring together methodological studies and seminar meetings,

preparatory to collecting studies and seminar meetings of a methodological nature as a preliminary to the creation of the *Lexicon Iconographicum Numismaticae*: at present the publication of Volume XI of the series Semata e Signa is imminent.

Finally, the *LIN* initiative aims to create a highly educational opportunity for young researchers who in the future will themselves not only contribute to and ensure the continuity of studies in numismatics, but also promote its valorisation and integration with the knowledge of coin documents which are part of the common cultural heritage. They will hopefully put an end to the dichotomy whereby immense coin collections are conserved in the major museums of the world, and in Italy especially, yet there is extremely scarse knowledge and awareness of them, not only on the part of the public as a whole, but even among scholars of the ancient and mediaeval worlds.

Perhaps I would not have persevered – for almost thirty years – in my initial working hypothesis regarding the *LIN* method, if over time I had not attracted scholarly interest and received encouragement to continue this research from three scholars of great scientific and human stature: the numismatist Herbert Cahn of Basel (1915-2002), the historian Giuseppe Nenci (Scuola Normale di Pisa, 1924-1999) and the linguist Mario Alinei (1926-2018), the founder and editor of *Quaderni di Semantica*, a journal of theoretical and applied semantics (until 1997, President of *Atlas Linguarum Europae* at UNESCO). Meeting them was a real blessing for me, because I benefited greatly from their friendship and scholarly encouragement.

Generous companions in this work were also Professors Emanuela Ercolani and Anna Lina Morelli, Rossella Pera, Lucia Travaini, lecturers in numismatics respectively at the universities of Bologna, Genoa and Milan, later joined by Dr. Ermanno Arslan, whom I have already mentioned, to whom our request for patronage from the Accademia dei Lincei for the *LIN* is due, when he presented it together with the famous Sicilian archaeologist Professor Antonino Di Vita.

10. An iconic program in ancient coin production: the 'romance' of Hipparis and Kamarina

For the coin issuer, communicating ideologies and propaganda to the user was just as important as having money available for payments. To this end the issuer was forced to plan in advance both the quantity of metal and the denominations to mint, and the types to represent on the coins. This means that in our research we should look for the logical links connecting the various dies, presuming the existence of an 'iconic programme' and a 'semantic system' which can be reconstructed. I offer here an example.[17]

17 Caccamo Caltabiano M. 2011, 'The importance of an "iconic program" in ancient coin production', in *Quantifying monetary supplies in Greco-Roman times* (ed. F. de Callatay) Rome, Academia Belgica, 2008, pp. 199-211.

The coinage of Kamarina minted in Sicily in the period of the 'signing masters' has been dated by U. Westermark and K. Jenkins between 425 and 405 BC.[18] I have tried to demonstrate the existence of an iconic programme regarding the story of the river Hipparis and the Nymph Kamarina, 'narrated' by the engravers in only four 'pictures', using eight obverse dies and six reverse dies.

On the first obverse we find the head of the young Hipparis, shown in profile facing left, with small horns visible above his headband. On the reverse the nymph Kamarina is sitting on a swan which is flying over the surface of the waters curved in small waves. The attractiveness of the nymph is underlined by her revealing clothing, which leaves her right breast uncovered; she displays a thoughtful attitude, the head in profile is slightly bent forward and a loose cloak billows behind her in the typical motif of the *velificatio* (Image nr. 1).

In the second picture Kamarina is seen transformed; her bust is completely naked; her legs are covered by the *himation*; her right arm is around the swan's neck and her left arm is raised up while she holds the hem of her veil (Image nr. 2). Kamarina's nudity is an essential part of the sexual attraction that she must exercise over the river god Hipparis.[19] In the third picture the swan has come into greater contact with the waters of the river and a fish bends to the right of the nymph (Image nr. 3). The greatest transformation now regards Hipparis, who is depicted with his face almost head on, surrounded by a crown of curved waves and two grey mullet darting at his sides (Image nr. 3). In a third type the crown of waves is replaced by a beaded circle; the flowing locks of the river god radiate in coils from the sides of his face that shows the signs of greater maturity; Hipparis shows himself in all his beauty and youthful power (Image nr. 4).

In the last picture the nymph Kamarina has moved from the reverse to the obverse of the coin. She appears to be completely covered in a chiton with wide sleeves; around her are two or three darting fish.[20] On the reverse we find a young male head once more in profile, with small horns and locks curled on top of his head; he is identified by the legend IPPARIS alongside him (Image nr. 5).

I suggested that the four scenes symbolically represented not only the meeting and marriage between the river Hipparis and the nymph Kamarina, but also the generation of a son completely identical to his father. The last Hipparis, in fact, is not only the youngest figure, but is lacking the headband that connoted the head of the first Hipparis;

18 Westermark, U. and Jenkins, K. 1980, *The Coinage of Kamarina*, Royal Numismatic Society 9, London, pp. 57-71, 197-204 nn. 158-166. These scholars had considered the issue to be formed of three distinct series. Our interpretation did not change the sequence of issues reconstructed by them.

19 Westermark and Jenkins 1980, pp. 61, 198-200 nn. 159-161 R/ 2.

20 Westermark and Jenkins 1980, pp. 64-65, 202-204 nn. 164-166 O/ 6-8.

this attribute – peculiar to priests and victorious athletes – emphasised the nature of Hipparis as a young man who has already proved his value (*areté*) (Image nr. 6).

If we re-read the iconographies of the didrachms as a group, we notice that the Hipparis with the athlete's headband is combined with the nymph Kamarina in a thoughtful pose, with her left hand raised, open and visible on the palm side (Image nr. 7). This gesture is typical of female figures found on vase painting between the late 5th and early 4th centuries BC and as noted by F. Garnier,[21] is an expression of *disponibilité, acceptation, adhesion* (availability, acceptance, accession). It is sometimes, with this significance, found in representations of the Virgin Mary when the angel announces to her the birth of a divine Son (Image nr. 8). We can consequently define the first scene of the Kamarina didrachms, the one with Hipparis the athlete and Kamarina with her left hand seen from the palm side, like that of the Virgin of the Annunciation, in this way.

The second scene – in which the Nymph appears with her completely naked bust represents the 'unveiling' of Kamarina, in an attitude typical of the bride ready for marriage.[22] The third scene corresponds to the nuptial union with the river god; this is alluded to by the presence of fish, sometimes traditionally employed as a phallic symbol.[23] The last scene, with Kamarina wearing a chiton and transferred from the reverse to the obverse of the coin, signs her transformation from bride (*Nymphe*) to mother of a new Hipparis. The young boy, unlike his father, and precisely because he is still too young, does not wear on his head the *taenia* of the winner.

Our reconstruction of the story of the river Hipparis and of the nymph Kamarina presupposes the existence of a coherent and self-contained iconic project, known to the engravers right from the beginning and developed in four pictures with the use of a limited number of dies, also in relation to the quantity of metal planned for the minting.

11. The *LIN* and the XV INC Taormina 2015

After this synthesis of my scientific and didactic experience in the field of numismatics, I would like to make special mention that the numismatists of Messina had the honour of organising the XV International Congress of Numismatics, held in Taormina from 21-25th September 2015.[24] In 2009 the task of proposing the candidacy of the University

21 Garnier F. 1982, *Le langage de l'image au moyen âge. Signification et symbolique,* Paris, p. 174: '*le oui du mariage, le oui de la Vierge au moment de l'Annonciation*'.

22 Jucker I. 1966, s.v. *Schemata*, in *Enciclopedia dell'Arte Antica Classica e Orientale*, VII, Roma, p. 102.

23 Chevalier J. - Gheerbrant A., *Dictionnaire des symbols*, Milano 1986, s.v. *Pesce,* p. 205. In Sanskrit the god of Love is one who often 'has a fish as a symbol'. In Syriac religions the fish is an attribute of love's goddesses.

24 Here I had the pleasure of encountering Prof. John Melville Jones again, after our first meeting in Bordeaux in 1989. To his courtesy I owe the invitation to write an article concerning my experience as a numismatist, to be published in this interesting and important *Journal of the Numismatic Association of Australia*.

of Messina for the organisation of the International Numismatic Congress – which is held every six years – was given to me with the desire to strengthen the position of numismatics at Messina in the international context and with the view to realising the *LIN*. Unfortunately, our candidacy had to compete with that of the University of Padua represented by my colleague and friend Professor Giovanni Gorini. After an initial uncertainty due to our long friendship, I decided that our research group could do no less than face this test. During the 2009 XIV International Numismatic Congress held in Glasgow, after the vote of the members of the International Numismatic Council in favour of the University of Messina, the news that we had won was greeted by a shout of joy from 11 young numismatists from Messina who had presented nine papers and two posters at the conference. Subsequently, both the organisation of the Congress and the publication of the related *Proceedings* have been intense engagements and physically testing, but the result was very successful.

12. Post retirement

Since my retirement in October 2017, numismatics at the University of Messina has been taught by two of my former students: Daniele Castrizio, now a full professor and expert in both ancient and mediaeval numismatics, and by Mariangela Puglisi, Associate Professor of Greek and Roman Numismatics. Two other of our graduates, Professor Benedetto Carroccio, teaches numismatics in Calabria at the University of Cosenza and Dr. Grazia Salamone, archaeologist and numismatist, develops cultural projects and is responsible for the teaching of the cultural association DRACMa which turns its attention above all to the little ones to make them understand the importance of their own cultural heritage.

I continue working, with the hope to be able at least to make a useful input into the creation of the *Lexicon Iconographicum Numismaticae Classicae et Mediae Aetatis*, which like other projects that I have already mentioned, will help to make the subject of numismatics more accessible to scholars who work in other areas, which is the purpose of teaching with numismatics when it is not a predominant area of study.[25]

25 On the general subject of the teaching of numismatics in Italy, see also G. Gorini, 'Conservatism and Innovation in the Numismatic Teaching in Italy', in R. Wolters and M. Zieger (eds), *Numismatik lehren in Europa. Beiträge der Internationalen Tagung vom 14. – 16. Mai 2015, Veroffentlichungen des Instituts für Numismatik und Geldgeschichte*, Band 19, Vienna 2017, pp. 97-108.

Obituary: Maurice B (Bernard) Keain

Peter Lane

Maurice B Keain (10 April 1938 - 25 July 2021) was born and raised in the Spalding area, in the mid-north of South Australia, with his parents, Bernard and Margaret, and siblings Arthur and Kevin.

Maurice had a deep interest in his township of some 200 people and wrote a book on it. Later in his life he acquired many properties in the township which he still owned at the time of his death. He was an active member of the Numismatic Society of South Australia (NSSA), a foundation member and President of the Numismatic Association of Australia (NAA). In addition to numismatics, he was heavily involved in the Genealogy and Heraldry Society of South Australia, the Royal Geographical Society of South Australia, and the Historical Society of South Australia (HSSA, a foundation member and a Vice President). He sponsored the Keain Medal (HSSA), an annual prize first awarded in 2015, for a non-fiction publication on South Australian History (Fig. 1)

Figure 1. The Historical Society of South Australia Inc, Keain Medal, for South Australian Historical Publication. AE antique 51mm, by George Friml and struck at Hafner Mint, Melbourne. Mintage 106 (6 to Friends, 100 to the Historical Society).

Maurice was a respected researcher and writer, and heavily involved in the administration of organisations to which he belonged. He collected and compiled a list of all the publications of the Melbourne based printers, Hawthorn Press. That company was run by John Gartner, a numismatist who started the *Australian Coin Review* in July 1964, the predecessor of *The Australasian Coin and Banknote Magazine* (*CAB*).

Maurice was involved for decades in the SA Lawn Tennis Association as a player and umpire. This activity appears to have inspired him to collect tennis books and racquets!

From 1957 until his retirement, he worked for the Distributive and Allied Employees Association (SDAEA), rising to the position of Secretary, and he lived at Norton Summit in the Adelaide Hills. He regularly loaded his recently acquired books in the back of his car and took them to another property as his house was chock-a-block full.

Maurice became a member of the NSSA in February 1960 (Membership number 365) and served as Vice President from 1962-64, Honorary Secretary from 1962-65, President in 1966 and 1971 (and probably a few more times in the 1970s and 1980s for which records are incomplete), councillor from 1968-1970, Associate Editor of its publication, the *Australian Numismatic Journal* in 1964, and editor from 1965-1970.

During the boom years of the early years 1960s, when everyone seemed to be collecting coins leading up to decimal currency, the NSSA monthly attendance grew from around a dozen to a hundred. New members were focused on the auctions held after meetings and wanted the numismatic session time reduced. They were in a majority and believed meetings should reflect their views. Maurice and a few others looked upon the NSSA

as a learned society and this was his stance in the debate. The upshot was the formation of the Adelaide Coin Club (ACC); an ideal situation for Adelaide collectors at the time – one body to learn and the other to acquire. The lines blurred over time and when the ACC folded some decade or more ago their assets were given to the NSSA.

In 1964 when Maurice was the Honorary Secretary of the NSSA, he successfully promoted the idea of having a membership badge (Fig. 2). The design was a modified version of the Society's seal, since the seal itself was too 'cumbersome as a design for the badge'. It was struck at S. Schlank & Co Ltd, Chesser St, Adelaide, diameter 2cm. Five hundred were made with a clip and fifty without a clip for mounting on trophies etc. The badge was made with the word 'INC' though the Society was not incorporated until the following year.

Figure 2. Membership badge of the Numismatic Society of South Australia

Maurice led the charge against the Art Gallery of South Australia when he learnt that they had quietly sold off some of their gold coins. His action resulted in Ron Grieg being appointed as the numismatist and David Matthews as the war medalist at the Gallery.

He designed the 1992 NAA Adelaide Coin Fair Medal that depicted the two sides of the 1852 Adelaide Five Pounds (Fig. 3). A small number of these coins were struck at the Melbourne Mint and again in the 1970s at the Royal Australian Mint in Canberra. The dies for all the coins are held by the Art Gallery of South Australia.

Figure 3. 1992 NAA - NSSA Coin Fair medal; 100 were struck in copper (50mm) and about 30 went unsold. To use up the unsold for the 1996 Fair – they were counterstamped 'ACF'. The makers, Alan J Olson Pty Ltd of Forestville (SA) made the dies for the medal and counterstamp. Gold plated examples were struck for members only.

Maurice presented a perpetual trophy; Maurice Keain Award to the NSSA for the best presentation. This award was a trophy with two standing winged figures. This award ceased after some six years. The trophy is believed to be held in his Estate.

Maurice had a significant numismatic collection of Australian coins including a Holey Dollar, Adelaide Pound, a 1930 penny, as well as a good collection of Vatican and British coins. Sadly a few years ago when his health was failing his collection was stolen. His Holey Dollar is recorded in Mira & Noble's *The Holey Dollars of New South Wales*, the book illustrates all known examples. Maurice's was 1801/2 with the Provenance 'Private owner (South Australia)' (Fig. 4).

Figure 4. Maurice Keain's stolen Holey Dollar

He became a member of the Australian Numismatic Society on 10 October 1963, a foundation member of the Numismatic Association of Australia (no 18 – by a ballot). Vice President 1998-1999, President from 2000 to 2001.

Honours

Fellow of the Numismatic Society of South Australia 1966.

Paul Simon Awardee 1978 (No 9). The Award was established to recognize the outstanding contribution by any person in promoting numismatics within numismatic organisations in Australia.

Literature

Published book:

- Keain, Maurice B., 1976, *From where the Broughton flows: a history of the Spalding district*. Keain Publications, Spalding, South Australia.
- Keain, Maurice B. (compiler), 1996. *Bibliography of the Hawthorn Press,* self-published (Marble Hill Press, SA), ISBN 09866580X.

Manuscripts:

- Keain, Maurice B., 1983, *Keain, Keane, O'Halloran, Kennedy*. Georgetown, South Australia.
- Keain, Maurice B. and Case, Tom, c.1985. *The Family Case*.

Journal articles:

- *Australian Numismatic Journal* (NSSA quarterly publication)
    - Vol. 13 no 4: 'New National Mint for Australia'
    - Vol. 14 / 2: 'The History of the Royal (or Ryal)'
    - Vol. 14/4: 'Scarcity of Australian Coins. Australian Silver Coins'
    - Vol. 15/1: 'Bread and Milk Metal Checks of the Newcastle & Suburban Co-Operative'
    - Vol. 15/2: 'Australiana- Proof Coins-The Views of the Society.' Co-authored with Frank S. Seymour
    - Vol. 16/1: 'Vatican Council Coins, 1962'
    - Vol. 16/2: 'The Society's Membership Badge'
    - Vol. 16/2: 'The Royal Australian Mint'
    - Vol. 17/3: 'The Royal Australian Mint' (Review)
    - Vol 17/3: 'Royal Australian Mint, First Annual Report 1964-1965' (Review)
    - Vol. 17/4 'Presidential Address'
    - Vol. 18/1: 'Assay Office Ingots'
    - Vol. 18/2: 'The Guidebook and Catalogue of British Commonwealth Coins 1798-1967' (Review)
    - Vol. 18/2: 'The Guidebook of 1969-1967 Canadian Coins' (Review)

- Vol. 18/3: 'The Coinage of the Republic of Ireland 1928-1966'
- Vol. 18/3: 'Rennicks Catalogue of Unofficial Coins of Colonial Australia and New Zealand' (review)
- Vol. 18/3: 'Royal Mint. Ninety-sixth Annual Report, 1965' (Review)
- Vol. 18/4: 'Internment Camps in Australia'
- Vol. 18/4: 'Adelaide G.P.O. Centenary'
- Vol. 19/1 'The Last of the Silver' (editorial)
- Vol. 19/4: 'A Guidebook of English Coins' 6th Edition (Review)
- Vol. 20/1: 'Jonathon Swift and the "Trash" of William Wood'
- Vol. 20/1: 'Current Coins of the World' (Review)
- Vol. 20/1: 'A Guidebook of United States Coins' (Review)
- Vol. 20/1: 'Handbook of United States Coins' 26th Edition (Review)
- Vol.20/2: 'A Guidebook of Modern United States Currency' (Review)
- Vol. 20/3: 'Dollars in Australia'
- Vol. 20/4: 'Early Monetary History of South Australia'
- Vol. 21/1: 'Aboriginal Exchange'
- Vol. 21/2: 'Prelude to Australia's First Gold Issues'
- Vol. 21/3: 'The Coins of Malaysia' (Review)
- Vol. 21/4: 'The Bullion Act, 1852'

- *Journal of the Numismatic Association of Australia*
  - Vol. 9: Obituary, 'John Gartner 1914-1998'
  - Vol. 13: Obituary, 'Ronald Mark Grieg 1927-2001'

Index:

- *Index to notices of births, deaths and marriages as well as obituaries appearing in the South Australian Catholic newspapers for various periods between 1867-1945* (held in the State library of South Australia), (1980s?)

Ray Jewell Award Recipients

Silver Medal (for services to the NAA)

Raymond T N Jewell (posthumously), 1998
John Hope, 2003
W James Noble, 2004
John R Melville-Jones, 2011
Leslie J Carlisle, 2011
Walter R Bloom, 2013
Peter D Lane, 2015
Gillan Davis, 2022

Bronze Medal (for best article from two journals)

John Sharples. Vol 7, *Catalogue of Victorian trade tokens*.
Paul M Holland. Vol 9, *Master die types of Australian halfpennies*.
Peter Lane and Peter Fleig. Vol 12, *London private museums and their tokens*.
Richard A J O'Hair and Antoinette Tordesillas. Vol 13, *Aristocrats of crime*.
Peter Lane and Peter Fleig. Vol. 15 *William Henshall*.
Christopher Addams. Vol 18, *Counterfeiting on the Bermuda convict hulk* Dromedary.
Mark Stocker. Vol. 19, *The Empire Strikes Back*.
Helen Walpole. Vol 22, *The role of sporting medals in a sports museum*.
Peter Lane. Vol 23, *S. Schlank & Co Ltd: medal and badge makers of Adelaide 1887-1971*.

Paul Simon Memorial Award Honour Roll

The Paul Simon Award was established in 1977 by Mrs Jessica Simon of Ballarat, Victoria, in memory of her late husband, Paul Simon. The award is given for outstanding contribution to the Australian numismatic fraternity.

Special Silver Award: 1977, R T N (Ray) Jewell, Australia

Bronze Award

1.	1977, J Gartner	Vic
2.	1977, W J Mira	NSW
3.	1977, R M Greig	SA
4.	1977, R V McNeice	Tas
5.	1977, G D Dean	Qld
6.	1977, S J Wilson	WA
7.	(Allocated as the silver award to Ray Jewell)	
8.	1978, O C Fleming	NSW
9.	1978, M B Keain	SA
10.	1979, T M Hanley	NSW
11.	1979, A Ware	NSW
12.	1981, C J Tindall	SA
13.	1983, D G Sandeson	Qld
14.	1984, R L Henderson	Vic
15.	1985, L J Carlisle	NSW
16.	1986, H Powell	WA
17.	1987, N Harper	Tas
18.	1989, T W Holmes	Tas
19.	1990, D G Stevens	Qld
20.	1991, L T Pepperell	Vic
21.	1991, C Heath	Tas
22.	1993, C E Pitchfork	NSW
23.	1994, L P McCarthy	Qld
24.	1995, F S Seymour	SA
25.	1996, J Chapman	Vic
26.	1997, S McAskill	WA
27.	2001, D Junge	Vic
28.	2001, F Dobbins	NSW
29.	2001, G Farringdon-Davis	Vic
30.	2003, P Lane	SA
31.	2004, F Gare	WA
32.	2006, M C Williams	Qld
33.	2006, J A Hanley	NSW
34.	2007, G Shea	Qld
35.	2007, W R Bloom	WA
36.	2008, R Sell	NSW
37.	2008, G D Snelgrove	Qld
38.	2009, M P Vort-Ronald	SA
39.	2010, J W Cook	Qld
40.	2011, P Fleig	SA
41.	2013, B V Begley	Qld
42.	2014, S Appleton	Qld
43.	2015, T J Davidson	Qld
44.	2016, F J Robinson	Vic
45.	2017, B M Newman	SA
46	2018, M Carter	Qld
47	2019, G Petterwood	Tas
48	2021, A V Alsop	Vic

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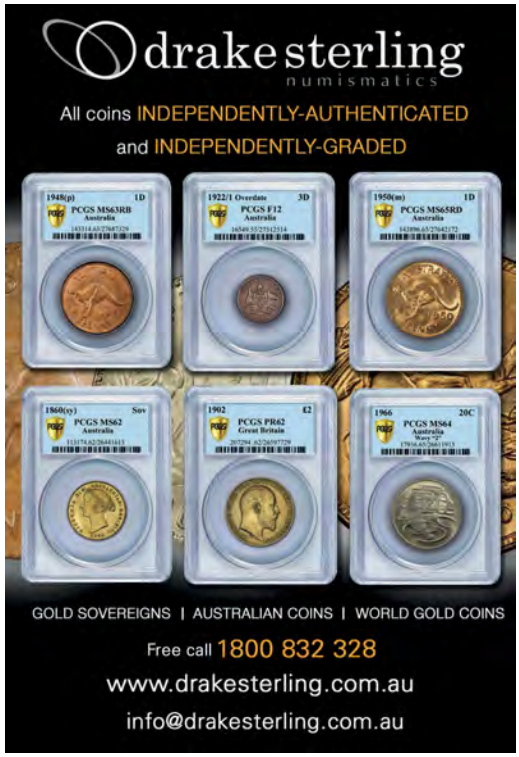

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Captions: figure and table captions should explain images fully and independently of the main text. **All images must be referenced and have copyright clearance**.

Quoting: use quotation marks for quotations under two lines. Italicise and indent quotations longer than two lines. All quotes need to be referenced.

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