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THE COINAGES OF ROME AND MAGNA GRAECIA IN THE LATE FOURTH AND THIRD CENTURIES B.C.

Abbreviations

AIIN	Annali dell'Istituto Italiano di Numismatica
ANSMN	American Numismatic Society, Museum Notes
Crawford RRC	M. H. Crawford, Roman Republican Coinage
Haeberlin	E. J. Haeberlin, Aes Grave
IGCH	Inventory of Greek Coin Hoards
RRCH	M. H. Crawford, Roman Republican Coin Hoards
S. or Sambon	A. Sambon, Les Monnaies Antiques de l'Italie
Thomsen ERC	R. Thomsen, Early Roman Coinage
Vlasto	O. Ravel, Descriptive Catalogue of the Collection of Tarentine Coins formed by M. P. Vlasto

1. The nature of the problem

The early Roman coinage has attracted the attention of numismatists for many years, but it has not yet been possible to reconstruct with any great certainty the detailed numismatic chronology of the period before the introduction of the denarius [1]. Almost every numismatist of the past has been interested in the subject,

[1] It is now, I think, generally accepted that the denarius was first struck in c. 212 B.C., although not by W. E. Stöckli JNG 1975, 75–90. An important new overstrike, which indicates that the denarius must have been struck by 211, has been published by L. Villaronga, Gaceta Numismatica 40 (March 1976), 15–18.

and most of them have held divergent views on the development and chronology of the early Roman coins. A comprehensive review of all these theories was provided in 1961 by R. Thomsen [2], but even since Thomsen wrote two different schools of thought have emerged concerning chronology. Thomsen himself and M. H. Crawford [3] place the beginning of the silver didrachms in c. 290/280 B.C., the period just before or during the Pyrrhic War, but R. E. Mitchell has argued in a number of articles for a date late in the fourth century [4]. The difference in the two chronologies continues throughout the whole didrachm coinage, and there is always a gap of some thirty years between the «high» and the «low» chronologies. The problem deserves re-examination, since there is now more evidence than when Thomsen wrote and since some of the old evidence deserves rather more attention than it has yet received.

2. *The structure of the early Roman coinage*

It is unnecessary to discuss in detail the relative sequence of the different Roman didrachms and *aes grave,* since there can be little doubt that it has been correctly determined on the basis of hoard and metrological evidence [5]. The earliest Roman didrachms all have the legend ROMANO and were struck at the same weight as coins of Neapolis (7.3 g). The weight standard declined, and from the fourth and last ROMANO didrachm (Roma/Victory) it stabilised at a new standard of c. 6.6 g, or six Roman scruples. The subsequent issues have the legend ROMA and adhere to the same weight standard of six scruples, which was only abandoned in the Hannibalic War. The *aes grave* was initially issued at the standard of one Roman pound (c. 325 g), but the standard was reduced for the fourth issue to ten Roman ounces (c. 270 g) and this lower standard also remained in use until the Hannibalic War.

So much is certain, but the relationship between the three main elements of the early Roman coinage is less clear. How do the silver didrachms, *aes grave* and *aes signatum* all fit together?

In the first place, hoard evidence indicates that the production of *aes signatum* ended when the *aes grave* was reduced from the fully libral to the sub-libral standard. In the hoards from Ariccia, La Bruna and Santa Marinella [6] eight (out of the ten) different types of *aes signatum* are represented together with *aes grave* of the fully libral standard, but in none of these hoards do any of the sub-libral Roman *aes grave* occur. As the hoards did not contain very many pieces of *aes signatum,* it seems likely that the absence of the other two types is due only to chance, and we should conclude

[2] Thomsen ERC, especially Vol. III.

[3] Crawford RRC 35–46.

[4] NC 1966, 65–70, ANSMN 1969, 41–71 and RIN 1973, 89–109.

[5] Crawford ibid., with earlier references.

[6] RRCH 13, 16 and 21.

that the production of *aes signatum* did not continue after the weight reduction of the *aes grave.*

The evidence of hoards is confirmed by the metrology of the *aes signatum.* Although some scholars have thought that the bars were not struck at any particular standard [7], their weights do seem to adhere to a standard, particularly when they are contrasted with the weights of the earlier Etruscan iron bars [8], which display the random distribution of weights one would expect if there were no fixed standard. Like those of the *aes signatum* the weights of the *aes grave* asses are very variable; only when there is a very large number of specimens do the weights of the asses show a pronounced peak; when there are comparatively few specimens (as is also the case with the *aes signatum*), their weights are more evenly spread out. From the frequency of the weights of *aes signatum* in the 1500–1650 g range (see fig. 1) [9], I think that it

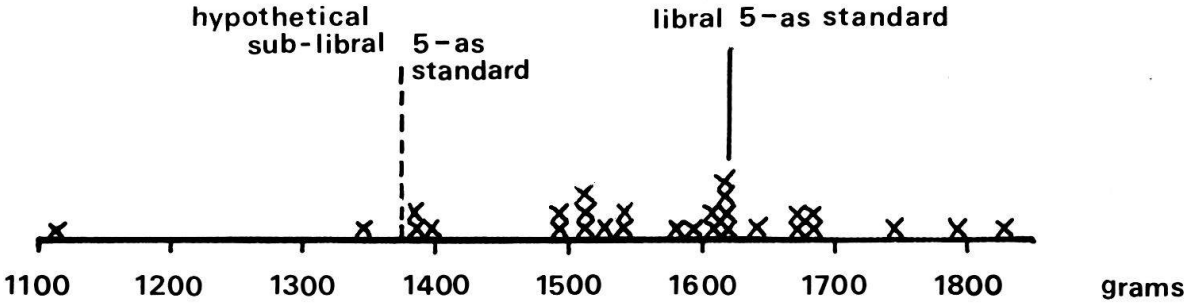

Fig. 1 The weights of *aes signatum*

is reasonable to conclude that they adhered to a standard of five Roman pounds (c. 1625 g) and so were quincusses or five as pieces of the fully libral standard. Such was Milani's theory and (after a fashion) H. Mattingly's [10], although other scholars who have agreed that there was a standard have held that, while most bars are five pound or five as pieces, some are only four as pieces. But the four bars which seem to support this theory share the same types as other heavier bars, and it seems unlikely that a different denomination should be made with identical types. And, as the weights are compatible with one standard, I conclude that none of the bars are four as pieces or (which is nearly the same thing) five asses of the sub-libral standard.

Hoard and metrological evidence clearly associate the *aes signatum* with the fully

7 For the earlier views on the metrology to which I refer in this paragraph: Thomsen ERC III, 179–187 and 212–217.

8 Haeberlin 10.

9 Thomsen ERC I, 55 gives the weights of complete bars, to which should be added the bars of 1625 (G. Belloni, Le Monete Romane, xvii), 1535 and 1510 g (Münzen und Medaillen AG, sale 47, 7–8). The amphora/spearhead bar has been excluded in view of the doubts as to its authenticity (Crawford RRC 548 no. 23). Another specimen of the bar is known, weighing 1640 g.

10 Mattingly thought that they were 6 asses of 10 unciae each, accepting the chimera of the Oscan pound of 10 unciae. The five as theory is also followed by J. P. C. Kent, B. Overbeck and A. U. Stylow, Die Römische Münze, 11–12.

libral *aes grave*. The next problem is the relation between the silver and the bronze, and here the evidence implies that the reduction in the bronze standard took place at about the same time as the silver didrachms adopted the 6.6 g standard.

The later didrachms of the lower standard (the issues with the inscription ROMA) have the same symbols (the sickle and the club) as their respective series of sub-libral *aes grave*. Although the occurrence of the first didrachm (Mars/horse's head ROMANO) with the fully libral Janus/Mercury and Apollo/Apollo series of *aes grave* in the Capua hoard [11] shows that in general the heavier standard belongs with the first didrachms, the precise relationship between the ROMANO didrachms and the *aes grave* is not clear. The problem arises because there are only four issues of didrachms to five issues of *aes grave* [12], but the difficulty seems soluble when one considers the metrological relationship between the silver and the bronze.

There was an ancient tradition that a denarius was worth ten libral asses [13], and although this seems to imply that the didrachms were in fact «denarii» or ten as pieces, the equation of a didrachm with ten asses must nevertheless be rejected since it involves a ratio of bronze : silver of about 400 : 1, which is not only unparallelled [14], but also impossible: the coins would have been worth far more as metal than their face value, and consequently they would have been melted down and sold as bullion.

A more reasonable ratio is about 120 : 1 and this ratio does in fact obtain for the first denarii of the Second Punic War (when a denarius of four Roman scruples is worth ten asses of 48 Roman scruples each). If the same ratio is applied to the lighter didrachms (from the Roma/Victory ROMANO issue onwards), then there is an exact equivalence between the didrachm of 6 scruples (6.6 g) and three sub-libral asses of 240 scruples each (about 270 g). The natural conclusion to draw is that the didrachm was in fact a three as piece, and such an equivalence gives a raison d'être for the otherwise anomalous *tresses* or three as pieces of the wheel series of *aes grave* [15]: in a sense they are «bronze didrachms».

Consequently one would not expect to find a silver didrachm to correspond with the wheel *aes grave*, and it emerges that each of the four remaining series of *aes grave* can be associated with one of the four ROMANO didrachms. It can then be seen that the first issue of sub-libral *aes grave* (the Roma/Roma series with no symbol) belongs with the first issue of silver on the six scruple standard.

11 Hoard no. 3 below.

12 Crawford RRC 44 demotes the Dioscouros/Apollo issue to «a subsidiary series» because of its rarity, but this does not seem very convincing.

13 Crawford RRC 37 n. 4.

14 The ratio is usually of the order of 100–120 : 1; cf. M. J. Price in (editors) C. M. Kraay and G. K. Jenkins, Essays in Greek Coinage presented to Stanley Robinson, 103.

15 Haeberlin 57 = RRC 24/1. The known specimens weigh 928 (Leu Sale 18, 288), 881 (Vatican), 856 (Berlin), 834 (Sambon Coll. = Sotheby 23/11/1925 lot 14), and 828 g (private coll.). There are two other specimens weighing 685 (Spencer-Churchill Coll. = Christie 7/12/1965 lot 133) and 659 g (Miles Coll. = ? ANS) of uncertain authenticity. The patina on the Spencer-Churchill specimen, which I have seen, certainly looks false.

3. *The Italian coinages of the late fourth and third centuries*

The chronology of the early Roman coinage depends on the evidence of hoards which contain Roman didrachms in association with other Italian coins. Traditionally most attention has been paid to the Tarentine coins in the hoards, since they have offered a firm chronological guide as a result of their classification by Evans in 1889[16]. Evans divided the Tarentine coins into a number of chronological periods, and those which are most relevant here are his periods V–VII. Coins of period V have abbreviated signatures (of magistrates), whereas those of period VI have full signatures. The coins of both periods were struck at a standard of c. 7.9 g. The standard was reduced at the beginning of period VII to c. 6.6 g, and at the same time a number of other South Italian mints (Croton, Heraclea, Thurii and Metapontum[17]) made the same weight reduction. Evans dated his periods V–VII to 334–302, 302–281 and 281–272 B.C., and so placed the weight reduction at the beginning of the Pyrrhic War. Thereafter Taras continued to strike coins until the end of the century[18], but the four other mints stopped minting soon after the weight reduction.

Until recently the dating of hoards containing the Roman didrachms was based entirely upon the evidence of these Tarentine coins, but Mitchell[19] has drawn more attention to the Neapolitan coins in the hoards. Contemporary Neapolitan coins have, on the obverse, either a right facing or a left facing head of Parthenope. Mitchell has pointed out that the change takes place from right to left at about the same time as the weight reduction at Taras, and consequently the right heads are contemporary with Taras V–VI, while the left heads begin with Taras VII. One can also subdivide the earlier group with right heads[20] into an earlier series with the reverse inscription ΝΕΟΠΟΛΙΤΗΣ and a later series with ΝΕΟΠΟΛΙΤΩΝ (although, as one would expect, there is a little overlap). Although there is no hoard evidence (unless the Torchiarolo hoard is considered relevant[21]), it seems reasonable to associate the

16 A. J. Evans NC 1889, 1–228.

17 The coinage of Metapontum just reaches the weight reduction (information from G. K. Jenkins).

18 The so-called Campano-Tarentine coins of Taras are to be regarded as contemporary with Taras VIII. As Evans pointed out, they share the same symbols, and they do not appear in hoards until Taras VIII or later (IGCH 1992, 1994, 2009, 2011, 2012, 2019, 2034, 2045 and 2210), except for the Paestum hoard (IGCH 1904), which cannot be an integral hoard since the latest coins it otherwise contained belonged to the late fifth century! (See the comments of the editors of IGCH).

19 RIN 1973, 97.

20 There are, however, two varieties with left facing heads *and* left facing bulls which belong to the period of transition from one form of the ethnic to the other (one, SNG Oxford 119, has –ΗΣ and the other, BMC 88, has – ΩΝ). That they belong with the right facing heads is shown by the two forms of the ethnic and by their presence in the Campanian hoard (below no. 2), which ended well before the left facing heads. The fact that, in both cases, the bull also faces left suggests that the aberration of a die engraver is the explanation of the anomaly.

21 Hoard no. 7 below.

former with Taras V and the later with Taras VI, since there are about the same number of varieties in each series.

The sequence which Sambon [22] proposed for the later, left facing didrachms seems to be mainly correct, although the condition of the coins in the Naples hoard [23] suggests that the series with the letter E on the reverse (S. 525–531) should be placed before the series with the letters IΣ, and at least some of Sambon's latest «anonymous» (i.e. with no letter on the reverse) varieties should be placed at the beginning of the left facing heads [24].

The only good evidence on the relationship between these later Neapolitan coins and the coins of Taras is provided by the Vulcano hoard [25], where Neapolitan coins of the IΣ series were associated with Tarentine coins of period VIII. It therefore seems likely that the IΣ issue of Neapolis is contemporary with Taras VIII, and that the left facing didrachms with no letter, with E and with IB or BI on the reverse are contemporary with Taras VII.

The other important South Italian coinage of the period is that of Velia. The sequence of issues has been set out by Kraay, who has divided the Velian coinage into several periods [26]. Here the relevant periods are his periods V–IX, most of which are characterised by the monogram of a master engraver or mint official. Period VI, for instance, is signed by the monogram of Kleudoros, and period VII by Philistion. The relationship between these periods and the other Italian coinages is indicated by a number of hoards. There are several hoards which associate the end of Taras III with the end of Velia IV or the beginning of Taras IV with the beginning of Velia V [27]. Other hoards show that the middle of Velia VII belongs with the beginning of Taras VI, and that the last Velian period (IX) belongs with Taras VII [28]. It seems then that the great bulk of the Velian coinage (periods VI, VII and VIII) are contemporary with Taras V and VI, that Velia V is contemporary with Taras IV and Velia IX with Taras VII. The coinage of Velia stops at this point, at almost exactly the same time that the coinages of Croton, Thurii, Heraclea and Metapontum also stop.

In the late fourth century the bulk of the currency of Sicily consisted of pegasi of Corinth and her colonies [29]. Southern Italy does not seem to have shared in this wave of imported currency until rather later, since the pegasi which occur most frequently in Italian hoards are the pegasi which were struck at the Acarnanian mints of Anactorium, Argos Amphilochicum and Thyrrheium at a date rather later

22 Sambon 171 ff.

23 Hoard no. 12 below.

24 E.g. S. 524. As the series with A on the reverse was not in the hoard, its position is uncertain.

25 IGCH 2210.

26 SNG Oxford Vol. II.

27 IGCH 1924, 1923 and 1925.

28 IGCH 1947 and 1961.

29 See, most recently, C. M. Kraay, Archaic and Classical Greek Coins, 235–237 and INC (Washington) Transactions 99–105.

South Italian standard		Campanian standard	
Taras	Croton, Metapontum, Heraclea and Thurii	Velia	Neapolis
IV		V	– S. 368
V		VI	S. 436–455
VI		VII	S. 456–480
		VIII	
Weight reduction			
VII		IX	S. 482–500
			S. 525–531
VIII			S. 501–524
IX			

Table 1: The relative chronology of south Italian coinages

than the bulk of the pegasi of Corinth herself and her other colonies. It is not quite clear where the Acarnanian pegasi fit into the relative chronology of the Italian coinages, since they occur in only a handful of hoards. They comprised about half of the Mesagne hoard [30] which closed with the latest issues of the right facing didrachms of Neapolis, and they also occurred in the Salve hoard, which had the same terminal date [31]. In the new S. Giovanni hoard [32] they showed the same amount of wear as the same Neapolitan issues and also the coins of Taras V. In the Soverato hoard [33] they are to be associated with the bulk of the hoard (Velia period VI, contemporary with Taras V); the one isolated coin of Velia period VIII (contemporary with the middle of Taras VI) was in much better condition. The evidence of these hoards shows that the Acarnanian pegasi are no later than the period of Taras VI and no earlier than period of Taras V, and the balance of evidence favours contemporaneity with Taras V and the earlier right facing didrachms of Neapolis.

4. The relationship between the early Roman and the Italian coinages

There is now quite a large number of hoards which give evidence about the relationship between the Roman didrachms and the contemporary coinages of Italy.

30 Hoard no. 5 below.

31 IGCH 2030 = RRCH 64. The quadrigatus was clearly added to the rest of the hoard in either modern or ancient times.

32 Hoard no. 8 below.

33 IGCH 1969.

I list below all the hoards which contain the first Roman didrachms (nos. 1–9) and the other hoards whose evidence is of most importance for the later didrachms [34].

1. Valesio, near Brindisi

IGCH 1960 = RRCH 12 (see now AIIN 1973, 15–20)

7 Taras (all V B), 1 Heraclea (Work [35] 62 ff.: this type occurred in the Torre d'Ovo hoard, IGCH 1934, which closed at the very beginning of Taras VI), 6 Metapontum (BMC 96: this was also in the Torre d'Ovo hoard), 1 Thurii (as SNG Oxford 959: this occurred in the Carosino hoard, IGCH 1928, which went down to Taras IV H), 1 Terina and 2 Mars/horse's head ROMANO didrachms.

The coins of Taras, Heraclea and Metapontum suggest a date late in Taras period V for the first Roman didrachms, and although it has been suggested that the Roman coins are less worn than the Tarentine [36], this is not certain. Two coins from the hoard (one of Taras and one of Metapontum) are missing, but there is no reason to suppose that they were any later.

2. Campania (Plates 27–29)

The hoard appeared in 1976, and 49 coins have been seen out of a total thought to be about 100 [37]. The 49 coins were:

ROME (4)

1–4 Mars/horse's head ROMANO. 7.41, 7.43, 7.29 and 7.28 (the last three share the same obverse die)

NEAPOLIS (44)

5–28 Parthenope/Man headed bull ΝΕΟΠΟΛΙΤΗΣ

5–7	S. 436	7.55, 7.40, 7.33
8–12	S. 437	7.49, 7.44, 7.43, 7.36, 7.35
13–15	S. 438	7.41, 7.29, 7.05
16	S. 440/1a	7.39

34 The absence of the first Roman didrachm from early third century hoards has no significance, since many of the hoards listed by M. H. Crawford RRC 39 are certainly later than the first didrachm – IGCH 1975, 1976 and 1979–1984. There are also a number of other hoards which are much later than the Roman coins but do not contain them – IGCH 1966, 1997–2002, 2004, 2006 and 2210. I have omitted the Ascoli hoard (IGCH 2034 = RRCH 59) from the discussion, since no details have been preserved about the condition of the different coins apart from the vague «ottima conservazione dei nummi», which probably refers to the quadrigati.

35 E. Work, The Earlier Staters of Heraclea Lucaniae (NNM no. 91).

36 Crawford RRC 38.

37 I am very grateful to Dr. M. J. Price for allowing me to publish the hoard. The British Museum has acquired nos. 44 and 49.

	17	S. –	7.31 (no symbol on obverse; ΔI on reverse below bull)
	18	S. 446	7.35
	19	S. 447	7.45
	20	S. 448	7.46
	21	S. 450	7.23
	22–27	S. –	7.53, 7.50, 7.48, 7.45, 7.45, 7.32 (no symbols: obverse and bull both face left – the same dies as SNG Oxford 119)
28–47	as above, but NEOΠOΛITΩN		
	28–33	S. –	7.62, 7.47, 7.40, 7.31, 7.19, 7.12 (no symbols: obverse and bull both face left – the same dies as BMC 88)
	34–36	S. 455 b	7.43, 7.42, 7.35
	37	S. 457	7.15
	38–43	S. 458	7.54, 7.42, 7.38, 7.35, 7.32, 7.26
	44	S. 459	7.46
	45–47	S. –	7.48, 7.26, 7.10 (no symbols)
48	as above, but reverse inscription uncertain		
	48	S. ?	7.61 (symbols off flan)

CUMAE (1)

49 same types as Neapolis, but KYMAION 7.40 (same dies as SNG ANS 249 and Luynes 148)

The Roman coins are all in very good condition, although there is a little wear on the beard of Mars and on the horse's head. Their condition is the same as most of the late Neapolitan coins from the hoard.

The latest Neapolitan coins from the hoard correspond to the very beginning of Taras period VI, and the hoard therefore suggests that the first Roman silver was struck late in Taras V or early in Taras VI.

3. Capua

IGCH 1962 = RRCH 550

This is probably a hoard, but its contents are not recorded in sufficient detail to be of any use here.

4. «Fallani» (Italy)

M.H.Crawford RRC p. 38

35 Neapolis (to Sambon 477: these go down to the end of the coins with right facing heads on the obverse, but do not include any with left facing heads) and several Mars/horse's head ROMANO didrachms.

The Neapolitan coins suggest that the first Roman didrachms had been struck by the end of Taras VI.

5. Mesagne, near Brindisi

IGCH 1971, cf. RIN 1973, 103

The possibility that there were two Mesagne hoards should surely be rejected: there is an identity of at least some of their contents, and a hoard ending with Taras III but containing Roman didrachms would surely be too anomalous. The hoard is not, however, well recorded.

35 Neapolis (including down to Sambon 477), 5 Taras (including 1 of V E), 7 of Thurii (including 3 full weight staters), 1 Heraclea, 15 Velia (to period VII), 55 Acarnanian pegasi and various other uncertain and undatable coins including 2 Mars/horse's head ROMANO didrachms.

The Neapolitan coins suggest the same date for the Roman coins as hoard no. 4, and the other coins are consonant with this date.

6. Oppido Lucano, near Potenza, Basilicata

IGCH 1961, cf. R. E. Mitchell RIN 1973, 101 and F. Panvini Rosati in Antiche Civiltà Lucane (Galatina, 1975) 343–360.

13 Neapolis (to Sambon 488: these include one coin with a left facing head, contemporary with Taras VII), 7 Taras (to period VII), 1 Metapontum (BMC 108: this type occurred in the Torre d'Ovo hoard), 21 Thurii (5 full weight staters and 16 fractions), 28 Velia (to period IX, contemporary with Taras VII), 1 Terina, 1 Locri and 1 Mars/horse's head ROMANO didrachm.

The Neapolitan, Tarentine and Velian coins show that the first Roman didrachms were struck during or before Taras period VII, and the somewhat worn condition of the Roman coin suggests the latter.

7. Torchiarolo, near Brindisi

IGCH 1977 = RRCH 11

27 staters of Taras (24 to period V, 2 of VII and 1 of VIII) and some 1418 fractions (of which many are of the period V–VI, but none appear to be any later), 6 Neapolis (to Sambon 448; these include a coin of the first series of right facing heads and therefore contemporary with Taras V), 71 Heraclea (1 plated stater of an earlier type – Work 32 – and 70 fractions), 100 Thurii (the 5 staters are all full weight), 49 Metapontum (of which 27 are staters: these include Leucippus heads – contem-

porary with Taras IV as shown by the Carosino hoard – and go down to Noe[38] 521 – also contemporary with Taras IV as shown by the Paestum hoard, IGCH 1925), 14 Velia (to period VI), and various other undatable coins including one Mars/horse's head ROMANO didrachm.

The hoard supplements no. 6 inasmuch as it shows that the Roman didrachms had been struck by Taras period VIII. R. E. Mitchell[39] has argued, however, that this hoard consists largely of coins down to the end of Taras V, to which a few later coins have been added. The coins of Neapolis, Taras, Velia and Metapontum would seem to support his interpretation, even if IGCH 1978 is, in fact, part of the same hoard. But even if the hoard does contain an earlier nucleus to which some later coins have been added, there is no way of telling whether the Roman coin belongs with the earlier or later group, and all the hoard can show is that the Roman didrachms had been introduced by Taras period VIII.

8. S. Giovanni Ionico

The new and very large hoard from S. Italy is to be published in detail by Chr. Boehringer[40]. It contained six Mars/horse's head ROMANO didrachms and went down to Taras period VIII, and so confirms the evidence of the Torchiarolo hoard in this respect. Although Boehringer has been able to distinguish different degrees of wear on the coins in the hoard, we should be wary of basing any very precise chronological conclusions on this consideration (e.g. the latest three coins of Corinth, struck c. 310 B.C. were in slightly better condition than reduced staters of Heraclea, struck not before 281 by Evan's chronology). The difficulty of tieing in the Roman coins with other coins showing the same wear can be shown in the following table, which lists coins with the same amount of wear as the Roman didrachms:

Velia	SNG Oxford period VI	contemporary with Taras V
Taras	V B–E	
Metapontum	BMC 96	contemporary with Taras V
Acarnanian pegasi		? contemporary with Taras V
Neapolis	Sambon 455–480	contemporary with Taras VI
Thurii	SNG ANS 1070–1094	contemporary with Taras VI
Heraclea	SNG ANS 91–97 were only slightly better, and are contemporary with Taras VII	

The table underlines the point that wear can only be a very general and not a very precise guide to the relative chronology of coins from the different states. The new

38 S. P. Noe, The Coinage of Metapontum (NNM nos. 32 and 47).

39 ANSMN 1969, 55 n. 59, RIN 1973, 99–101.

40 SNR (forthcoming). I am very grateful to Dr. Boehringer for sending me a detailed catalogue of the hoard, and enabling me to draw some conclusions from it.

hoard can only show that the Roman didrachms were struck before Taras VIII, and in the general period of Taras V–VI and the Acarnanian pegasi.

9. Timmari, near Matera, Basilicata

The hoard was found in 1929 in a *favissa* near the Lucanian sanctuary at Timmari. It is now in the Museo Nazionale Domenico Ridola, Matera, and I am very grateful to the Direttrice of the Museo for allowing me to study it.

55 Taras (10 didrachms, 1 Campano-Tarentine didrachm, 2 drachms and 42 fractions), 3 Metapontum (1 didrachm and 2 fractions), 42 Thurii (one tetradrachm, 4 didrachms and 37 fractions), 6 Terina (1 didrachm, 4 tetrobols and 1 fraction), 8 didrachms of Neapolis (to S. 519), 8 didrachms of Velia (to period IX) and 1 Mars/horse's head ROMANO didrachm.

The hoard confirms the evidence of the Torchiarolo and S. Giovanni hoards that the Roman coin had been issued by the period of Taras VIII, and its very worn condition suggests that it should be dated well before that period.

10. Benevento

IGCH 1985 = RRCH 22

The Benevento hoard is important because it contained both the first and the third issues of Roman didrachms. Its integrity as a hoard has been attacked by E. S. G. Robinson [41], but his criticism does not necessarily condemn it since it is sometimes possible for earlier coins to be in better condition than later ones from the same hoard. Robinson was keen to reject the testimony of the hoard because it conflicted with his (and H. Mattingly's) date of 269 for the first Roman didrachms. His view (and subsequent ones) have depended on the association of coins of Taras V B (regarded as fourth century coins) with the Roman coins, but the Tarentine coins in the hoard are in fact of little significance since they were very few and the bulk of the hoard consisted of Neapolitan coins [42]. Those listed by Evans [43] are Sambon 454, 455, 457, 460, 461, 465, 475 and 476, and belong mainly to the period of the later right facing heads, contemporary with Taras VI.

The hoard also contained «some coins of Velia». Evans listed three: one each of periods VII and VIII, and the other of Velia period IX. This is the latest coin recorded from the hoard and is contemporary with Taras VII. It suggests that the terminus of the hoard may have been rather later than appears from the eight (out of 200) Neapolitan coins recorded, and that the third Roman didrachm might be

41 NC 1945, 97.
42 NC 1889, 92.
43 NC 1889, 212–213.

later than Taras VI. Even so, the hoard is still problematical, as will emerge later (p. 107).

11. Pietrabbondante

IGCH 1986 = RRCH 24

Although the hoard only contained only bronze coins, it is important because it relates the bronze counterparts of the Roman silver to the bronze counterparts of the Neapolitan silver. In addition to the two Goddess/lion bronzes it contained 17 pieces of *aes grave:* 8 of the first series (Janus/Mercury), 7 of the second (Apollo/Apollo) and 2 of the fourth (Roma/Roma with no symbol). The latest of the *aes grave* is contemporary with the Roma/Victory ROMANO didrachms, and the Roman coins from the hoard clearly terminate well before ROMA period of the coinage, since the wheel series of *aes grave,* which certainly precedes the ROMA didrachms and always occurs in later hoards, is not represented.

The majority of the Neapolitan coins from the hoard have the letters IΣ on the reverse and so are more or less contemporary with the silver didrachms with the same letters: both silver and bronze share the same style, e.g. the same square buttocks, stiff tail and flat back of the bull, and in view of the fact that they have the same issue mark (the IΣ) they must be associated chronologically, although there are reasons for thinking that the bronzes are, in fact, a little later than the silver (see p. 110).

The hoard shows that the ROMANO phase of the coinage had not ended by the time of the IΣ coinage of Naples.

12. Basilicata

IGCH 1994 = RRCH 29

Very little is recorded of this hoard. It contained a large number of Neapolitan and Campano-Tarentine coins and a few Roman didrachms (Roma/Victory ROMANO, and all three ROMA issues). It is important to note that the Roman coins were *all* less worn than the Neapolitan and Campano-Tarentine (contemporary with Taras VIII [44]). The Neapolitan coins in question must be the left facing issues [45], and the hoard therefore suggests that all the 6.6 g didrachms are later than the last issues of Neapolis.

[44] See n. 18.

[45] In his republication of the hoard (RIN 1900, 81) Bahrfeldt referred to Garrucci pl. 84, 34 ff., which show right heads. But Bahrfeldt says that he is following L. Sambon's original publication, where the variety is not specified. As the Neapolitan coins were in the same condition as the Campano-Tarentine staters, they must be left facing heads. In both the Vulcano and the South Italy hoards (IGCH 2210 and 2009) the Campano-Tarentine staters were also in the same condition as the left facing coins of Neapolis.

13. Naples

IGCH 2012 = RRCH 34

The hoard contained Roman coins down to the period of the quadrigati. No details have been recorded about the large number of Campano-Tarentine coins which it contained, but rather more is known about the Neapolitan coins. There were about 40 of these, of which 14 (and one cast) are in the British Museum; some further details were given by Le Gentilhomme in his original publication of the hoard [46]. All had left facing obverses, and belonged to the following groups:

3 with no letter on the reverse
3 with BI on the reverse
5 with E on the reverse
13 with IΣ on the reverse

The other Neapolitan coins are uncertain, but probably belonged to the same issues.

The hoard also contained 27 Roman didrachms (and one drachm), apart from the quadrigati. The earliest of these were the Hercules/wolf and twins ROMANO issue, and all the later didrachms were also in the hoard. The condition of the coins from the hoard confirms in general the evidence of the Basilicata hoard, although it is difficult to compare the wear on the Neapolitan coins (where the finely drawn hair of Parthenope shows wear very easily) with the Roman coins (where the thicker locks of hair on the head of Hercules do not show wear so much). Nevertheless, all the Neapolitan coins seem to be more worn than the Roman, with the exception of some of the IΣ issues: these seem to have a degree of wear comparable to the Hercules/wolf and twins issue, and two of the Roma/Victory didrachms are similarly worn.

The Naples and the Basilicata hoards imply that all the ROMA didrachms are later than the last issues of Neapolis, and that the third and fourth ROMANO issues are roughly contemporary with or a little later than the IΣ coins of Neapolis.

14. Montegiordano, prov. Cosenza

CH I, 70 = CH II, 71

The hoard contained a bronze coin of Argos and a didrachm of Neapolis, together with 5 Campano-Tarentine staters and 14 Roman didrachms down to the quadrigati. The earliest Roman coins were the Hercules/wolf and twins didrachms, and again, like in the Basilicata hoard, the Roman coins are in general described as being in better condition than the Campano-Tarentine (which are contemporary with Taras VIII and the IΣ coins of Neapolis) [47].

[46] RN 1934, 4.
[47] E. Pozzi Paolini, Parola del Passato, 1974, 56.

RRCH 36 = IGCH 2009

The record of only some 26 coins out of a total in the region of 300 has been preserved [47a]. The latest Neapolitan (Sambon 516, with IΣ) and the Campano-Tarentine coins are more worn than the ROMA didrachms, and certainly not less worn than the Hercules/wolf and twins coins in the hoard.

The evidence of the hoards for the relative position of the first Mars/horse's head ROMANO didrachm is quite clear. The Torchiarolo and S. Giovanni hoards show that it had been struck by Taras VIII, the Oppido Lucano by Taras VII, and the Fallani and Mesagne hoards by the end of Taras VI. The two earliest hoards to contain the Roman coin are the Valesio and Campania hoards, both of which suggest that it was struck at the very end of Taras V or the very beginning of Taras VI. The wear on the Roman coins in the other hoards is entirely consistent with this, and we may conclude with certainty that the Roman coin was struck at the same time that TarasV ended and Taras VI began. Moreover the Mesagne and the S. Giovanni hoards show that it was struck in the general period of the late Acarnanian pegasi.

The evidence for the first issue seems unequivocal, and it is similarly clear for the latest issues of Roman didrachms. The Pietrabbondante hoard shows that the wheel series of *aes grave* and all the ROMA didrachms (including the quadrigati) are later than the period of Taras VIII, and the condition of these didrachms in the Naples, Basilicata, Montegiordano and South Italy hoards gives confirmation.

The position of the other ROMANO didrachms is harder to establish, and the main problem arises from the inconsistency of the available evidence. The Benevento hoard suggests that the wolf and twins didrachm was struck no later than Taras VII, and perhaps as early as Taras VI; the Basilicata hoard implies that the Roma/Victory coin was struck after Taras VIII, and so suggests that the wolf and twins coin was struck during that period; the Naples hoard seems to show that both these issues were struck during this period or a little later; and the Montegiordano hoard suggests that the latter is the case.

Consequently we must choose between the possibilities that the wolf and twins issue was struck in Taras VI or VII or VIII, and that the Roma/Victory was struck in Taras VIII or later. I think that we can be fairly sure that the wolf and twins coins were not struck during Taras VI, for two reasons. Firstly, the absence of the wolf and twins issue from other hoards: this didrachm was issued in much greater quantities than the first (Mars/horse's head), as is shown by the large number of specimens which occur in later hoards [48] and by the fact it was struck from at least 29 as opposed

[47a] Photographs of 20 of the coins are preserved in the British Museum and will be published in Coin Hoards IV (1978).

[48] E.g. 10 in the Naples hoard and 4 in the Montegiordano hoard.

to only 4 obverse dies [49], and it would be rather surprising if it did not occur in hoards which contain the first didrachm as well as coins of Taras VI. The Oppido Lucano hoard, for instance, had a good cross section of south Italian currency at the time of its deposition, but contained only the first didrachm, as did the Fallani and Mesagne hoards, both of which went down to the end of Taras VI. The Timmari hoard went even later, to Taras VIII, but still contained only the Mars/horse's head issue. Conversely, there are a number of later hoards which contain almost all the other didrachms except for the Mars/horse's head [50]. Taken together with the *argumentum e silentio* they make a strong case for a sizable gap in the minting of Roman silver after the first issue, and this must be set against the interpretation of the Beneventum hoard which associates the wolf and twins issues with Taras VI.

Secondly, the evidence of hoards other than the Beneventum: if, as the Pietrabbondante hoard shows, no more than the Roma/Victory didrachm had been struck by the end of Taras VIII, then it seems a little unlikely that the wolf and twins issue was struck as early as Taras VI. The condition of the coins in the Naples hoard confirms this, since the earliest Neapolitan coins were the early left facing group, which are later than Taras VI, and they were certainly more worn than the wolf and twins coins.

We can therefore be fairly certain that the third issue of didrachms is later than Taras VI, but there are still two possible other schemes:

	a	b
wolf and twins	Taras VII	Taras VIII
Roma/Victory	Taras VIII	after Taras VIII

The Pietrabbondante hoard is compatible with both schemes, since bronze hoards from later in the century have only the same Neapolitan bronzes [51], but the condition of the coins in the Naples, Basilicata, South Italy and Montegiordano hoards makes scheme (a) unlikely and (b) preferable.

Scheme (b) does, however, seem incompatible with the Benevento hoard, unless we suppose that it was put together over a period of time, rather than drawn straight out of circulation. Most of it seems to belong to the period of Taras V–VI, but at least the latest Velian coin was added later, and the same is probably true of the wolf and twins didrachms, in the same way that it has been suggested that some later Tarentine coins were added to the Torchiarolo hoard [52].

[49] 104 coins of the Mars/horse's head ROMANO variety have only 4 obverse dies (excluding several dies of plated coins); 142 coins of the wolf and twins variety have 29 obverse dies.

[50] Especially RRCH 59 and 60, which even contained the Apollo/horse coin.

[51] E.g. RRCH 50.

[52] This would explain the condition of the coins: Taras V were fresh, as was Velia IX (= Taras VII), and Velia VII and VIII were f. d. c., as was Neapolis S. 460 (= Taras VI)!

Whether scheme (a) or (b) is correct, however, there can be no direct connection between the adoption of the 6.6 g standard at Rome and in southern Italy. The only evidence for such a connection would come from a «strong» interpretation of the Benevento hoard (whereby the wolf and twins coins were associated with Taras VI; the 6.6 g didrachms would then date to the beginning of Taras VII), but the weight of evidence seems against such an interpretation. The balance of evidence makes it plausible to think that the 6.6 didrachms are later than Taras VIII. Consequently we should associate the wolf and twins didrachms with the IΣ coins of Neapolis and Taras VIII, and imagine that the relatively scarce Apollo ROMANO/horse didrachm was struck shortly before, and that all the ROMA didrachms are much later.

It must be admitted, however, that it does not seem possible at the moment to attain certainty on the position of the three late ROMANO didrachms. There seem to be a number of pointers towards the relative chronology, but it will not be possible to claim certainty until more hoard evidence is forthcoming.

5. *Fixed points in chronology*

In establishing an absolute chronology it is important to make no assumptions, and consequently I list below the few fixed points in the chronology of the coins discussed above. Two other points which are usually regarded as fixed are discussed in appendices 1 and 2, since I do not think that they are of any certainty. A further fixed point which is not discussed is the introduction of the denarius in c. 212, since I do not think that there can now be any reasonable doubt about the date [53].

1. *Alexander the Molossian.* Alexander, the king of Epirus, came to the assistance of the Tarentines in c. 333 and conquered most of southern Italy before his death in 330 B.C. Traditionally he has been associated with the earliest phase of period V of Tarentine coinage, since on the coins of this period an eagle is used as a symbol, and a similar eagle was used on the tribal coinage of the Molossi in the fourth century [54]. However, G. K. Jenkins has pointed out that the evidence of overstrikes suggests that the dates for Taras IV are rather too high [55], and that therefore the association of the eagle with Alexander should be dropped. The same conclusion can be drawn from the only securely dated coin hoard from late fourth century Italy. The so-called Molossian find [56] contained coins in the name of Alexander in f. d. c. condition and so

[53] See n. 1.

[54] Evans NC 1889, 80 ff.

[55] In his article on Taras for Historia Numorum [3] (in preparation), which he has kindly allowed me to use.

[56] IGCH 1929; although Vlasto 502 is said to come from the find, the original publication has a coin of Taras III instead (NC 1926, 212).

the hoard must have been deposited c. 330. It also contained a coin of Velia V and a coin of Metapontum, which was issued just before the Leucippus heads of Metapontum [57], and both were also in f. d. c. condition. The latest Tarentine coin was of period III O, in e. f. condition. The Velian and Metapontine coins date from the very beginning of Taras IV, and the association of these coins and the coin of Taras III with the coins of Alexander implies that Taras period IV begins at the time of Alexander's Italian campaign, and a date some ten or fifteen years later than Evan's date of 344 for Taras IV is required.

2. *The weight reduction at Taras and the other south Italian cities.* Since Evans the reduction has been associated with Pyrrhus and dated to c. 281 B.C. [58]. Evans' case was based on the occurrence of two symbols, the elephant on the didrachms of period VII (fig. 2), and the Athena Alkidemos on gold which is associated with the same period since it has the signatures of the same magistrates.

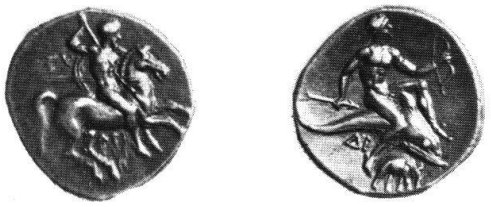

Fig. 2

Fig. 3

Evans' case is, however, by no means a good one, since both symbols occur on contemporary Neapolitan coins [59] (fig. 3), and it is known that Neapolis rejected the overtures of Pyrrhus [60]. Moreover, the coins struck in Pyrrhus' own name in Italy use the Attic standard, and his Syracusan coins adhere to a new standard of c. 5.6 g. Evans' case for associating the weight reduction with Pyrrhus is clearly very weak, but, on the other hand, since Pyrrhus was the first to use war elephants in Italy, it seems reasonable to regard c. 280 as a *terminus post quem* for the elephant symbol at both Taras and Neapolis.

3. *The influence of Syracuse on the Italian coinages.* Some silver didrachms of Neapolis [61] (plate 28, 34–44) and some gold staters of Taras [62] of about the same date (the end of Taras V/the beginning of Taras VI) have dolphins around the head on the obverse. This isolated phenomenon is a clear imitation of the Sicilian coins which similarly have a head surrounded by dolphins. In Sicily the type occurred mainly on

57 SNG ANS 416.

58 Evans NC 1889, 139 ff., M. P. Vlasto NC 1930, 150 ff.

59 Elephant: S. 499 and 538; Athena Alkidemos: S. 479, 487 and 508 a.

60 Zonaras 8, 4.

61 S. 455–459.

62 Vlasto 21–27.

Siculo-Punic tetradrachms down to about 300 B.C. [63], and on the tetradrachms issued in the first part of the reign of Agathocles, between 317 and about 305 (fig. 4). Agathocles' coins revived the traditional Syracusan type of the fifth and early fourth centuries, but after his issue the type does not appear again on any of the coins of

Fig. 4

Sicily. It would be a little surprising if the appearance of the same type were very much later at Taras and Neapolis, and it is perhaps tempting to associate the isolated occurrence of the dolphins at these two cities with the revival of the type by Agathocles. A date of about 310 would then be a *terminus post,* and a date in the general region of about 310–290 seems likely.

4. *The* IΣ *didrachms of Neapolis and the coinage of Aesernia.* Neapolis issued didrachms (fig. 5), drachms and bronzes of a similar style, all of which are characterised by the addition of the letters IΣ under the bull on the reverse [64]. On the obverse a control mark appears, and it is possible to establish a sequence of didrachms, then drachms and then bronzes on the basis of these control marks:

Fig. 5

didrachms	various symbols
drachms	symbols and the letters A–E
bronzes	letters A–Ω

The drachms establish a link between the control systems used on the didrachms and the bronzes, and, while there is clearly an overlap between the three elements of the IΣ coinage, the system suggests a priority of the didrachms over the drachms and the drachms over the bronzes.

63 G. K. Jenkins SNR 1971, 25 ff.

64 S. 501–524, 540–546 and 652–692.

Some of the bronzes are overstruck, usually on bronzes of Cales and Suessa, but occasionally on coins from other mints, including Aesernia [65]. The relevant coins of Aesernia have a latin legend, and so date to after 263, the year in which a latin colony was established there [66]. The overstriking by Neapolis can hardly be much earlier than 255, and it is therefore reasonable to suppose that this date falls in the period of the IΣ bronzes. To judge from the condition of the coins in the Pietrabbondante hoard, the overstrikes occurred near the end of the IΣ bronzes, since in that hoard the overstruck bronzes were all «freschi» and the other IΣ bronzes were «abbastanza usati». We might therefore suppose that the IΣ bronzes include the dates c. 260–250, and that the silver didrachms are a little earlier, perhaps c. 270–255. In strict logic, of course, these dates will only be *termini post.*

5. *The Acarnanian pegasi.* An absolute date can be established for the late pegasi of Anactorium, Argos and Thyrrheium (fig. 6) from two well-dated Sicilian hoards

Fig. 6

which contained them. They were just beginning to appear in the Pachino hoard [67], which can be dated from the occurrence of Agathocles first type of tetradrachm and the absence of his second to about 305–300. The pegasi in question also occurred in the Gela hoard [68], datable no later than the destruction of Gela in 282 B.C., and in that hoard they were already worn. We can be certain on the basis of these two hoards that the late Acarnanian pegasi date from about 305–295, and in fact it seems quite likely that they began to be struck in such large numbers when the flow of pegasi from Corinth herself was stopped by the capture of Corinth by Ptolemy I in 308 B.C.

Since there is reason to associate the Acarnanian pegasi with the general period of Taras V, all the contemporary Italian coins must be of approximately the same date as the pegasi.

65 Many overstrikes occurred in the Pietrabbondante hoard, including two over coins of Aesernia; BMC Neapolis 218 is similarly overstruck on Aesernia (S. 184 ff.).

66 Latin legends occur only on coins of towns with Roman or Latin status; a clear case is Poseidonia-Paestum, where the legends refer to Poseidonia and then Paestum in Greek, after the colony of 273 to Paestum only in Latin.

67 IGCH 2151.

68 IGCH 2198.

6. *The Minerva/horse's head ROMANO bronze.* An example of this early Roman bronze (fig. 7) has been overstruck on a Syracusan coin of the 280 B.C.[69] and so must be later. More significance, however, attaches to the relationship between the Roman coin and that struck with the same type for the town of Cosa[70] (fig. 8). Both have the same style in all its vagaries: the obverse and reverse types may face left or right, the legends occur on the obverse or the reverse or both, and the star sometimes

Fig. 7

Fig. 8

appears behind an identical Minerva head at both Rome and Cosa. The similarities are not the result of one coin copying the other, since the minor variations which occur on the Roman also occur on the Cosan coins and *vice versa.* In view of the close relationship between the two, there can be little doubt that they were struck at the same time and at the same mint (presumably Rome).

The Cosan bronze cannot be earlier than the foundation of Cosa in 273 B.C., and 273 is therefore the *terminus post* for the Roman coin as well. There seems, moreover, no very good reason why the Cosan coins should have been struck on the occasion of the colony's foundation; a more plausible date would be a few years later in the First Punic War, on the analogy of the coins of Paestum for which Crawford[71] has suggested a date in the war. If so, the date of the Roman bronze would be c. 260, and would imply that the ROMANO coinage was still being struck at that date (as Crawford has suggested[72], the same conclusion should probably be drawn from his identification of the Minerva ROMANO/eagle ROMANO bronze as issued in Mamertine Messana in 264).

Traditionally the bronze has been closely associated with the first Mars/horse's head ROMANO didrachm (fig. 9), and a very late date would follow for the first silver. But there is no general correspondence between struck bronzes and silver in the ROMANO phase of the coinage (as there is in the ROMA phase of the coinage),

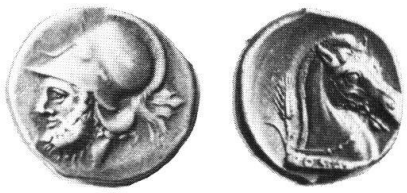

Fig. 9

[69] Cf. RRC 39 n. 3.

[70] S. 149–154. Cf. Crawford RRC 45 n. 2: T. V. Buttrey has come to much the same conclusion about the relationship between the Roman and Cosan coins.

[71] AIIN Supplemento al Vol. 18–19, 49–50.

[72] RRC 40.

and the case for a close relationship between the Minerva/horse's head bronze and the first didrachm is weak to the point of non-existence. Both have a helmeted deity on the obverse and a horse's head on the reverse, but they are executed in completely different styles. The silver shows a close uniformity of style, the bronze a wide variation [73]; the helmet worn by Minerva is a completely different sort to that worn by Mars; the bronzes lack both the symbols which appear on the silver (the oak spray and the corn-ear) and have another occasional symbol (the star) which never occurs on the silver; on the silver the legend is placed on the plinth below the horse's head, and on the bronze it occurs around the type on either the obverse, the reverse or both. If the dissimilarities are contrasted with the close correspondence between the silver and the bronze of the ROMA issues, there can be no doubt that the connection between the bronze and the silver coins is at best one of type derivation, and by no means one of chronological contemporaneity.

7. *The types of aes signatum.* Some of the types which appear on the *aes signatum* bars are naval or refer to naval victories, and the production of the bars must therefore have continued until the first Punic War [74]. Rome did have a small naval force from the late fourth century until the Pyrrhic War, but the only two operations in which it was engaged ended in dismal failures [75], and significantly Duilius' triumph after the battle of Mylae in 260 is described by the *fasti triumphales* as the *first* Roman naval triumph; Polybius too dates the period of Rome's naval importance to the First Punic War [76].

The bar with the elephant and sow as types seems to refer to the episode in the Pyrrhic War when Pyrrhus' elephants are supposed to have been frightened by pigs [77]. Together with the naval bars, it suggests that at least some of the *aes signatum* bars were produced in the period 275–255, and, since it has already been established that the six scruple standard was adopted for the silver and the sub-libral standard for the *aes grave* at the time when the *aes signatum* was discontinued, a *terminus post quem* of 255 exists for the adoption of these two new standards.

8. *The coins of Locri.* If it is correct, as has been suggested by J. P. C. Kent [78], to correlate the weight standard of the PΩMA-IIIΣTIΣ issue of Locri with the Roman didrachms, then it follows that the Hercules/wolf and twins didrachms, which share about the same standard of 7.10–25 g, was struck at about the same time [79]. The

73 For the varieties, see RRC no. 17.

74 Thomsen ERC III, 143 ff., Crawford RRC 41 and 716 f.

75 J. H. Thiel, A History of Roman Sea Power before the Second Punic War, 3–47. The fasti: C Duilius cos. primus navalem de Sicul. et classe Poenic. (A. Degrassi Inscr. It. XIII, 1, 77).

76 Polybius I. 20. 8 (with exaggeration).

77 Thomsen ERC III, 145 ff.

78 J. P. C. Kent, B. Overbeck and A. U. Stylow, Die Römische Münze, 12.

79 The standard of the Roman coins is established by C. A. Hersh NC 1964, 350. The Locrian standard is based on the weights of some 20 coins which have been published.

Locrian coins must be later than the departure of Pyrrhus from Italy, and so necessitate a date of after 275 for the wolf and twins didrachm and a date of – at least – several years later for the adoption of the six scruple standard in Rome.

Unfortunately it is not possible to date the Locrian coins with any more accuracy, nor do they appear in any hoards. They share a close stylistic resemblance to the coins struck, probably at Locri, in Pyrrhus' name in about 275 B.C. [80] and both coins were probably engraved by the same man, but it is not certain what sort of a lower terminus this gives. A plausible historical context for this isolated issue is the beginning of the First Punic War, when Locri was required to supply (and presumably pay for) ships to help Rome [81], and such a date does not seem to be ruled out by stylistic considerations.

At any rate the negative evidence of the Locrian coins can be used to give a *terminus post* of 275 for the third issue of didrachms and a rather later one of at least 270 for the adoption of the six scruple standard. The style of the coins suggests that the Locrian coin was struck no later than 255, and one should therefore expect to find the same standard in use at Rome at least partly during the same period.

6. Chronological conclusions

Some of the fixed points that have been established relate primarily to specific Roman issues, e.g. the coins of Locri suggest that the wolf and twins didrachm should lie in the period c. 275–255, and the Minerva/horse's head ROMANO bronze implies that the ROMANO coinage continued after 273 and into the First Punic War. The other points have a more general application to the relative chronology of south Italian coinage as a whole, and with their help an absolute chronology must be established.

The denarius provides a useful starting point; it was introduced in c. 212 B.C., but as early as c. 217 the bronze sub-libral standard was halved under the pressure of financing the war against Hannibal [82], and, as the fall in the weight and fineness of the quadrigati should correspond to the reductions of the bronze, the full-weight and undebased quadrigati are to be dated no later than 217. It has already been established, however, that *at least* the wheel series of *aes grave* and all the ROMA coinage are later than the IΣ coinage of Neapolis, and as the five (including the wheel series as a full issue) Roman issues can hardly be forced into a period of less than 25 years, the Neapolitan coins in question are probably earlier than c. 240. On the other hand the relationship between the coins of Aesernia and Neapolis suggested a *terminus post* of c. 270, and we should therefore expect to date the IΣ bronze and silver coins of Neapolis (and the contemporary Taras VIII) to the period 270–240.

80 G. F. Hill, Historical Greek Coins, 126 ff.

81 Polybius I. 20. 4.

82 Crawford RRC 43.

In the late fourth century Alexander the Molossian seems to provide a secure fixed point for the beginning of Taras IV in c. 335/330. Taras V can hardly begin before c. 320, and its apparent contemporaneity with the Acarnanian pegasi suggest that it continued until c. 300, a date which also suits the appearance of the dolphin obverses at Taras and Neapolis. The appearance of elephants at the beginning of Taras VII provides a *terminus post* of 281 for the beginning of Taras VII, and it can hardly begin any later if there is going to be room for Taras VII and VIII before 240.

The *aes signatum* established a *terminus post* of 255 for the Roma/Victory didrachms, and in view of the number of issues which must be placed after it and before 217, we can hardly avoid the conclusion that it was minted c. 255–245. Moreover, the balance of evidence implied that it was later than Taras VIII and the silver IΣ Neapolitan issue; as both are fairly plentiful coinages, it seems plausible to allocate them the twenty years from c. 272–250, and date Taras VII and the earlier left facing Neapolitan coins to c. 281–272.

The picture which emerges for the late fourth and third centuries is very similar to the chronology of Evans, although it seems desirable to compress his chronology by some fifteen years at each end. It seems to me that this is the only chronology which satisfies the evidence, and it will follow that the dates of all the other south Italian coinages should be lowered in the late fourth century (and, in the case of Velia, a drop of some 30 years is required for the issues of Kleudoros and Philistion) [83].

The Roman chronology can now be established fairly automatically, and a compromise between the «high» and «low» chronologies emerges: the Roman coins start «high», but seem to continue «low» [84]. The dates can best be set out in a table together with the corresponding chronologies which have been established for Taras and Neapolis. It will be recalled, however, that the dating of the last three ROMANO didrachms is only tentative.

I had hoped, at the beginning of the study of the early Roman coinage, to be able to follow the literary evidence and date the first Roman silver to 269/268 [85], but the early third century chronology cannot be moved down far enough to accommodate all the other coinages which must precede the Second Punic War. It seems unfortunate that the numismatic and literary evidence cannot be made compatible, but it seems impossible to deny the objective criteria which have been used to establish the chronology of the period. Although surprising, it is true that in several cases the literary evidence about coins has turned out to be incompatible with the coins them-

83 The dates given by Kraay, Archaic and Classical Greek Coins 199, seem rahter too high.

84 Roman pottery of the early third century imitates the types of some *aes grave:* see J.-P. Morel, Mélanges d'Archéologie et d'Histoire 1969, 59–117. To the resemblances he notes I would add his fig. 6, 20 (compare Haeberlin pl. 67, 8–10) and fig. 6, 32 (compare Haeberlin pl. 67, 1–3). It seems significant that all the types are borrowed from the earliest, fully libral, period of *aes grave,* except perhaps for the left hand which first occurs on the Roma/Roma series of post 255. This might involve lowering Morel's dates of 285–265, which seems quite possible, unless a right hand (on the first *aes grave* series) could inspire a left hand, which it presumably could.

85 The literary evidence is collected by Thomsen ERC I, 19 ff.

	Taras	Neapolis		Rome
335–320	IV			
320–300	V	S. 436–455		
300–280	VI	S. 456–480	c. 300	Mars/horse's head ROMANO
280–270	VII	S. 482–500		
		S. 525–531		
			c. 269 (?)	Apollo ROMANO/horse
270–250	VIII	S. 501–524	c. 264 (?)	Hercules/wolf ROMANO
	Campano-Tarentine			
			c. 255 (?)	Roma/Victory ROMANO
250–240	IX		c. 245	Wheel series
			c. 240	Mars/horse's head ROMA
			c. 235	Apollo/horse ROMA
			c. 230	Mars/horse ROMA
			c. 225	Quadrigati

Table 2: The chronology of the late fourth and third centuries
(the period 280–240 is only approximate)

selves [86]; even so, there is still an obligation to explain the mistaken tradition. The usual explanation [87], by which it is held that coinage was struck outside Rome until 269 and at Rome thereafter runs into difficulty with the Minerva/horse's head ROMANO bronze coin. The bronze was very probably struck after 269 and certainly at Rome, but, even if allowance is made for unofficial imitations, it displays such a stylistic variation as is not found in the silver coinage. In view of this, it is not easy to think that silver was struck at Rome until later (perhaps with the adoption of the six scruple standard?).

There is an alternative explanation. Pliny, using Timaeus [88], and Livy both emphasise that in 269/268 the *populus Romanus* began to *use* silver, and it is odd that they say «use» rather than «make» or «strike». The possible point of the verb «uti» emerges from the only other early source on the subject, Dionysius of Halicarnassus. When he describes the sale of captured booty and land in 269, Dionysius says that the silver which resulted from the sale was distributed to the citizens [89]. This distribution implies what Pliny and Livy actually say – that in 269 the *populus Romanus* began to *use* silver – and, seen in this light, the literary evidence is irrelevant to the date of the earliest silver coins of Rome.

86 Notable cases are Solon and the Damarateion (e.g. Kraay, Archaic and Classical Coins, 56 and 205). Pliny's account of the Roman coinage down to about 100 B.C. contains an astonishing collection of mistakes.

87 Thomsen ERC III, 261–262.

88 Crawford RRC 36.

89 XX, 17 (20, 9).

7. *The development of the early Roman coinage*

The earliest Roman currency of which we hear is sheep and cows [90], but this does not mean that animals were used as *the* medium of exchange. Animals were probably used as a measure of value, just as they are in Homer where, for instance, the value Eurycleia is assessed in cows but paid in other goods [91]. Later on, in the sixth century, the reforms of Servius Tullius seem to have established bronze, by weight, as the measure of value for his political purposes [92], but it was only gradually that bronze replaced animals as the principal measure of value: for instance, fines were converted from animals to bronze by the *lex Aternia Tarpeia* of the mid-fifth century [93].

Whether animals or bronze were the measure of value, payments will have been made in a variety of commodities, including metal [94]. In Italy the principal metals used were bronze and iron; bronze in the form of *aes rude* and «bun ingots» [95] and iron mainly in the form of the large «ramo secco» bars [96]. Both currencies were used throughout Italy and were in no particular sense Roman, although the Romans will presumably have used them. Probably at a rather later date bronze bars were made along the lines of the iron bars, for instance the rare bronze «fishbone» bars or the series from Tarquinia [97], and I think that these bars may have provided the inspiration for the Roman *aes signatum,* just as the bun ingots provided the inspiration for the *aes grave.* The important difference, however, was the adoption of a weight standard for metal bars and ingots; before the Roman *aes signatum* and *aes grave* metal had been used in pieces of random weight.

It is possible that the silver and the *aes grave* began at the same time, since there is a correspondence in the number of issues. On the other hand, there is no very good reason why the *aes grave* should not begin rather later; there is no evidence that the *aes signatum* began before the 270s, and in view of the apparent metrological relationship between the *aes signatum* and the *aes grave* it is possible to think that they began at about that date, some 20–30 years after the silver. Certainty on this point is not, however, as yet attainable.

It has been argued that the 6.6 g didrachms are equivalent to three sub-libral asses and should be regarded as three as coins, but the relationship between the earlier silver and bronze is less clear, whether or not they were struck at the same time. The difficulty arises because the relative reduction from the libral to the sub-libral as (about

90 Thomsen ERC I, 20–22.

91 Odyssey I, 430–431; cf. M. I. Finley, The World of Odysseus, 76–77.

92 Crawford RRC 36–38.

93 Thomsen ERC I, 23.

94 Similarly in ancient Egypt metal by weight was used as a measure of value, but payment was made in a variety of commodities; cf. M. Balmuth, World Archaeology, 1975, 293–294.

95 Haeberlin 1–10. The round bun ingot is formed in the bottom of a copper smelting crucible.

96 Haeberlin 10–19. These bars have been convincingly identified as Etruscan in origin by F. Panvini Rosati, Emilia Preromana, 1970, 15–26.

97 Haeberlin 19–21 and 22–23.

17 %) is much greater than that from the first didrachm to those of the 6.6 g standard (about 9 %).

The difficulty can be resolved in one of two ways. First, a rather greater ratio of bronze-silver (about 136 to 1) could be assumed, implying that the earliest didrachms were also three as coins, but this does not seem very plausible. Since the standard of the libral *aes grave* remained stable at a time when the silver standard was declining, the equation of three asses with one didrachm would imply that there was at first a gradual increase in the bronze-silver ratio (from about 136 to 1 to 142 to 1) followed by a sudden drop to the lower ratio, which remained stable at 120 to 1 thereafter. That the ratio should change rapidly in both directions and then suddenly become stable does not seem very likely, and an alternative view of the relationship between the silver and the bronze is to be preferred.

One can, alternatively, take the view that there was no denominational connection between the silver and bronze coinage, just as there was no connection in function. The bronze circulated in central Italy, whereas the silver circulated pre-eminently in Campania[98] and consequently borrowed its standard from the main Campanian mint, Neapolis[99]. The motives for making coins of each metal were different, and there seems no *a priori* reason why, given the difference in function, there should be any exact denominational relationship between the two. And, as the *aes signatum* was probably the large denomination which corresponded with the fully libral *aes grave,* one would not expect a close connection until the end of the production of *aes signatum;* and at that point the silver was brought into a close relation with the bronze.

The Roman coinage had developed into a single monetary system by about the middle of the First Punic War, but why did it begin at all? Since the isolated first issue of silver was very small, we should perhaps look for a social or political rather than an economic explanation of the decision to make coins. In the late fourth century Rome had already emerged as a leading power in Italy and was beginning to impinge on the notice of the rest of the Mediterranean world: we hear of an embassy to Alexander the Great, friendly relations with Rhodes from c. 305 and a treaty with Tarentum laying down zones of influence[100]. It is tempting to see the Romans' decision to issue coins in their own name as a reflection of their growing awareness of their position in the Mediterranean World in c. 300.

98 Distribution maps are given by J. P. C. Kent, Cercle des Etudes Numismatiques, Jan.-Mars 1973, 2.ff. Didrachms do, of course, occur in hoards from Basilicata and near Brindisi, but in smaller numbers than in Campanian hoards.

99 Significantly this weight cannot be easily expressed in Roman scruples (rather more than $6\frac{1}{2}$). For a technical link between the Roman and Neapolitan coins, see D. G. Sellwood in D. Strong and D. Brown, Roman Crafts I, 65. Perhaps the Roman coins were made in Neapolis; it is hard to believe that they were made further south than Campania, e.g. in Metapontum, as they have a different weight standard.

100 J. Heurgon, The Rise of Rome, 211–212.

Appendix 1

The relationship between the Roma/Victory didrachms and the coinage of Egypt

It is generally maintained that the Roman didrachms closely adapt or copy the control system used on various gold and silver coins struck in the name of Arsinoe II. As her coins were probably not struck until after 270, the same year seems to emerge as a *terminus post* for the Roman coins [101].

The similarity between the control systems is closest on the silver decadrachms. They have letters from A to Ω, AA to ΩΩ and finally 𐆊 = AAA and 𐆋 = BBB. The Roman didrachms similarly have A to Ω, AA to ΩΩ, but then they have 𐆌 [102]. The difference suggests to me, not that the Roman system adapts the Ptolemaic, but that they are using different systems which are in no way dependent. After all the use of Greek letters is not so extraordinary in Italy and should occasion no surprise. They occur on bronzes of Cales [103] and Neapolis [104], for instance, and on the coinage of Rome's great ally Massalia [105]. In view of the use of the alphabet elsewhere and the difference between the Roman and Ptolemaic systems, it seems to me both unnecessary and far-fetched to ascribe an intimate knowledge of the workings of the Egyptian mint to third century Romans.

Appendix 2

The influence of Agathocles on the coinage of Magna Graecia

In 1912 C. T. Seltman drew attention to the occurrence of the triskeles on several coins of southern Italy, and put forward the theory that the coins in question should be associated with the expedition of Agathocles, the ruler of Syracuse, to Italy in the 290s B.C. [106]. If the theory is correct, then the position of the coins in the relative sequence of issues would provide a fixed chronological point. I do not think, however, that the symbol can bear the interpretation which Seltman gave to it.

Agathocles' silver coinage at Syracuse is indeed characterised by the addition of the triskeles symbol, but it does not follow that coins from other mints with the same symbol were also struck under his authority or influence, since the symbol seems to have been of much more general application. It occurs also in the following ten Italian contexts:

101 Thomsen ERC III, 124–136, Crawford RRC 39–40.

102 It is therefore not correct to say, as Thomsen does, that the two series are of the same length.

103 S. 925–949 (cf. 910–915).

104 S. 651–692.

105 B. V. Head, Principal Coins of the Greeks, V C 3.

106 NC 1912, 1–13.

1. Caulonia [107]	silver fraction	5th century
2. Syracuse [108]	Zeus Eleutherios bronze	c. 336–317
3. Terina [109]	silver fraction	c. 300 (?)
4. Velia [110]	silver didrachm	early third century
5. Metapontum [111]	silver didrachm	early third century
6. Poseidonia [112]	bronze coins	early third century (?)
7. Neapolis (?) [113]	silver triobol	early third century (?)
8. Latium [114]	*aes grave*	early third century
9. Rome [115]	decoration on pottery	early third century
10. Suessa [116]	silver didrachm	late third century

Nos. 1–2 and 10 show that the triskeles was used over a much greater period of time than the reign of Agathocles, and that even at Syracuse it need not refer to him. Even in the other instances the case for his influence is no more convincing. If the symbol is to have the same sense as it does at Syracuse, it must refer to the presence or authority of Agathocles at the mint city, but this seems improbable since Agathocles is not known to have penetrated north of Bruttium.

The historical record of his expedition to Italy tells only of a campaign against the Bruttians, ending with the capture of Hipponium, and (at an uncertain date) the capture of Croton. Croton issued a plentiful silver coinage at the time, but in this one case where Agathocles' influence is certain, the triskeles does not occur; and in the other cases where it does appear, his influence is at best a hypothesis. It seems easier to regard the triskeles as only one of the stock of symbols and types available to Italian artists (as is clearly the case with the Roman pottery and *aes grave*), and without exact chronological significance. Any degree of familiarity with the use of symbols on South Italian coins shows that the same symbol can occur at more than one mint and sometimes at about the same time (the elephant at Taras and Neapolis is a good example). The triskeles seems to be a case in point, and while its popularity in the early third century may perhaps arise from the example of its use by Agathocles, «influence» in this weak sense is without chronological importance.

107 BMC 16.

108 SNG Copenhagen 732.

109 See Seltman.

110 See Seltman.

111 See Seltman.

112 S. Grunauer, AIIN Supplemento al Vol. 18–19, groups XXVI and XXVII.

113 E.g. W. Giesecke, Italia Numismatica, 98. The attribution is not certain since none of the examples have an ethnic (S. 555 does not, in fact, have a triskeles when one checks the reference to L. Sambon).

114 Haeberlin pl. 67, 8–10.

115 J.-P. Morel op. cit. (n. 84), fig. 6, 20.

116 S. 853.

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List of illustrations

Except for the Campania hoard, all coins have been illustrated from the British Museum collection.

Note on the plates

The author regrets the poor quality of the plates illustrating the coins from the Campania hoard, for which he takes full responsibility; it was, however, thought more important to publish as full a record as possible of this important and dispersed find.

Campania hoard

19 20 21 22

23 24 25 26 27

28 29 30 31 32

33 34 35 36

Campania hoard

37 38 39 40

41 42 43 44

45 46 47 48

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Campania hoard