A Survey of Roman Gold Coins and Hoards Found in the Meuse-Demer-Scheldt Area (58 BC – 411 AD)

Wiebe Snoeij *

Samenvatting *– Dit artikel analyseert Romeinse gouden munten gevonden in het gebied tussen de Maas, de Demer en de Schelde. Aanname hierbij is dat de rekrutering van soldaten van lokale stammen de grootste invloed heeft op de verspreiding van deze munten. Om deze hypothese te onderbouwen worden de gouden munten eerst chronologisch, vervolgens geografisch en op basis van hun muntplaatsen geanalyseerd. Hierbij wordt speciaal aandacht besteed aan historische, numismatische en andere omstandigheden die invloed gehad kunnen hebben op de chronologische en geografische verspreiding van de munten. Dit levert een genuanceerd beeld op van de legerrekrutering in dit gebied en de algehele invloed van de Romeinse aanwezigheid op het dagelijks leven en op de monetaire economie.*

Summary *– This article analyses Roman gold coins found in the area between the Meuse, the Demer and the Scheldt. The assumption is made that the levy of soldiers from native tribes has the most influence on the distribution of the coins. To substantiate this hypothesis the gold coins are analyzed chronologically, geographically and based on mint provenance. Special attention is given to historical, numismatic and other circumstances which may have influenced their chronological and geographical dispersion. This gives us a nuanced view of the army levy in this area and the general influence of the Roman presence on daily life and the monetary economy.*

In the area between the Meuse, the Demer and the Scheldt (in the following, MDS area) many Roman gold coins have been found, struck during a period extending from the time of Julius Caesar to the first few years of the fifth century AD (see map 1).[1]

At first glance, the area does not seem to be of interest, because it does not include particularly important roads and rivers, apart from the Scheldt and the Meuse. Along those shipping routes, goods for trade were transported across the Empire, by, among others, travellers and tax collectors. In addition, the northern Germanic *limes* is not notably close, along which several Roman forts were located, causing a lot of money transfers in the form of wages, food and other military logistics.

---

* Research Master's student Classics, Leiden University.
@: w.snoeij@umail.leidenuniv.nl
The impetus for this article came from the MA course Roman Numismatics taught by Dr L. Claes at Leiden University, which I attended in the fall of 2021 and which encouraged me to set up my own research on the Roman gold coin hoards found in the MDS region. In addition, I would like to thank Fleur Kemmers, Paul Beliën and the two anonymous reviewers for their feedback. All mistakes remain my own.

1 Roughly modern-day North-Brabant in the Netherlands and the Belgian province of Antwerp, cf. Aarts, 2000: 137.

To all appearances then, it seems quite surprising that so many gold coins have been found from the period between Julius Caesar and the early fifth century in a mostly rural area (see map 1). Aarts was the first to systematically look at the coinage in this region.[2] He studied the coinage of this area in relation to the coinage of the Dutch river area and the area around Luxemburg and Trier. Since then, no one else has looked at the coinage of the whole area again, even though some time has passed and quite a few new coin hoards have been found.[3]

For this article, I have collected data on gold coins, both single gold finds and gold coin hoards, found in this area. I have chosen to focus on gold coins, because they may have played a significant role in both symbolic gold exchange and maybe even army pay. Gold coins were not easily lost accidentally, because of their high value, and can therefore generally be treated as deliberate dispositions of savings.[4]

This article incorporates a total of 434 Roman gold coins that have been found over the past two centuries in the region between the Meuse, the Demer, and the Scheldt (in 58 different hoards and single gold finds).[5] Of all these coins, only 111 gold coins come with additional information about the authority they were struck under.[6] Therefore, I have chosen to put the other 323 uncertain coins, mostly found in hoards, in a separate category, or, sometimes, to even leave them out entirely. This is because these gold coins provide so little information, that they might distort the general picture.[7] The gold coins have not only been found in the area close to the Meuse, along the *limes* but all throughout the area (see map 1). These hoards are from the time of Julius Caesar to the early fifth century AD. I have primarily assembled and catalogued these gold coins from the web-based database of the *Coin Hoards of the Roman Empire* project, which intends to catalogue each coin hoard from the Roman Empire and has already succeeded to a large extent.[8] In addition, I have drawn six gold coins from Benjamin Honigh's master thesis (submitted in 2015) and I have added one new gold coin which has been discovered by Anton Cruysheer in a publication of

---

2 Aarts, 2000: 137–204. See map 1 for the region.

3 To be complete, Aarts, 2015 has looked at the coinage of the whole area again, but it seems more a summary of Aarts, 2000 than a whole new paper.

4 Aarts, 2000: 183.

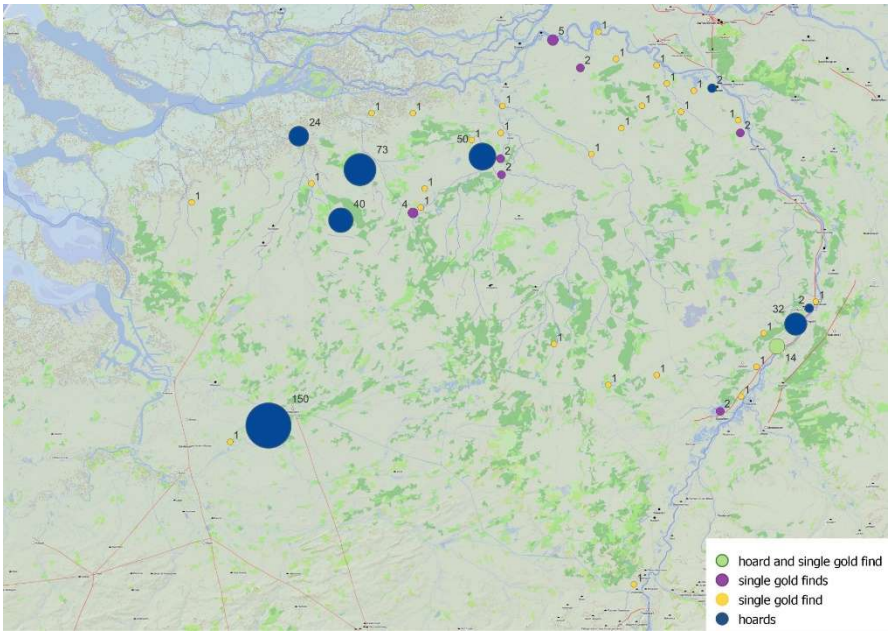
5 See appendix for an overview of all gold coin hoards and individual coins, where possible, *RIC* numbers have been included.

6 Of these 111, only 44 come with an actual *RIC* number.

7 In the appendix it is possible to see just how uncertain the composition of some of these gold coins and entire gold coin hoards are. This is mostly due to substandard recording of gold coin hoards, to the point where we are not even certain anymore in some cases if it even is a gold coin hoard.

8 *Coin Hoards of the Roman Empire, https://chre.ashmus.ox.ac.uk/*, data downloaded in December 2021.

Byvanck (1943).[9] It is a complete enough database to be able to draw conclusions from the data. In my research, I have included all gold coins and gold coin hoards on the west and south sides of the Meuse, and the east side of the Scheldt, with the southern border being drawn along the course of the river Demer.[10] Studying their chronological and geographic distribution and their mint places may bring to light more information about troop movements, army pay and the general nature and history of the Roman presence in the region.



Map 1 – Map of Roman gold coin hoards and single gold finds found in the MDS area.[11] *Numbers indicate the number of coins found at each spot. Layer from Digital Atlas of the Roman Empire, copyright Creative Commons Attribution-ShareAlike 3.0,* http://imperium.ahlfeldt.se

In this article, I will give an overview of the gold coins found in this area and consider the implications for this region in general and army pay in particular. I will start with a short introduction to the history of the region, before taking a closer look at the chronology of the gold coins found and the geography of the gold hoards. I will put them in their historical context to explain the chrono-

[9] Honigh, 2015; Byvanck, 1943. To see the source for each coin, see appendix.

[10] I have excluded the city of Tongeren, diverging from Aarts, because it lies a little to the south of the Demer and technically falls outside of the MDS area.

[11] Not all dots with more than one coin are hoards, some are multiple single finds. See appendix for details.

logical and geographical dispersion. After this, I will look at the mints where these gold coins were struck and subsequently look at the broader developments of gold coinage in the Roman Empire, which may explain some peculiarities in the occurrence of gold coinage in the MDS area.

Short History of the MDS Area

The history of the MDS area during the Roman period is one of violence. It starts with the arrival of Julius Caesar's troops in the first century BC. Before that, the Eburones lived in the general area and beyond, but after Caesar, the tribe seems to have disappeared.[12] This may indicate a mass genocide, but it could also have been a political *damnatio memoriae* of the Eburones as a community or a combination of the two events.[13] The number of meadows and grain fields diminished and more woods appeared in the area, suggesting fewer people living there.[14] In any case, numismatic evidence might shed some more light on this.[15] During the early Augustan period, the Romans saw fit to repopulate the "empty" region with groups of Germani from the eastern bank of the Lower Rhine. This meant that the whole area was completely reorganised, with the Texuandri coming to live in the MDS area, with roughly Batavians north of the Meuse, Cugerni east, Tungri south of the Demer, with Tongeren as their political centre, and Frisiavones to the west. All the tribes probably had the same status for the Romans, for whom the main interest would have been their use in providing men for service in the army as part of their taxes to the Roman state.[16] The area became part of the newly formed Roman province *Germania Inferior*. There were probably six *civitates* within this area, with the MDS area belonging to the *Civitas Tungrorum*.[17] The Roman influence led to increasing "romanisation" of the elite, who also became more urban, as the Romans saw living in a city as a prerogative for being civilised.[18]

The MDS area became largely inhabited by the Texuandri, who moved here in early imperial times.[19] They were a subtribe of the Tungri, who had the city of Tongeren as their political centre.[20] The exact border between the Texuandri and the Tungri is unclear, probably also in ancient times. The Roman army recruited these tribes in massive numbers. There was probably some kind of tax that

---

12 As Caesar himself states in his *De Bello Gallico* 6.34 "stirps ac nomen civitatis tollatur".

13 Roymans & Derks, 2015: 23.

14 Lendering & Bosman, 2010: 48.

15 Roymans & Derks, 2015: 24; Bechert, 1982: 53-54.

16 Roymans *et al.*, 2020: 275.

17 Roymans & Derks, 2015: 24.

18 Lendering & Bosman, 2010: 56.

19 Roymans *et al.*, 2020: 267 fig. 1; Roymans & Derks, 2015: 19.

20 Roymans *et al.*, 2020: 271.

required a specific amount of men from each tribe to be enlisted. For the Batavians, it has been calculated that 1,2 "able-bodied men" per household served in the Roman army.[21] If even half of this number is true for the tribes in the MDS area, there would have been many connections between the Roman army and the local people. It created generations of tribesmen who served in the Roman army and got Roman citizenship after 25 years. Subsequently, this close relation must have encouraged a kind and reciprocal relationship between the local tribes and the Roman military in the neighbourhood, mostly stationed along the *limes*.[22] The well-known Batavians played a leading role in this, but the Texuandri also provided at least the minimum required people.[23] They, or at least an upper class, adopted, at least partially, the culture of the Romans. This can also be seen in large amounts of archaeological finds of Roman material culture in these rural areas.[24]

Something which cannot be omitted here is the Batavian Revolt in 69-70 AD, where the Batavians and other Celtic and German tribes led by the Batavian Julius Civilis, who served in the Roman army, revolted during a period of political unrest in Rome.[25] When the rebels were defeated, order was restored. The revolt is almost invisible in the archaeology of the rural area.[26] Due to this revolt, Batavian soldiers, and perhaps other native soldiers as well, were no longer stationed at the Rhine border. This continued until emperor Hadrian, some years later, allowed it again. This probably shows that the trust between the Romans and the natives was restored quickly.[27] In the two centuries afterwards, this *status quo* was maintained.[28]

This picture changed during the crises of the third century. There was unrest at the northern borders and, one could say, a civil war in Rome with many short-term ruling emperors and no real local leaders. In the MDS area, archaeological evidence points to a large-scale depopulation of the entire region in the second half of the third century AD with the Texuandri being moved or killed.[29] It seems likely that there was large-scale deportation involved by the imperial authorities of the Gallic and Roman Empires. They both needed many troops for the war,

---

[21] Aarts, 2003: 170. Probability of this number is further discussed in Vossen, 2003 (same volume).

[22] Roymans *et al.*, 2020: 275.

[23] *Ibid.*: 276.

[24] *Ibid.*: 275.

[25] Bechert, 1982: 36. Nero had just died and the Roman governor of Germania, Aulus Vitellius, had been declared Imperator by his troops and was marching to Rome to challenge Vespasianus' claim to the title.

[26] Roymans *et al.*, 2020: 277.

[27] Lendering & Bosman, 2010: 172-178.

[28] Bechert, 1982: 37-38.

[29] Roymans *et al.*, 2020: 280.

and they may have offered soldiers a new place to live as an incentive, but alternatively, it may also have been a punishment for disobedience.[30]

At the end of the third and the beginning of the fourth century, the Roman Empire was reorganized when Diocletian set up the system of the tetrarchy, which made Trier an imperial residence.[31] Some sort of order was re-established, which automatically meant more soldiers being settled into the area.[32] Eventually, however, this was all for nought and Roman authority gradually disappeared in the fourth and fifth centuries AD. From the fourth century onwards, the Romans allowed Franks to settle into the area, under the condition that they would fight for the Romans, in case of war.[33] This was not at all a peaceful settlement, but it went hand in hand with many raids, which had started long before they were formally allowed to settle and, in return to serve in the Roman Army.[34] Then, due to developments in other parts of the Empire, the Romans disappeared, leaving the Franks to fill the gap and become the dominant presence in the MDS area.

Chronological Survey

The first, and most important, piece of information we can get from all these gold coins, is their chronological dispersion. The gold coins found in the MDS area come from a large period, spanning almost four centuries.[35] I have divided the coins into the Reece periods, based on the earliest date (*terminus post quem*, TPQ in the following) they could have been deposited or lost (table 1, charts 1 and 2). I have chosen to use the Reece periods because many coins in these hoards cannot be dated further than the reign of one or more emperors, on which the Reece periods are mostly based. Therefore, this allows me to show how the coins are in general very evenly divided among the periods, and over relatively many different emperors that reigned in this period. I have decided to use the TPQ because from this we can extract the general period in which they were issued.

In addition, I have chosen to use an extra Reece period 22 for the coins that are from just after period 21, the last Reece period. I have assigned them to period 22. There are a couple of problems with this presentation of the gold coins.[36] The first problem is the fact that a lot of the gold coins, mostly those in some of the bigger coin hoards, distort the general picture of the chronological survey a lot, as can be seen in map 1 and chart 1. Although most gold coins are single gold finds, some have been found together with as many as 150 in one hoard,

[30] *Ibid.*: 281-282.

[31] Lendering & Bosman, 2010: 243.

[32] *Ibid.*: 243-246.

[33] Roymans *et al.*, 2020: 284; Lendering & Bosman, 2010: 249.

[34] Roymans *et al.*, 2020: 283.

[35] These gold coins are *aurei* till the introduction of the *solidus* by Constantine in 315 AD.

[36] For an overview of all hoards and their details, including problems, see appendix.

like the Nijlen hoard.[37] Of these 150 coins, 13 could be dated by reign, the rest were uncertain but dated with a closing year, namely 96. Given this, it is doubtful whether this information is reliable. Therefore, it might be better to not consider these gold coin hoards in the chronological survey. Another cause for scepticism leads back to another hoard, the Noord-Brabant c. 1848 hoard, whose coins could be of silver or gold.[38] To be able to show this, I have chosen to make two charts for the chronological survey, one with all the coins (chart 1) and one leaving out the huge amount of uncertain coins (chart 2). A total of 72 other coins, both single gold finds and hoards, also cannot be dated. They are not included in any chart but are included in table 1 for transparency.

Because of these uncertainties, I was sceptic about using chart 1 for a chronological analysis. In addition, charts 1 and 2 show that the general picture remains relatively similar, except for some huge peaks. In chart 2, however, we can see the trends in more detail and with less uncertainty caused by the uncertain coins. The information these gold coins provide us with can be most useful when we cross-reference them with what we think we know about the history of Roman presence in the MDS area.

Table 1 – Chronological distribution of TPQ of gold coins over the Reece periods

Reece periods	Dates	Gold coins with information on authority	Gold coins with no or very uncertain information
1	Before 43 AD	9	–
2	43-54 AD	5	–
3	54-68 AD	11	12
4	69-96 AD	13	149
5	96-117 AD	5	–
6	117-138 AD	4	–
7	138-161 AD	4	–
8	161-180 AD	2	–
9	180-192 AD	1	–
10	193-222 AD	8	–
11	222-235 AD	2	–
12	235-260 AD	7	–
13	260-275 AD	7	22
14	275-296 AD	–	–

[37] Nijlen (CHRE id. 6248).

[38] Noord-Brabant (CHRE id. 9982).

15	296-317 AD	2	–
16	317-330 AD	–	–
17	330-348 AD	2	–
18	348-364 AD	–	–
19	364-378 AD	9	–
20	378-388 AD	2	–
21	388-402 AD	9	–
22	After 402 AD	6	73
Unknown		–	70

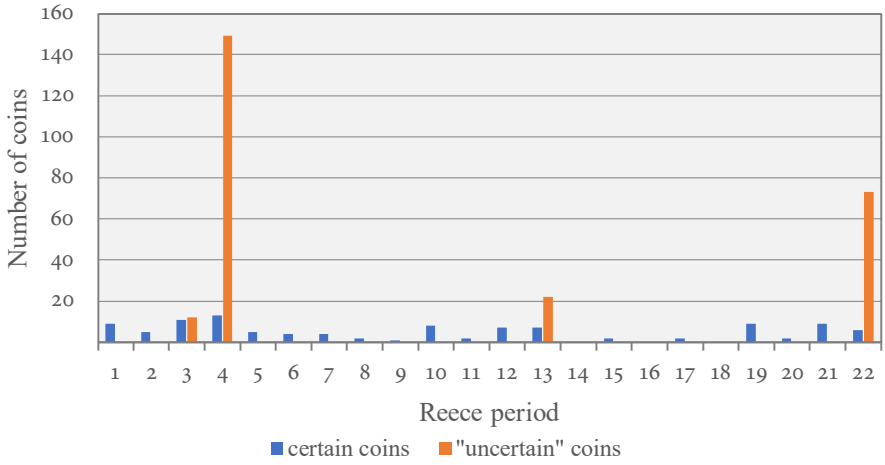


Chart 1 – Chronological survey of all gold coins found in the MDS area

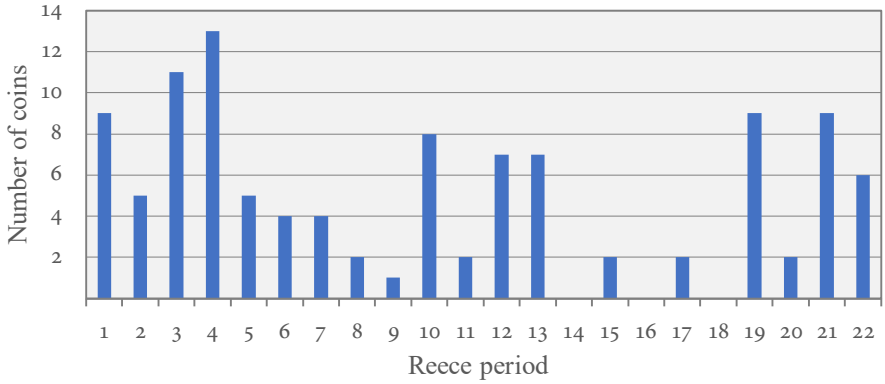


Chart 2 – Chronological survey of "certain" gold finds found in the MDS area by TPQ

Before we can interpret these data further, it is useful to compare these peaks and lows with the general pattern in other provinces in the Western Roman Empire.[39] For this purpose, I have compared the data first presented by Roger Bland in 1997, with the data from the MDS area.[40] I have recalcuted the data using the Ravetz formula, through which it is possible to calculate the normalised amount of coins per year per thousand and which subsequently allows for an easy comparison of the MDS area with wider trends in the Western Roman Empire.[41]

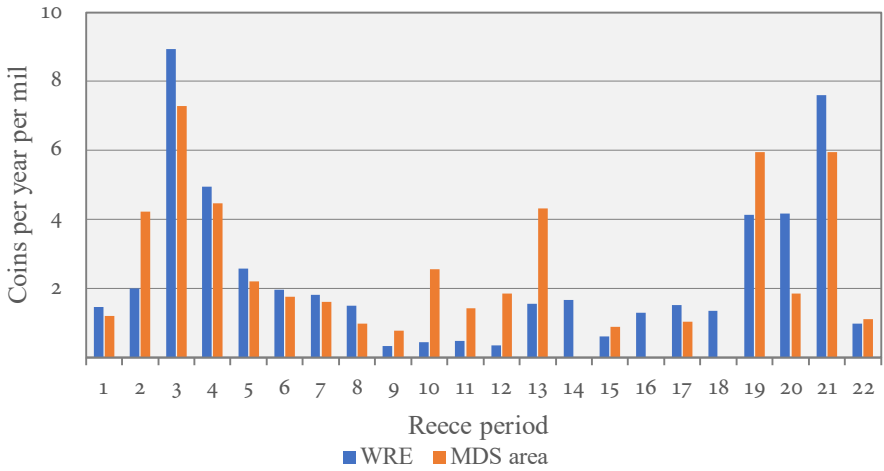


Chart 3 – Comparison between MDS area and Western Roman Empire
Data taken from Bland, 1997: 33

We can see that the first peaks, in periods 3 and 4, follow the more general trend. The most eye-catching differences are the peaks in periods 10, 12 and 13. The final difference is the peak in period 19 and the subsequent low of period 20, which sets period 19 apart from the general upwards trend in the late fourth century. In the next part, I will analyse these chronological trends of gold coins found in the MDS area, keeping in mind the comparison with other areas.

In this area, Roman coined money was generally used either for taxes or army pay.[42] Taxes were calculated based on the amount of *fundi*, and estates, in one area.[43] More money came into this area in the form of army pay than left in the

[39] Cf. Bland & Loriot, 2010: 16-27.

[40] Bland, 1997: 33 (with complete data); resulting chart later also in Bland & Loriot, 2010: 107 fig. 49 and Bland, 2013: 264.

[41] First introduced by A. Ravetz, 1963: formula = (coins per period × 1000) / (period length × site total).

[42] Lendering & Bosman, 2010: 67.

[43] *Ibid.*: 65.

form of taxes.[44] As said before, I will argue here that the gold coins found in this region prove that army pay in this region also occurred in gold.[45] There is a lot of discussion in scholarship about the metal of the coins Roman soldiers were paid in. This study offers the gold coins of the MDS area as evidence for military pay in gold. Gazdac already did something similar in Romania with gold coins found there.[46] He demonstrated that army payment was most likely in gold by mapping the gold coin finds in Romania. He based this primarily on the observation that more than half of the gold coins were found in military settlements such as forts.[47] Before him, the consensus had already shifted from army pay in silver and bronze to army pay in gold and silver.[48] There was probably a change during the early principate when the army began to be paid from time to time in gold as well.[49]

Duncan-Jones provides a discussion of hoards in Gallia, for the period from Augustus to Severus Alexander, and argues convincingly that the chronological pattern he observes for these gold coins can be directly related to army donatives.[50] He reasons that army donatives are the only form of army pay which fluctuates and which explains the chronological trends in gold coin hoards. He proves this by comparing the trends in gold coin hoards to the *congiaria* in Rome, which were commemorated on coins and can therefore easily be dated by reign.[51] Could this then not only be true for Gaul, but also for the MDS area? Let us take a closer look at the trends, and whether they are similar to trends in Gallia and the rest of the Empire.

One of the primary reasons for the Roman state to strike coins certainly was for army pay.[52] I will argue that army pay in the MDS area happened in gold, without excluding silver and bronze. Army pay may therefore be responsible for the chronological and geographical distribution of coins in this area. The general trend in the Roman Empire, however, does not correspond well to the army donatives, which means the explanation Duncan-Jones gives, does not hold up entirely for this region.[53]

---

44 *Ibid.*: 200.

45 Cf. Gazdac *et al.,* 2020: 96.

46 Gazdac *et al.,* 2020.

47 Gazdac *et al.*, 2020: 96.

48 *Contra* Wigg-Wolf, 1997: 281, who actively excludes gold for army pay. Schwei, 2020-2021 already called the army "a continuing justification for the mint to strike these gold coins (*i.e.* of Caesar)" (201).

49 Wolters, 2000-2001: 587.

50 Duncan-Jones, 1994: 78.

51 *Ibid.*: 78-82.

52 Howgego, 1990.

53 Compare Duncan-Jones, 1994: 82 with Chart 1 and 2.

Nonetheless, his observations are as relevant to the MDS area as to Gallia, especially his view that "hoards are most abundant in heavily garrisoned provinces, and in major recruiting areas".[54] As already mentioned, the MDS area was, just like Gallia, an area where a relatively high amount of the local population served in the army. In addition, I find Duncan-Jones' suggestion that soldiers returning home to visit or retire as an explanation for hoards found in rural areas highly probable for the MDS area, which I will elaborate on in the next paragraph, which concentrates on the geographical dispersion of the gold coins.

Returning to the chronology, it should be kept in mind that the army was generally paid with relatively old coins, which, after being issued, had found their way back to the state via tax payments.[55] The seven coins dated to period 1 probably found their way much later into the MDS area than 43 AD. The appearance of these coins in the first century AD could therefore indicate that native army recruitment began in the later first half of the first century AD in the MDS area. In this period before the revolt in 69, the Romans probably recruited from the Batavians and Texuandri living in the area, who were still organised in tribes, and out of whom the Romans got an adequate supply of auxiliaries.[56] Looking closer at the early chronology, we could find out more about the when and how of army recruitment, while keeping in mind that other factors could have played a role as well. For this, I have split the single gold finds assigned to Reece periods 1 to 3 into a separate chart, by showing how they can be ascribed to individual rulers. This resulted in the following chart:

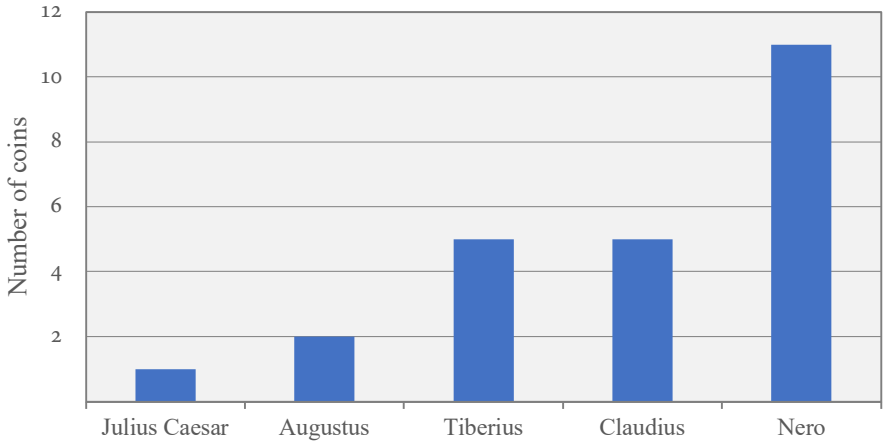


Chart 4 – Single gold finds of Reece periods 1-3 ordered by authority on the basis of their TPQ

[54] Duncan-Jones, 1994: 83.

[55] Wolters, 2000-2001: 587. Cf. Gazdac *et al.*, 2020.

[56] Aarts, 2000: 186.

The earliest gold coin is one issued by Julius Caesar.[57] This coin could have served as army pay to his troops when he campaigned in the area. His troops were not made up of native people, but the coin was most likely still used for army pay. It is also possible this coin entered the area much later in imperial times, as gold coins tended to circulate for a long time. All the other gold coins, are from early imperial times, starting with emperor Augustus.

Augustus' gold was high quality, the fiduciary value being only slightly higher than the intrinsic value. This declined slightly until the time of Nero, but the intrinsic value remained high. Under Nero, there was a great monetary reform, that reduced the precious metal content of the gold coinage.[58] This may explain the doubling of gold coins found dated to the time of Nero. One would think *Gresham's law* is at work here, which would have ensured the Neronian coins remained longer in circulation and which would have made older coins, such as those of Claudius, disappear.[59] When we make the comparison with the rest of the Empire, we find that everywhere there is a large peak for Neronian gold coins, most likely due to *Gresham's law*.[60] On the other hand, we have Aarts' assertion that the MDS area was not monetized enough at the time to obey such monetary laws.[61]

Nonetheless, when looking at chart 3, I am inclined to, partly, disagree with him. As the same peak shows up in the rest of the Empire, it seems only logical *Gresham's* law would have been at work everywhere, including the MDS area. We can see the occurrence of five coins dated to the reign of Tiberius and five to the reign of Claudius. When subject to Gresham's law, the Claudian coins would not have circulated exceptionally long, which means that, before the introduction of Neronian coins into the area, they would have been much more abundant than the gold coin hoards reflect. In addition, because the Neronian gold coins would have driven out almost all earlier gold coinage, the gold coinage from before must have already been there and probably been converted into hoards before the arrival of the Neronian coins. This gives us a *terminus ante quem* for the beginning of payment in gold for these auxiliary troops. This must have started before Nero, giving us the most likely option of the period between 41 and 54 AD, during the reign of Claudius and just before Nero became emperor.

On the other hand, we should still consider the suggestion Aarts made in his dissertation, as to the reason Neronian coins are so predominant at the time. For this, we need to look at the revolt of 69 AD. According to Aarts, the aftermath of the Batavian revolt created a need for the Roman government to establish reciprocal relationships with local tribes.

---

57 Nijlen (CHRE id. 6248).

58 Wolters, 2012: 338.

59 Wolters, 2012: 350-351; Hellings, 2022: 283-284.

60 Cf. Bland, 2013: 264. Fig. 1.

61 Aarts, 2000: 184.

The main way to do this was by the exchange of gold coins, e.g. in a ceremony.[62] This probably happened not only on the Roman side but also on the side of Batavians and their (former) allies, who had access to Roman gold coins through their service in the army.[63] As such, in the aftermath of the revolt, both the Batavians and the Romans tried to ensure the loyalty of these tribes through gold exchanges. Looking back at chart 2, I want to dispute this, not by denying this gold exchange was going on, but by explaining it better by looking more closely at coins dated to Reece period 4, which were struck during or just after the revolt. For this purpose, I have put the single gold coin finds of period 4 into a separate chart as well.

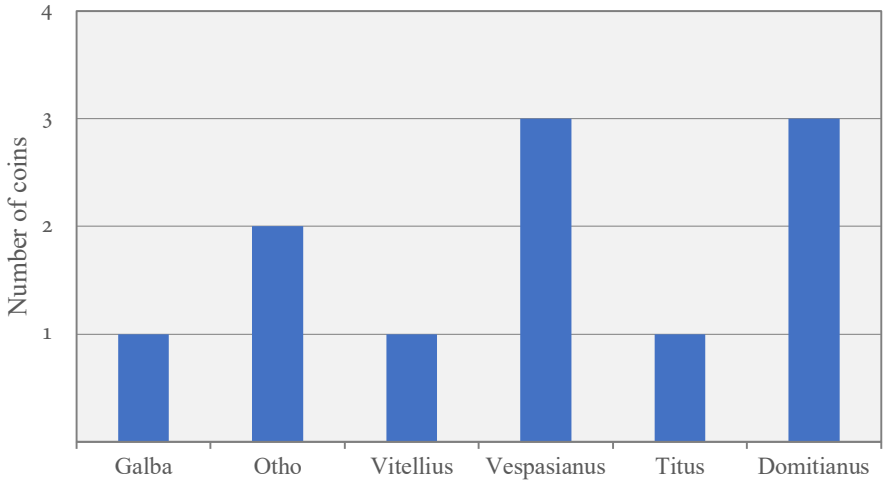


Chart 5 – Single gold finds of Reece period 4 ordered by authority on the basis of their TPQ

The four coins of Galba, Otho and Vitellius together are conspicuous here, considering all three emperors reigned only a very short amount of time. This could have multiple causes. the first one being the fact that with the accession of a new emperor, a large gold issue was often struck for the army, to ensure their loyalty.[64] The large presence of coins from these emperors here supports the hypothesis these gold coins found their way into the MDS area via some sort of army pay.

---

62 *Ibid.*: 184-185.

63 It could be that the Batavians struck coins themselves. One coin with uncertain authority may have been struck by Julius Civilis. *RIC* I² Civil Wars 134.

64 Bland, 2013: 265.

An additional explanation might be found in the aftermath of the Batavian revolt and the ceremonial gift exchanges happening then. The gold coinage was still primarily used to exchange ceremonial gifts, a much-needed action by the Roman centre to regain loyalty.[65] This may be a valuable and unique archaeological trace left over from the Batavian revolt and its aftermath. Still, I think, it would be too much to ascribe this to the abundant presence of Neronian coins when Gresham's law alone here might be enough to explain their predominance in the gold coin finds.

Still, because this peak is not only present in the MDS area but all over the Roman area, it is likely that the Batavian revolt cannot be the main explanation, which must be sought in the devaluation of the Neronian coins and the subsequent taking effect of *Gresham's law*.

The general decline in gold coinage after this, and continuing until Reece period 10 can be related to the increased use of silver and bronze coinage in the (north)-west of the Roman Empire. As opposed to the earliest periods, this shows the rise of a monetary economy, in which spare change played a much more important role than gold coinage.[66] During this time, the northern area became much more organized by the Romans, who created a *civitas* organization, which overruled, but also slightly adapted to the existing tribal structure.[67]

Then, suddenly, there is a little peak in period 10, and again in periods 12 and 13. These are not in line with general developments of gold coinage struck in Rome at the end of the second and much of the third century AD.[68] The peak in period 10 might be related to emperor Septimius Severus, who fortified the *limes*, which would have resulted in more soldiers and more army pay.[69] In general, there is a large dip in Roman gold coins being found from the end of the second century onwards, lasting up towards the end of the third century AD.[70] Bland has concluded from this fact, that *aurei* in this century did not function anymore as a form of currency, as one would expect and as they had done for two centuries before, but more as a store of wealth. Another argument Bland gives for this is that a large amount of the gold coins that have been found had been changed at the time into jewellery.[71] Looking at the gold coins in the MDS area, however, this does not seem to be the case, or at least for our finds it has not been recorded

[65] Aarts, 2000: 187.

[66] *Ibid.*: 189.

[67] *Ibid.*: 195.

[68] See, again, Bland, 2013: 264.

[69] Lendering & Bosman, 2010: 222. Three Severan aurei occur in period 10, unfortunately without *RIC* numbers.

[70] Bland, 2012: 521-523; Bland, 2012: 264.

[71] Bland, 2013: 266.

to be the case.[72] Could it be that in this part of the Empire, *aurei* continued to be used as mediums of exchange, presumably because the army continued to be paid in gold coins?

This same army may have been the cause for these gold coins to be turned into hoards as well if the soldiers left the area and did not return to pick up their salaries. As mentioned before, the area was probably depopulated on a large scale, which may not have been voluntary.[73] This same depopulation might then be the cause for the general absence of coinage from Reece periods 14 to 18, with the notable exception of two coins found in both periods 15 and 17. Three of those coins are *solidi*, new gold coins introduced by Emperor Constantine struck to a lighter standard than before, but higher than the coins in the previous periods.[74] If the gold coinage from the periods before was reduced and debased, it might have stayed in circulation longer than expected and driven out the newer coins, according to Gresham's Law.

Finally, it might also indicate the end of supply routes via the army because there were fewer native people enlisted. It was around this time that the Franks first moved into the area. They were allowed to settle into the area in return for military service, which may explain the substantial number of coins in period 19, from 364 AD onwards. In addition, because the Franks were still organised in tribes, as the Texuandri in earlier times, the gold exchange between Romans and these tribes came back.[75] Simultaneously, even though there is a possibility the Texuandri and other tribes, such as the Tungri, at least partly continued to live in the MDS area, the old monetary system, in so far as it could be called such, gradually disappeared from the area.[76] The MDS area is now again being controlled by the Romans through establishing relations with local tribes, only now they identify themselves as Franks. The period between the monetary decline (Reece periods 14 to 18) and the Frankish rise probably explains the gap in the presence of gold coinage between periods 16 and 18. It could also be a combination of all these explanations, and it may also have something to do with general trends in gold coinage in the Roman Empire (cf. mint provenance).

After this, the same complexity in society and money exchange from before was never reached again, which makes the peak in period 19 all the more fascinating.[77] Even so, it corresponds to a general upwards trend all over the Roman Empire, which can be explained by the fact that the *aurei*, whose percentage of gold had fallen very low, had been replaced in 315 AD by the *solidus*, whose

---

72 Appendix 5 "further info".

73 Roymans *et al.*, 2020: 277-278.

74 Abdy, 2012: 591.

75 Aarts, 2000: 197.

76 *Ibid.*: 198.

77 *Ibid.*: 198.

standard was lighter than the *aureus*, but whose worth remained stable.[78] However, in his study, Aarts finds two different or additional causes for the same peak. Firstly, Valentinian I reformed the *limes*, built many new forts, and even visited Nijmegen himself, just northeast of the MDS area, himself around 369 AD. For this, he probably needed more troops, which he paid in gold coins, then the common metal for soldiers. Secondly, because around that time, the Frankish tribes were settling into the area, it might be reflective of the ceremonial gold exchange between the Romans, in this case, Valentinian, and the Franks.[79] In addition, Valentinian reformed not only the *limes*, but also the currency. He ordered that all gold paid as taxes should be pure, not debased, and melted back into bullion. For our gold hoards, this means that most of the pre-reform solidi, before the reign of Valentinian, that were more debased than his solidi, were taken out of circulation to be melted and to be used to pay taxes.[80] This may explain the gap in gold coin hoards in periods 16 to 18 more than the possible depopulation and end of supply routes via the army explained in the chronological survey.

After this brief revival of gold coinage, gold coin hoards steadily decline, with the latest coin found being issued somewhere between 408 and 411 during the reign of Constantine III.[81] It must have been around this time, from period 19 onwards, that the Roman authority gradually disappeared from this region and the Franks became gradually dominant. The ceremonial gift exchange slowly ceased, which stopped the supply of new Roman gold coins. Gold coins already in circulation, which did not end up becoming part of a hoard, were most likely melted into other forms of wealth rather than being lost.[82] One revival of gold coins in this early part of the fifth century could have been caused by Emperor Constantine III. He was the last Roman emperor who as a general visited this part of the Empire.[83] He tried to restore the *limes*, and in the process left gold coins behind, which probably served as payment for his army.

In general, the chronology of the Roman gold coins hoards found in the MDS area seems to follow the general trends of hoards in the rest of the Roman Empire. Still, in some notable periods, mostly Reece periods 10, 12 and 13, the amount of gold coins diverges, which must be explained via local developments. All the same, because the history of the third century is clouded in so much uncertainty, it is difficult to find one certain cause for the atypical trends.

---

78 Abdy, 2012: 591.

79 Aarts, 2000: 198-199.

80 Moorhead, 2012: 602.

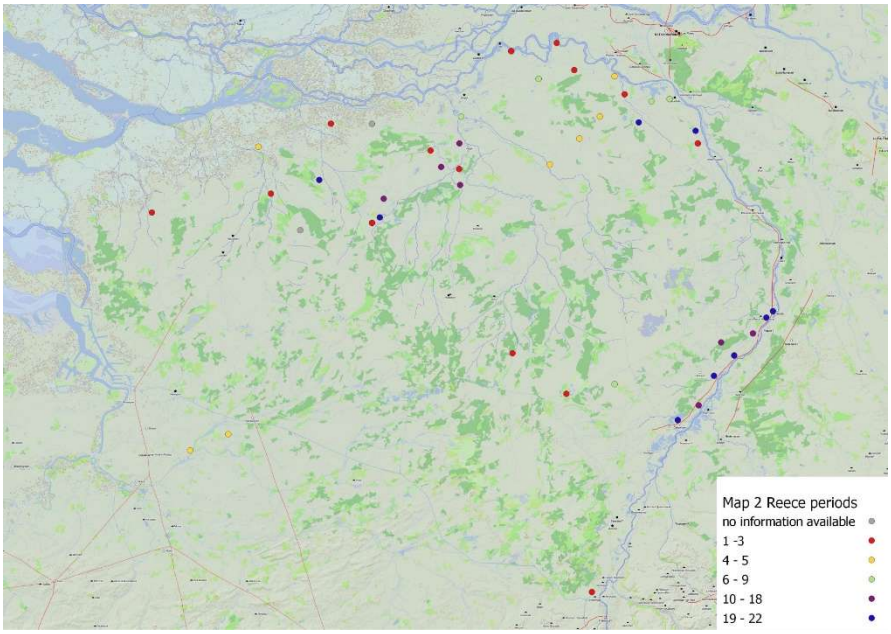
81 Goirle 1838 (CHRE id. 9463), *RIC* X 1514.

82 Aarts, 2000: 204.

83 Roymans *et al.*, 2020: 282-283.

2.2 Geographical Survey

To put a bit more context on the chronological dispersion of the Roman gold coins and the possible causes, I have mapped the places of discovery of the gold coin hoards, including the chronological information. I will primarily argue that the geographical pattern supports Duncan-Jones' hypothesis that Roman gold coins mainly found their way into the area via army pay could hold up for the MDS area as well. For this, I have divided the hoards, not the individual coins, into Reece periods based on their earliest terminal year (*TPQ*).[84] This also means the gold coins from gold coin hoards which have been omitted in the charts in the previous paragraph, are included in this map. This resulted in the following map:



Map 2 – Chronological dispersion of coin hoards by their TPQ dates in the MDS area according to the Reece periods. Layer from Digital Atlas of the Roman Empire, copyright Creative Commons Attribution-ShareAlike 3.0, http://imperium.ahlfeldt.se

What is not visible here, are the gaps and peaks as described above, as larger periods are taken together. Furthermore, we need to consider that the general picture might be distorted by modern activities, such as that some areas might have been more intensely searched than others.[85] Even so, the prominence of

[84] See appendix for the dates of the hoards and see table 1 for the dates of the Reece periods.

[85] Cf. Aarts, 2000: 138. There are almost always less coins from Belgium than from the Netherlands in terms of publicized hoards.

the earliest periods is once more visible. We can see that the gold coins along the Meuse in the south mostly date from a later period, after period 14, beginning in 275 AD, and coins more downstream are in general from an earlier period. The coins found along the Meuse are the most difficult to pin down because they could be from many different groups. Most likely, because all the coin hoards found here are from a rural site class, they belonged to native people living close to the army stationed at the *limes*.

The native people would have traded supplies for the troops and were given gold coins, and other coins, in return.[86] Furthermore, the gold coins could have been exchanged between the army and the native people, in the kind of gift exchange mentioned earlier. There are very few gold coin hoards in the south of the area, which probably serves as an indication that the gold coins found their way into the area via the army in the north.[87] Other coinages seem to have come from the south, from Tongeren.[88] This dependence on gold coin supply for the army probably prevented the area from developing an independent monetary and economic system.[89] Related to this, it is remarkable that only one hoard, out of the 58, was found on a military side. Most of the hoards were found in a rural area, and a couple were in a sanctuary or a burial site. This seems to point in the direction that native soldiers took the money, they had earned, home, where it was stored as wealth, and created in some cases a hoard for us.[90]

In the middle of the rural MDS area, the geographical dispersion might indicate something else. While the gold coins found near the *limes* could have been from soldiers from elsewhere in the Empire as well as from local ones, the gold coins found in the rural areas likely belonged to native soldiers who sent money home or took their salary with them when they came home.[91] This theory, which has been suggested by Duncan-Jones before for the case of Gallia, would explain the fact that the coins have been found in unremarkable and decidedly non-military places. Naturally, we cannot be sure that this is the only or even the main cause, but without a better theory, it is at least a plausible one. In this middle rural part, we see much fewer gold coins here from after period 14 and more from before period 6, with a few exceptions. Additionally, the region around modern-day Eindhoven seems to be quite lacking in gold coinage.[92] This

---

86 *Ibid.*: 201.

87 *Ibid.*: 195.

88 *Ibid.*: 193.

89 *Ibid.*: 195.

90 Cf. Driel-Murray, 2003: 209. "Demographically, if the Roman army wished to maintain its source of ethnic recruitment, there must have been informal structures allowing regular, long periods of leave."

91 Roymans *et al.*, 2020: 275. cf. Duncan-Jones 1994: 84.

92 Except for the hoards of Borkel 1935 (CHRE id. 9425), Budel 1935 (CHRE id. 9431) and Weert 2020 (CHRE id. 17476).

is quite remarkable, because the Aa and the Dommel, two quite significant rivers in the area, flow there. There does not seem to have been a lack of settlements here and coins of different metals have been found in this area.[93] So, what could be the reason for this geographical dispersion?

Some groups of people might have gone into the military more enthusiastically than other groups. It might be that the Texuandri, settling here in early imperial times, had groups more eagerly joining the army in the west than in the east and that therefore more gold coin hoards have been found there in early times. The map above could then not only be a map of gold coin hoards but also a map of settlements where native Roman soldiers lived according to the rule "coins are where the people are".[94] They sent money home or took their salary home with them, in the form of one or maybe even more gold coins. In all likelihood, they became part of a hoard, after the gold coin(s) had been stored in a safe place and the soldiers were not in a position to pick them up again, because they might have died or been sent elsewhere, unable to come back.[95]

Interestingly, the area where the coins are found seems to be quite lacking in other traces of Roman presence, while the area around Eindhoven, where almost no coins were found, has got many more traces of the Romans.[96] Except for the *limes*, the geographical dispersion of coins seems to be the complete opposite of where the Roman presence was mostly felt in other ways. The reasons for this deserve further investigation and may be related to army recruitment.

In any case, if the hypothesis of army recruitment and payment as the main cause for the gold coins in the MDS area is correct, the chronological and geographical dispersion of the hoards could tell us during which periods these people served in the army and where they came from. The number of gold coins found during a specific time and at a specific place could tell us how many people served in the army. However, we need to consider how much the entire MDS area was monetised during this time and how much gold coins might have been dispersed throughout the area after it had come to be there via military means.[97] There is also the possibility of money exchange between military and native settlements while trading.[98] The absence of hoards around Eindhoven seems to argue against this. This was a region where a lot of *villae* were situated and where two important rivers connected the hinterland with the *limes*. It was also connected to one of the main Roman roads, going from Boulogne-sur-Mer

---

93 *Archeologische Atlas van de Oudheid*, vici.org [Accessed December 2021].

94 Aarts, 2003: 171.

95 Cf. Duncan-Jones, 1994: 78.

96 Cf. vici.org.

97 Cf. Aarts, 2003: 165.

98 *Ibid.*: 176-177.

to Cologne.[99] Therefore, it seems likely that this trading was mostly done in silver and bronze coins, from which hoards were indeed found in this area. To be able to investigate further how gold coins ended up in the MDS area and how they were spread through it were indeed spread throughout the MDS area by military means, it is useful to look at the mints where these gold coins were struck.[100]

Mint Provenance

In the two previous paragraphs, I have tried to interpret the occurrence of gold coin hoards in the MDS area via historical and monetary developments. In this paragraph, I will try to interpret the coinage based on the mints where they were struck. Simultaneously, I will look at the contemporary developments in gold coinage which may have influenced the presence of coins in the MDS area. Unfortunately, for 76% of the gold coinage, the mint cannot be determined anymore.

It is painfully obvious how much we do not know. However, because we do have the minting places of 24% of the gold coinage in the MDS area, this might be significant enough to draw some tentative conclusions.[101] In chart 5, we can see that most of the gold coins were struck in Rome and only a small part of the coins was struck in other places. It is useful to look at the way the provenance changed during the period of Roman presence in the MDS area. For this, I have left out the coin from which it is uncertain if it was struck in Lyon or Rome and which could not be dated. It should also still be kept in mind that this chart only displays a part of the total gold coinage of the MDS area, so it cannot be looked at as a general chronological overview. However, it is probably largely representative of the way the mints where the gold coins were struck, changed over time. I used the Reece periods once again, together with the extra period 22 for coins after 402 AD.

With a few exceptions, the mint provenance over time seems to follow the general mint use in the Roman Empire. We can see that the gold coins from periods 1 to 12 all come from Rome, except for four coins struck in Lyon under emperor Augustus, who minted gold and silver coins in Lyon for about 20 years from 12 BC onwards.[102] The few coins in the MDS area from Lyon reflect the circulation of these coins in the northern part of the Empire. Before period 13 then, all gold coins in the MDS area were minted in an imperial centre, whether it be Rome or Lyon. In period 13 four gold coins occur which are struck at a Gallic mint. This Gallic mint was founded in 257-258 AD by Valerian to be able to mint coins

[99] Stuart & De Groot, 1987: 12-13.

[100] Cf. Aarts, 2000: 182.

[101] This is supported by the fact that they seem to be mostly evenly divided time.

[102] Wolters, 2012: 339.

closer to the place where they were needed to pay the troops, which at that time probably was the Rhine frontier.[103] After this, the amount of gold alloy in the gold coinage fell, which simultaneously meant an increase in the number of gold coins being struck.[104] This may explain the slight increase of coins from the Gallic mint in period 13, all struck under the authority of Tetricus I, the last emperor of the Gallic Empire.[105] It is not known exactly where this mint was, except that it was somewhere in Gallia.

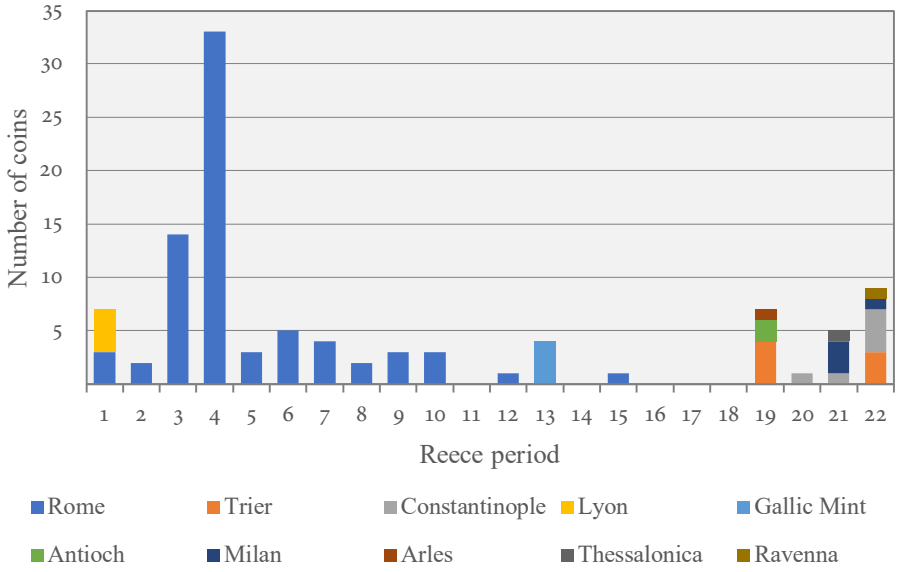


Chart 6 – Mint provenance

Moving on, there is one coin in period 15 by Constantine I struck in Rome again in 315 AD, just after the new *solidus* was introduced, which restored the amount of gold to a lighter standard than before.[106] This was the last period in which there was a central minting system, with the mint in one imperial centre. After this, we do not see Rome coming back as a mint again in general.[107] Minting was, just like the Empire at large, decentralized and moved to imperial mints in the province. Looking at the graph above, we see this reflected in the gold coins found in the MDS area.

[103] Bland, 2012: 530.

[104] Estriot, 2012: 544-545.

[105] This is not a peak in the chronological survey, but only a peak in gold coins coming from the Gallic mint.

[106] Abdy, 2012: 591.

[107] Moorhead, 2012: 605.

In period 19 gold coin hoards resumed, after a slight gap, with gold coins minted in three different mints: Trier, Antioch, and Arles. From this period onwards, gold coins are almost exclusively struck at so-called comitatensian mints, from the Latin *comitatus* "escort". These are mints moving along with the emperor and his army when he moved across the Empire.[108] This made the new capital cities Ravenna and Constantinople the main mints, with some other mints also temporarily striking imperial coinage, such as Trier, Antioch, Arles, Milan, and Thessalonica. When the mint in Trier is more visible, this might indicate more troops being present in the region.In period 19, the Treveran mint functioned between 367 and 375 AD as a comitantensian mint for emperor Valentianian I, as he resided there during that time together with his troops.[109] This explains the prominence of the Treveran mint in period 19. Afterwards, the Treveran mint only struck significant amounts of gold coin if an emperor had taken up residence there.[110] The three coins in period 22, all struck under the authority of Constantine III, who visited the area as well, trying to restore the *limes*, and who has resided in Trier during that time, using the mint of Trier as a comitantensian mint.

The other mints are too far away from the MDS area to indicate a direct striking of coins for troops. It might however be that these coins travelled along the Empire via troops, but there is too little evidence to be able to tell this with any certainty. In this light, however, the presence of the Antioch mint only in period 19 is quite interesting and it might be a tentative indication of a troop movement from Antioch to the MDS area. The mints do not seem to give an extra hint for ceremonial gold exchange, either in the aftermath of the Batavian revolt or later with the Franks in the area.

Conclusion

In this article, I have tried to show through the chronological and geographical dispersion of Roman gold coin hoards in the MDS area that it is plausible that the main way these gold coins found their way into the MDS is via some form of army payment, which native soldiers sent or took home to the rural area where they originally came from. Back home, these coins ended up as part of hoards, because the soldiers, for whatever reason which will always remain unknown to us, were unable to retrieve their money. In general, the chronological and geographical dispersion of gold coins in the region may indicate during which times these auxiliaries were recruited and where they lived or where they came from. In the earlier Roman period, gold coins could have also been used by the Romans as ceremonial gifts to establish relations with native tribes, which reached a peak in the period after the Batavians had revolted in 69 AD. This

[108] *Ibid.*

[109] Wigg-Wolf, 2016: 224.

[110] *Ibid.*: 224-225.

practice probably disappeared gradually after this because the tribes ceased to exist when the Roman authorities imposed a *civitas* structure. When the tribal structure came back with the Franks settling in the MDS area, this practice likely came back, and the number of gold coins increased exponentially.

Because a lot of information on many gold coins and gold coin hoards is incomplete, this hypothesis will remain a hypothesis until many more hoards are found and better documented. Still, this does not mean the evidence of coinage should be disregarded in research into the MDS area, but some caution is needed. It is tempting to draw far-reaching conclusions based on the chronological and geographical dispersion, even though there are only 58 hoards in total. The high amount of Neronian gold coins may be related to the aftermath of the Batavian revolt, but making a comparison with the rest of the Roman Empire, the application of *Gresham's Law* is more likely. to be the cause. This comparison is very useful and should be made because it can tell us when local developments in the MDS areas may have had an impact. An excellent example of this is the fact that, from the third century, relatively speaking, more gold coins have been found in the MDS area than in other parts of the Empire. Possible causes for this may be numismatic in nature, but depopulation of the area may also be a factor or at least the movement of troops south to the Gallic Empire. However, this period is still clouded by many uncertainties, so even here we cannot be positive this is the cause. Another example, where the comparison should be made, can be applied to the fourth and fifth centuries, whose chronological trends are not in line with the general trend in the Roman Empire. Troop movements to the *limes* led by Valentinian I and, later, Constantine III, led to more gold, minted in Trier, being transported to the MDS area to pay the soldiers in the army.

As can be seen, it is difficult to say anything with certainty about the Roman gold coin hoards found in the MDS area, but, looking carefully at the information they give us, a lot can be made plausible. When compared with other evidence, it might give us some more information on the Roman history of this area. Further comparative research with Roman silver and bronze coins and with the local coinage might shed more light on some of the developments in the MDS area.

Handling editor: Fleur Kemmers.

Biography

Wiebe Snoeij is currently Research Master's student Classics at Leiden University. Apart from a Bachelor's in Classics, he has finished a Bachelor's in History. There his love for numismatics started, thanks to Dr Liesbeth Claes. This article is his first publication.

Appendix – Roman gold coins hoards in the MDS area

Hoard Name	N=	Summary	*TPQ*	Hoard Type	Emperor at *TPQ*	Site class	Reece period	CHRE or Honigh no.	Further info	*RIC* no.
Abcoven 1838	1	Solidus of Constantine III minted in Treveri (AD 408-411).	408-411	Single coin	Constantine III	Rural	22	9403	In the ashes of a turf fire	X·1514
Baarlo 1830	32	More than 3,000 coins (32 gold and the rest in silver) remained with banker Wolters. Further data is missing. The description is known for five coins. The first publication, in 1838, mentions coins from Augustus to the Antoninians.	193	Hoard	Didius Julianus	Rural	10	12631	Found in urn	IV·5/7a/10/ and 11827 (others unknown)
Beers 1802	1	Aureus of Antoninus Pius (AD 155-156)	155-156	Single coin	Antoninus Pius	Rural (Burial)	7	9413	Found together with a sword and an urn. The mount is of 7th-century Germanic manufacture	III·255a
Beugen 1843	1	Solidus of Arcadius (AD 395-408)	295-408	Single coin	Arcadius (*RIC* X)	Rural	22	9419		
Blerick 1868	1	Solidus of Valentinianus I	364-375	Single coin	Valentinianus I		19	405 th.	ER III, p. 66	
Borkel 1935	1	Aureus of Nero (AD 64-65)	64-65	Single coin	Nero	Rural	3	9425		I²·44
Boxmeer 1808	1	Aureus of Tiberius minted in Lugdunum (AD 14-37)	14-37	Single coin	Tiberius	Rural	1	9428		
Boxmeer 1843	1	Solidus of Arcadius (East)	394-395	Single coin	Arcadius		21	1600 th.	Boersma, 1963: 32 nr. 13a	I²·25
Boxtel 1789·1	1	Aureus of Tetricus I (AD 271-274). Found together with Boxtel 1789·2	271-274	Single coin	Tetricus I	Rural	13	9429		
Boxtel 1789·2	1	Aureus of Tetricus I (AD 271-274). Found together with Boxtel 1789·1	271-274	Single coin	Tetricus I	Rural	13	9430		
Budel 1935	1	Aureus of Nero (AD 64-65)	64-65	Single coin	Nero	Rural	3	9431		I²·52

Chaam 1908	40	30+? AV (maximum of 40 gold coins)		Hoard	Uncertain	Rural	x	9864	Found in castellum. The archaeological site contains the remains of a fort, port, cemetery, and civilian settlement.	
Cuijk 1800-1890	1	Solidus of Valentinian I (AD 364-375)	364-375	Single coin	Valentinian I	Military	19	9433		
Cuijk 1802	1	Aureus of Antoninus Pius	156	Single coin	Antoninus Pius		7	217 th.	Thesis Honigh, no further source	
Esch 1789	1	Aureus of Tetricus I, Gallic mint (AD 271-274)	251-274	Single coin	Tetricus I	Rural	13	9443		
Esch 1866	1	Aureus of Claudius I for Antonia (Augusta) minted in Rome (AD 41-45)	41-45	Single coin	Claudius I	Rural	2	9444		I²·65
Escharen 1979	1	Aureus of Nero (AD 66-67)	66-67	Single coin	Nero	Rural	3	9445		I²·66
Gimneken 1856	1	Aureus of Nero (AD 64-65)	64-65	Single coin	Nero	Rural	3	9462		I²·54
Goirle	1	Solidus of Constantine II	337-340	Single coin	Constantine II	unknown	17		Byvanck, 1943: 359 (database Utrecht)	
Goirle 1838	1	Solidus of Constantine III minted in Treveri (AD 408-411).	408-411	Single coin	Constantine III	Rural	22	9463		X·1514
Goirle 1943 1				Single coin	?	Rural	V	9464		
Goirle 1943 2				Single coin	?	Rural	?	9465		
Grave 1879	1	Aureus of Titus for Domitian	80-81	Single coin	Titus		4	1596 th.	*RBN* XXXV (1879), p. 327	
Heel 1941	1	Solidus of Honorius (West)	395-402	Single coin	Honorius		22	1657 th.	Fasti arch. 24-25 (1969-1970), p. 21 nr. 265	
Heel 1958	1	Solidus Honorius minted in Ravenna (AD 408-423)	408-423	Single coin	Honorius (*RIC* X)	Rural (vicus)	22	9473		X·1319
Helden	1	Aureus from the Tetrarchy (AD 286-307) without further information.	286-307	Single coin	Tetrarchy (*RIC* VI)	Rural	15	9477		
Helvoirt 1897	1	Aureus of Claudius I for either Agrippina the Elder (Augusta) or Agrippina the Younger (Augusta)	41-54	Single coin	Claudius I	Rural	3	9478		

Herpen 1850	1	Aureus of Nero (AD 65-66).	65-66	Single coin	Nero	Rural	3	9479		I²·61
Hout(-Blerick) 1936	2	2 Roman gold coins.: one of Valens and one of Valentinianus	367-375	Hoard	Valens	Rural	19	9925	Near a Roman road and a pottery kiln	IX Antioch 2d / Trier 17b
Kessel	13	13 solidi of Valentinian I and Valens – Constantine III (AD 408-411). A ritual offering.	408-411	Hoard	Constantine III	Rural	22	13951	Found with a Late Roman helmet with a Chi-Rho badge	IX Arles 1a / Trier 1b/1c/17b Constantinople 7/8/15/25/47a / Milan 35c/35c / Thessaloniki 64d; X·1515
Kessel 1927	1	Solidus Theodosius I for Arcadius minted in Constantinople (AD 383-388)	383-388	Single coin	Theodosius I	Rural	21	9481		IX Constantinople 71c
Lanaken 1873	1	Aureus of Nero (AD 54-68)	54-68	Single coin	Nero	Rural	3	11818		
Lier 1881	1	Aureus of Vespasian (AD 69-79)	69-79	Single coin	Vespasian	Rural	4	11792		
Limburg	1	Solidus of Constantine I was minted in Rome (AD 315)	315	Single coin	Constantine I (*RIC* VII)	Uncertain	15	9492		VI·281a
Lith 1960 1	1	Aureus of Tiberius minted in Lugdunum (AD 14-37)	14-37	Single coin	Tiberius	Rural (temple or shrine)	1	9495		I²·25
Lith 1960 2	1	Aureus of Claudius I for Nero (Caesar)	50-54	Single coin	Claudius I	»	3	9496		I²·78
Lith 1965 1	1	Aureus of Tiberius minted in Lugdunum (AD 14-37)	14-37	Single coin	Tiberius	»	1	9497		I²·29
Lith 1965 2	1	Aureus of Nero (AD 64-65)	64-65	Single coin	Nero	»	3	9498		I²·52
Lith 1973	1	Aureus of Nero (AD 64-65)	64-65	Single coin	Nero	»	3	9499		I²·48
Maas(-Waspik) 1963	1	Aureus of Claudius I (AD 46-47)	46-47	Single coin	Claudius I	Rural	2	9502		I²·40
Megen 1970	1	Aureus of Nero (AD 64-65)	65	Single coin	Nero	Rural	3	9510	Found at the riverside	I²·46
Mill 1800-1900	1	Gold coin, unknown denomination, of either Valentinian I or II	364-455	Single coin	Valentinian I(I)	Uncertain	22	9512		

Neer 1980	1	Solidus of Valentinian I minted in Antioch (AD 364-375)	364-375	Single coin	Valentinian I	Rural	19	9514		
Nijlen	150	c. 120-150 aurei: Julius Caesar – Domitian (AD 81-96)	81-96	Hoard	Domitian	Rural	5	6248	Found in a vessel	
Noord-Brabant c. 1848	50	50 uncertain gold and silver coins. Issuers mentioned from Otho to Postumus (AD 260-269)?	260-269	Hoard	Postumus	Rural	13	9982		
Oss 1850 1	1	Aureus of Trajan (AD 98-117)	98-117	Single coin	Trajan	Rural	6	9533		
Oss 1850 2	1	Aureus of Hadrian (AD 119-120)	119-120	Single coin	Hadrian	Rural	6	9534		II.3^{2}·91
Rijen 1845	73	73 solidi of one of the Valentinians (I-III)	364-455	Hoard	Valentinian III	Rural	22	9999		
Roosendaal 1883	1	Aureus of Augustus minted in Lugdunum (AD 13-14)	13-14	Single coin	Augustus	Rural	1	9545		I^{2}·221
's-Hertogenbosch 1892	1	Aureus of Hadrian (AD 117-138)	117-138	Single coin	Hadrian	Rural	7	9399		
Terheijden 1780	24	Around 24 aurei "12 of Nero and just as many of Vespasian" (AD 69-79)	54-79	Hoard	Vespasian	Rural	4	10019	Found in a ceramic vessel	
Tilburg 1838	1	Solidus of Constantine I (?)	306-337	Single coin	Constantine I		17	188 th.	Beex, 1953: p. 128	
Uden 1853	1	Aureus of Domitian (AD 81-96)	81-96	Single coin	Domitian	Rural	5	9555		
Veghel 1853	1	Aureus of Domitian (AD 81-96)	81-96	Single coin	Domitian	Rural	5	9585		
Vught 1789	1	Aureus of Tetricus I (AD 271-274)	271-274	Single coin	Tetricus I	Rural	13	9593		V·22
Waalwijk 1819	1			Single coin	Uncertain	Rural	X	9594		
Weert 2020	1	Aureus of Trajan (AD 117).	98-117	Single coin	Trajan	Rural	6	17476		II·763
Zeeland 2005	1	Aureus of Vespasian for Titus (Caesar) (AD 77-78)	77-78	Single coin	Vespasian	Rural	4	12680		II.1^{2}·973

Bibliography

Aarts, J. (2000) *Coins or money? Exploring the Monetization and Functions of Roman Coinage in Belgic Gaul and Lower Germany 50 BC–AD 450* (Amsterdam)

Aarts, J. (2003) "Monetisation and Army Recruitment in the Dutch River Area in the Early 1st Century AD." in: T. Grünewald & S. Seibel, *Kontinuität und Diskontinuität: Germania Inferior am Beginn und am Ende der römischen Herrschaft* 162-180 (Berlin/Boston)

Aarts, J. (2015) "Marginal money. The Circulation of Roman Money in the Rural World of the MeuseDemerScheldt area." in: N. Roymans, T. Derks & H. Hiddink (eds.), *The Roman Villa of Hoogeloon and the Archaeology of the Periphery* 207-227 (Amsterdam)

Abdy, R. (2012) "Tetrarchy and the House of Constantine" in: W. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, 584-600 (Oxford)

Archeologische Atlas van de Oudheid, *vici.org* (December 2021)

Bechert, T. (1982) *Römisches Germanien zwischen Rhein und Maas. Die Provinz Germania Inferior* (Munich)

Byvanck, A.W. (1943) *Nederland in den Romeinschen tijd* (Leiden)

Bland, R. (1997) "The Changing Patterns of Hoards of Precious-Metal Coins in the Late Empire," *L'antiquité tardive* 5, 29-55

Bland, R. (2012) "From Gordian III to the Gallic Empire (AD 238-274)" in: W. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, 514-537 (Oxford)

Bland, R. (2013) "What happened to Gold Coinage in the 3rd c. A.D.?", *Journal of Roman Archaeology* 26, 263-278

Bland, R. & X. Loriot (2010) *Roman and Early Byzantine Gold Coins found in Britain and Ireland*, RNS Special Publication 46 (London)

Duncan-Jones, R. (1994) *Money and Government under the Roman Empire* (Cambridge)

Estriot, S. (2012) "The Later Third Century" in: W. Metcalf (ed.), *The Oxford Handbook of Greek and Roman coinage*, 538-560 (Oxford)

Gazdac, C., G. Bounegru & R. Varga (2020) "Paying and Saving in Gold in the Roman Army. The Aureus of Vespasian from Războieni-Cetate and the Evidence of Gold Coins in Roman Dacia (Romania)" *Journal of Ancient History and Archaeology* 7.2, 94-102

Heeren, S. (2015) "The Depopulation of the Lower Rhine Region in the 3rd Century. An Archaeological Perspective." in: N. Roymans, T. Derks & H. Hiddink (eds.), *The Roman Villa of Hoogeloon and the Archaeology of the Periphery*, 271-294 (Amsterdam)

Hellings, B.D.R. (2022) 'Coin Supply and Longevity of Circulation: Three Case Studies from Hoards in North-West Europe' in: J. Marist, A. Wilson & C. Howgego (eds.), *Coin Hoards and the Hoarding in the Roman World*, 282-293 (Oxford)

Honigh, B.D. (2015) *Golden Messages: Exploring the Roman Monetary Policy and Gold Supply of Germania Inferior from 49 BC – AD 423* (Leiden) (Master Thesis)

Howgego, C. (1994) "Coin Circulation and the Integration of the Roman Economy." *Journal of Roman Archaeology*, 7, 5-21

Moorhead, S. (2012) "The Coinage of the Later Roman Empire, 364-498" in: W. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*, 601-632 (Oxford)

Oxford University *Coins Hoards of the Roman Empire* dataset, *https://chre.ashmus.ox.ac.uk* (December 2021)

Ravetz, A. (1963) *Roman Coinage of the Fourth Century in Britain* (Leeds)

Roymans, N. & T. Derks (2015) "Texuandri, Tungri, Germani. Different levels of Ethnic Belonging" in: N. Roymans, T. Derks & H. Hiddink (eds.), *The Roman Villa of Hoogeloon and the Archaeology of the Periphery*, 19-32 (Amsterdam)

Roymans, N., T. Derks & S. Heeren (2020) "Roman Imperialism and the Transfomation of Rural Society in a Frontier Province: Diversifying the Narrative." *Britannia (Society for the Promotion of Roman Studies)* 51, 265-294

Schwei, D. (2020-2021) "An Explanation for the Addition of the Aureus to the Roman Imperial Coinage System" *Classical Journal*, 116.2, 199-214

Stuart, P. & M.E.Th. Grooth (1987) *Langs de weg: de Romeinse weg van Boulogne-sur-Mer naar Keulen, verkeersader voor industrie en handel: Villa Rustica, het Romeinse boerenbedrijf in het Rijn/Maasgebied* (Heerlen/Maastricht)

Vossen, I. (2003) "The Possibilities and Limitations of Demographic Calculations" in: T. Grünewald & S. Seibel, *Kontinuität und Diskontinuität: Germania Inferior am Beginn und am Ende der römischen Herrschaft*, 414-433 (Berlin/Boston)

Wigg-Wolf, D. (1997) "Coin Supply and the Roman Army" in: W. Groenman-van Waateringe et al. (eds.) *Roman Frontier Studies 1995*, 281-288 (Oxford)

Wigg-Wolf, D. (2016) "Supplying a Dying Empire. The Mint of Trier in the Late-4th Century AD" in: J. Chameroy & P.-M. Guihard (eds.), *Production und Recyceln von Münzen in der Spätantike*. 1. internationales Numismatikertreffen (15.-16. Mai 2014, Mainz). RGZM Tagungen 29, 217-233 (Mainz)

Wolters, R. (2000-2001) "Bronze, Silver or Gold? Coin Finds and the Pay of the Roman Army", *Zephyrus* 53-54, 579-588

Wolters, R. (2012) "The Julio-Claudians" in: W. Metcalf (ed.) *The Oxford Handbook of Greek and Roman Coinage*, 335-355 (Oxford)