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A hoard of information: The introduction of Roman coinage in the Netherlands: an investigation through coin hoards

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A hoard of information

The introduction of Roman coinage in the Netherlands: an investigation through coin hoards



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Introduction

During his campaigns in Gaul Caesar reached the region that eventually would become the province of Germania Inferior in the campaign of 55 B.C. Though it is likely that through long distance trade Roman coins may have reached this area earlier, the arrival of the Roman army was the moment when a lot more coins would arrive. Whether trade, military pay, acts by state or city officials were mainly responsible for the introduction of Roman coinage in the new Germania Inferior can be researched through coin hoards. How far the Roman monetary system had been integrated within local society can be studied through the same source. Looking at the large military presence on the frontier, it seems likely that the pay of soldiers would be the principal cause for the arrival of minted coins. But is this actually the case? The information the coin hoards provide may solidify or disprove this claim. The already existing Celtic coinage will also have an effect on the introduction of Roman coinage, which will also be under consideration. The supplying of soldiers in the frontier must have been a huge logistical operation involving many officials and merchants. Imperial or local gifts for diplomatic contacts and spending on public works in the form of construction works may also have been ways in which money could arrive.

In 2000 Joris Aarts analysed in his dissertation *Coins or money. Exploring the monetization and functions of Roman coinage in the Belgic Gaul and Lower Germany 50 BC - AD 450* the developing monetization in the area of roughly Germania Inferior and Gallia Belgica, so roughly the present-day Benelux. In his methodology he sets a minimum of 20 coins for a hoard to be included and he uses Reece periods for the issue periods.¹ He states that few researchers have attempted to look at modes other than money for exchange due to a bias towards trade through coinage instead of by barter. He also noted that coins were already being used in the area before the arrival of the Romans.² Though Aarts discusses the same subject as this thesis, at the time he had fewer primary sources at his disposal, whilst also considering a larger geographical area and an additional 300 years of the Roman Empire. He limited his coin list to what was collected and logged up to 1993, meaning that any coin reported to the KPK (Koninklijk Penningkabinet, now incorporated into the Nederlandse Bank, DNB) after this year hasn't been included in his research. An additional difference is that he also uses the 8.977 stray finds known at the time, which will not be included in this thesis. Referring to the period directly after the conquest, Aarts states that Roman silver and gold coins were mainly introduced through diplomatic gifts and military pay.³ He also states that the army was the main organisation responsible for coin distribution.⁴ In a different article he shows the number of coins found in the Dutch river area, revealing a peak in coin introduction in the first century.⁵ This points to military activity being a major factor in the distribution of new coinage. The flow of coins was also rather one-sided: coins flowed from the military to the countryside since goods were bought and the local population possessed little acquisitive power.⁶ This flow of coin in one direction is however not something certain other authors agree on. Taxes for example would be forming a flow of coinage in the opposite direction.

Keith Hopkins in his article *Taxes and trade in the Roman Empire (200 b.c.-a.d. 400)* brings forth the argument that the Roman Empire consisted of three zones: an inner zone consisting of the Italian heartland, a middle zone with the wealthy regions and an outer defensive ring. According to

¹ Joris Aarts, *Coins or money. Exploring the monetization and functions of Roman coinage in the Belgic Gaul and Lower Germany 50 BC - AD 450* (2000) 1-2, 4.

² Joris Aarts *Coins or money*, 1-2, 4; Joris Aarts, 'Monetisation and army recruitment in the Dutch river area in the early 1st century AD' in: S. Seibel and T. Grunewald eds., *Continuität und Diskontinuität* 35 (2003) 162-180, there 163,164.

³ Aarts, *Coins or money*, 10.

⁴ *Ibidem*, 56.

⁵ Joris Aarts, 'A frog's eye view of the Roman market: the Batavian case' in: R.J. van der Spek, B. van Leeuwen, J.L. van der Zanden eds., *Market performance in pre-industrial societies: the case of Babylonia (c. 600-60 BC) in comparative perspective* (London 2015) 394-409, there 396.

⁶ Aarts, 'Monetisation and army recruitment', 174.

him, taxes and thus money flowed from the net tax producing middle ring to the centre and the outer ring.⁷ The area under consideration in this thesis is in this outer ring. In his theory, tax paying peasants produced surpluses to sell on the market to procure (Roman) money to pay their taxes. This money subsequently partially returned to the province in the form of state expenditures, mainly in the form of military pay.⁸ However, this traditional theory of Hopkins underestimated the importance of several agencies who could also have imported and disseminated coinage. The main example of these agencies are private traders and merchants, who sold goods to the soldiers and bought goods elsewhere, within or outside the empire, draining coins from the frontier. A factor that suppresses the number of coins used in trade mentioned by Hopkins is the payment of taxes in kind, since no money had to be supplied for such transactions.⁹

Ton Derks, Stijn Heeren and Nico Roymans propose that Roman coins and valuables entered the native settlements through veterans of the auxilia.¹⁰ This again lays the link between the introduction of Roman coinage and the military. This certainly would have accelerated the usage of Roman coinage by the local population in comparison to a scenario in which only the non-auxilia would have introduced coins. In Germania Inferior this could have been an important factor as the Batavians mainly provided auxiliary soldiers for the Roman army instead of paying taxes.

Johan van Heesch describes the military camps and their immediate surroundings as islands in which money circulated and where transactions were much more common than in the hinterland.¹¹ Focussing on bronze denominations, he states that the central authorities did not react to the lack of low denomination coins.¹² This seems to indicate that the spreading of (at least the low value) Roman coinage was not imperial policy nor priority. Fleur Kemmers supports this idea, stating that whilst the low denominations were provided to the Rhine frontier troops by the central authorities for the war against the Chatti in 83 A.D., other areas that also needed such new coinage didn't receive an influx, either cause the higher authorities didn't know or didn't care enough to supply them to the troops.¹³ Of these two options, the authorities not caring seems the most likely due to the degree of organisation in the empire making it very unlikely that the higher authorities didn't know about the shortage. Local authorities resorted to mint these low denominations on their own, whilst private individuals broke coins into halves to get lower value coins. These practices continued until the central mint started issuing the low denominations starting from Nero's reign.¹⁴

The statements and theories of Aarts and Hopkins are supported by Rheinhard Wolters in *The Oxford Handbook of Greek and Roman Coinage*, where he states that "As a rule, state payments were the only way to bring newly minted coins into circulation".¹⁵ It must be kept in mind that this statement covers only the initial introduction, not its spread after the initial expenditure, for example by a magistrate buying bread with money from his salary.

Christopher Howgego supports Hopkins and Aarts in designating the state as the principal factor in the circulation of coinage through state expenditures and taxes, though he does mention

⁷ Keith Hopkins, 'Taxes and trade in the Roman Empire (200 b.c.-a.d. 400)' *The journal of Roman studies* 70 (1980) 101-125, there 101.

⁸ Ibidem, 102.

⁹ Ibidem, 103.

¹⁰ Ton Derks, Stijn Heeren and Nico Roymans, 'Roman imperialism and the transformation of rural society in a frontier province: diversifying the narrative' *Britannia* 51 (2020) 265-294, there 275.

¹¹ Johan van Heesch, 'Providing markets with small change in the early Roman Empire: Italy and Gaul' *Belgisch tijdschrift voor numismatiek en zegelkunde* 155 (2009) 125-142, there 128.

¹² Ibidem.

¹³ Fleur Kemmers, 'Not at random evidence for a regionalised coin supply' in: J. Bruhn, B. Croxford and D. Grigoropoulos eds., *TRAC 2004* (Oxford 2016) 42.

¹⁴ Van Heesch, 'Providing markets with small change', 129.

¹⁵ Rheinhard Wolters, 'The Julio-Claudians' in: William E. Metcalf ed., *The Oxford handbook of Greek and Roman coinage* (2012) 349.

that private trading was also a factor.¹⁶ Trade did however not always signify that money was actually transferred since goods could be traded in kind, which is an oversight in Hopkins theory. Jos van der Vin and Tom Buijtendorp note that soon after the Roman conquest large quantities of coins must have been imported, though they don't state by whom or how.¹⁷ Transporting large amounts of money would come with significant risk. Trade would be another important way in which money could arrive, but as Christopher Howgego points out, goods could be traded for other goods resulting in the trade not corresponding with the transfer of coinage.¹⁸ This is a point that is important in the debate on the importance of the monetary economy outside of the state's institutions, especially in the Late Republican and Early Imperial Era. This is even more the case on the northern frontier, far away from the centres of power and trade. Trading goods for goods instead of carrying large sums of money, would also be a safer option for merchants, further reducing its usage and thus the need to provide coinage to this region.

A counter point Hopkins brings against the empire wide integration and monetisation, is that money spent locally would circulate locally instead of moving to other regions, though he is not supportive of the hypothesis seeing the model of an integrated economy as most likely.¹⁹ Defining the regions would also be a difficult task since there wouldn't have been strict internal boundaries to help with preventing coins from going from one region to another.

This thesis will deal with the main factors in the introduction of Roman coinage in the Roman part of the Netherlands between 55 B.C. and 68 A.D., mainly through using coin hoards as evidence. What was the main source of new coinage arriving in the present-day Netherlands? In order to answer this question, some boundaries need to be set for which hoards will be included and which ones will not. The time period gives according to the CHRE database 100 hoards as the main corpus. The selection of hoards has been made by using the CHRE database and selecting all the listed hoards that meet the criteria of being found in the present-day Netherlands, whether above or below the Rhine, with a known closing date between 55 B.C. and 9 June 68 A.D. and are not clearly votive hoards or grave finds. Since hoards can be added to the database, hoards added after 22 March 2022 will not be included. This research can be seen as a continuation of the work of Aarts but with more and updated sources to work with as well as using a slightly different angle. Factors looked at will be the influx due to the Roman army, public officials, the central authorities and private traders. Due to the limes running through the present-day Netherlands, the geographical boundary offers a chance to look at the militarised zone, the agricultural hinterland and the presence of Roman coins outside the empire. The coin hoard found at Schagen, though outside the boundaries of this thesis would be a good example of the latter. Regional differences can lead to potentially interesting findings. Votive hoards as well as grave finds will not be included in this thesis since both types of hoards intentionally removed money from the economy. The effects of Celtic coinage will also be looked at since the existence of such coinage will have an effect on the introduction of Roman coinage.

The coin hoards that follow the selection criteria mentioned before, have been added to a spreadsheet in the appendix. In this spreadsheet the hoards are sorted by CHRE number. To find out what the main source of coinage was, each chapter will focus on a specific question. In the first chapter, this will be the question what the context for each hoard is. This context is important for answering whether hoards had a civilian or military origin. Originally more than 100 hoards were under consideration until context showed some had a grave or votive context, thus they were removed from the selection, bringing the number down to 100. The removed hoards can be found

¹⁶ Christopher Howgego, 'Coin circulation and the integration of the Roman economy', *Journal of Roman archaeology* 7 (1994) 5-21, there 6-7.

¹⁷ Jos van der Vin and Tom Buijtendorp, 'Munten en schatten Romeinse munten in Voorburg' in: Wilco de Jonge, Jos Bazelmans and Dick de Jager eds., *Forum Hadriani van Romeinse stad tot monument* (Utrecht 2006) 307-321, there 307.

¹⁸ Howgego, 'Coin circulation', 7.

¹⁹ Hopkins, 'Taxes and trade', 112.

listed in the appendix, along with the reason for each removal. In the second chapter the data coming from the spreadsheet in the appendix will be analysed. In this chapter the data will be visualised to answer how many coins are coming from which source. The results of which will be compared to the ongoing discussion in the literature in chapter three. This is to answer the question as how the results of the data from the 100 hoards match with the existing literature as well as to explain differences.

There are a couple expectations for what the data will show. The first expectation is that silver will be the dominant coinage in the hoards. This is because if the premises of the army being the main source of the coinage and the soldiers get paid in silver are true, a lot of silver is to be expected. The second most common coinage that is expected is bronze coinage. If Roman currency was commonly used, then most people would use for everyday transactions and thus there would be a lot of required bronze coinage, hence a lot of it is to be expected. A counterpoint to this would be that a lot of single bronze coins that would have been lost aren't counted as hoards and thus are not under consideration. In terms of gold coinage mainly single gold finds are to be expected, but not that many of them since the original owners would have done more effort to recover them in comparison to lower value coins and the gold wouldn't be that useful for everyday low value transactions. In terms of geographic spread, most coins are to be expected on the *Limes* itself due to the density of people there and it also being along a river. Along rivers and within settlements and forts is where most coins were and thus where likely the most coins were lost. Timewise, under Augustus and Tiberius there will likely have been a large peak in hoards due to the military activity during their reigns. On the coast fewer but still some hoards are to be expected from Claudius' invasion of Britain. Some hoards of Caligula are likely, but no significant events happened in the area under his reign. Due to the Batavian Revolt and the inaccuracy of dating hoards another peak is expected in coinage of Nero, with most of that consisting of silver coinage.

Policy changes can lead to people hoarding their valuable coins and hiding them or possibly changed in which way coins were used. When the coinage was debased for example, people tended to hoard the older coins due to their higher precious metal content and spend their lower value coins. An increase in instability would result in more crisis hoards which can be analysed. In an ideal case, coin hoards could be used as a measurement of how deeply integrated the usage of the Roman coinage system became in local societies in the chosen period. The main issue coin hoards have is that they are not reliable sources in themselves, as much of the context of their creation is lost to history, making it difficult to point to a specific origin or clear deposition date. Aarts warns against an oversimplified attitude of using coin hoards as evidence of monetisation in a specific region.²⁰ The first century is however well documented in the sources, leaving plenty of additional information. In addition, much archaeological work has been done in the Netherlands and new finds come to light every year. Another issue with the coin hoards is that not all the hoards are discovered by archaeologists or likeminded people that will properly document their finds, resulting in the loss of crucial context, or of hoards never even being reported and documented at all and being for example melted down. Even when a hoard was found by an archaeologist or by someone connected to an archaeological group, the details on the find have not always been properly documented or published for further research. There are also no doubt finds that haven't been determined and/or documented after they came out of the ground, meaning there is still plenty of determination work left to do. Another issue mentioned by Aarts is that the coin finds are heavily biased towards bronze coins, mainly due to more effort being made to recover the more valuable silver and gold coins by the original owners.²¹ Whilst this would influence which hoards had a smaller chance of being recovered, this would be compensated for by way more coins of the lower denominations being in circulation.

The main advantage of working with coin hoards is the reliability of the basic inherent information: hoards are incredibly difficult to fraudulently put in the ground for archaeologists to

²⁰ Aarts, *Coins or money*, 2.

²¹ Aarts, 'A frog's eye view', 399.

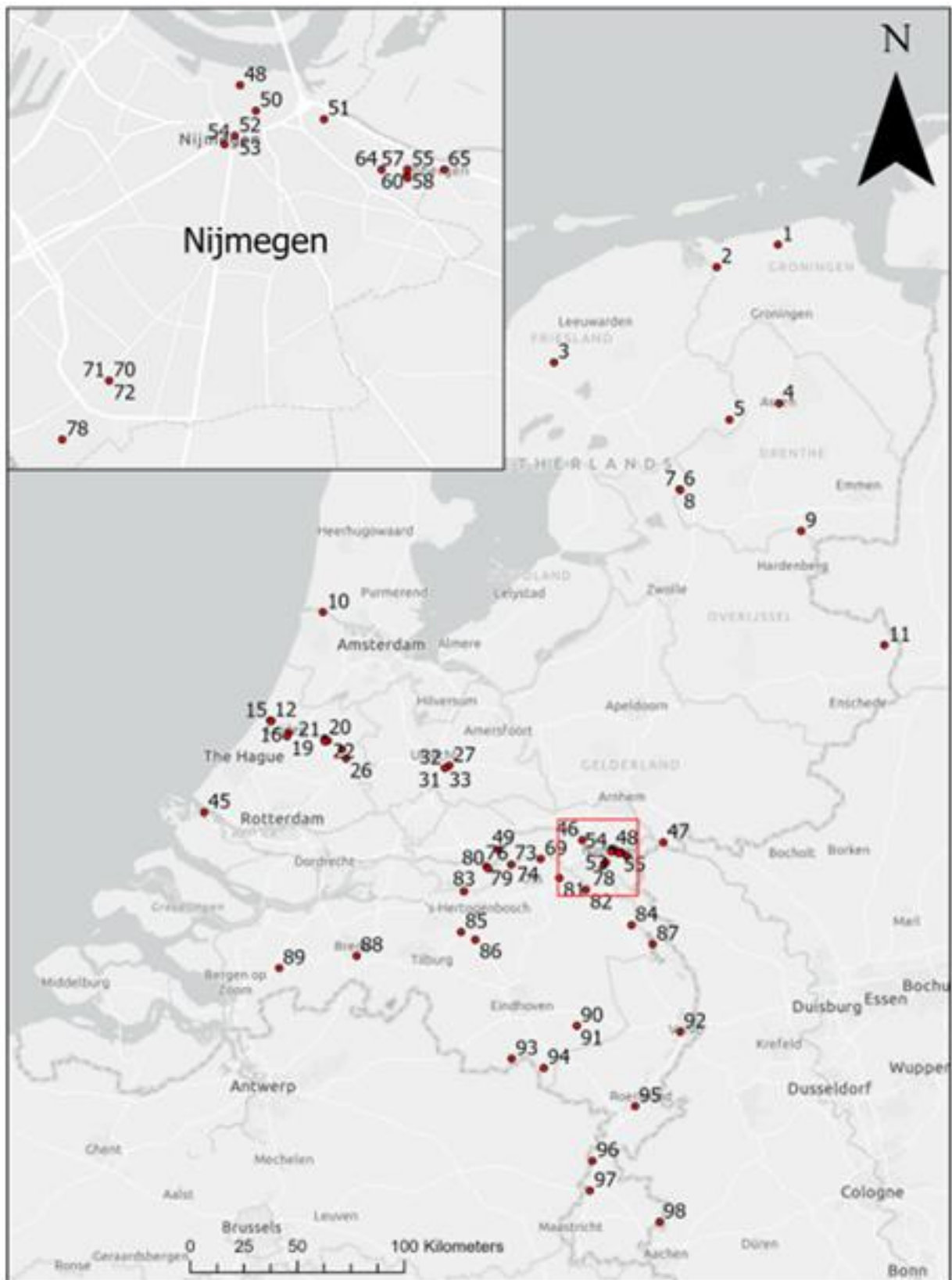
find and be fooled by. The soil will have a certain effect on the coins over the ages which is hard to produce unnaturally. The coins themselves are helpful to date other findings, assuming the coins can be read and their minting year is known. This is also something that will be evident in the first chapter.

Chapter 1: the contexts of the hoards

In this first chapter the hoards will be given both their archaeological and chronological context where possible. The metals and resulting data will be looked at in more detail in chapter two. Whilst the coin hoard list in the appendix has been sorted by CHRE number, the order the hoards in this chapter will be based on both the closing date and their findspot: where multiple hoards were found (likely) belonging in a single archaeological site, like for example at Noviomagus, all the hoards from the location will be discussed before moving on to the next hoard in the timeline. The information will mainly come from archaeological dig reports and the little information in the databases CHRE and NUMIS on how and in which context the coins were found. Ancient writers can provide context for archaeological finds and sites that are not possible to deduce from the finds alone, though in many cases archaeology can provide a lot of the context.

One of the main problems with the loss of context that will be relevant for this chapter is the categorisation of coins into military or civilian introduction. It is in many cases debatable whether a coin that arrived in the area it was found in due to a military or civilian actor, due to how the context is missing. There are multiple options. The first option, being possible when the archaeological context is a *vicus* is that the coins can be classified as military due to the *vicus* being there due to the military camp and thus the military spenders of the money nearby. The second option is also military, this time due to the coins arriving as pay for the soldiers and just being lost carelessly by them. The third option is civilian, arriving through for example a merchant who took the coins with him. The fourth option is unrelated to a *vicus*, being found outside the empire, which could be either military from an expedition or again from a merchant. The fifth option is depending on whether one sees diplomatic gift giving as a military or civilian affair. In this thesis, *aurei* found outside the empire have been classified as military when it could have been from the early Roman expeditions of Drusus, Germanicus and Tiberius or as civilian if dating from later. Whilst the Celts no longer mainly used their own coins for gift giving, administrative payments picking up in the later first century B.C. and the Gallic wars heavily impacting the precious metal supply, the limited purpose of money in the form of maintaining power structures by valuable goods exchange stayed.²² Thus giving local chieftains valuable coins to keep them pacified fits both Roman and Celtic practice. When it can be assumed that no major military movement happened on a site outside the empire where an *aureus* was found, the hoard will be classified as a diplomatic and thus civilian hoard. The *vici* hoards will be classified as military unless there is clear evidence the coins belonged to a merchant.

²² Aarts, *Coins or money*, 6-9.



Map 1: coin hoard finds in the CHRE database with a closing date in the period 50 B.C.- A.D. 68. that are within the boundaries of this thesis. Due to its location being somewhere in a province wide area, the hoard *Zuid-Holland* is not on the map. The *Nijmegen 1622* hoard is also not on the map due to no coordinates being given in the database, though the municipality is known. Naming follows the hoard names in the CHRE database.

1 Warfum, 2 Zoutkamp 1991, 3 Oosterend, 4 Assen, 5 Appelscha (Appelskea), 6 Onna 1884, 7 Onna 1884-1886, 8 Onna 1886, 9 Nieuwe Krim, 10 Velsen, 11 Denekamp, 12 Valkenburg 1987 (+13 Valkenburg 1915 & 14 Valkenburg 1916), 15 Valkenburg 1941-1943 1, 16 Valkenburg 1941-1943 2 + (17 Valkenburg 1968 & 18 Leiden Roomburg 1502 1), 19 Cronesteijn 2015, 20 Alphen aan den Rijn 2001 1 (+ 21 Alphen aan den Rijn 1996-2003), 22 Alphen aan den Rijn 2001 2 (+ 23 Alphen aan den Rijn 2001-2002 & 24 Alphen aan den Rijn 2002 & 25 Zwammerdam 1935), 26 Bodegraven, 27 Vechten 1992 (+ 28 Vechten 1800-2000 2 & 29 Vechten 1986 6), 30 Vechten 1988 1, 31 Vechten 1922-1926 (+ 32 Vechten 1833 1), 33 Vechten 1986 1 (+ 34 Vechten 1986 2 & 35 Vechten 1986 3 & 36 Vechten 1986 4 & 37 Vechten 1986 5 & 38 Vechten 1986 8 & 39 Vechten 2011 1 & 40 Vechten 1800-2000 1 & 41 Vechten 1800-2000 3 & 42 Vechten 1957 1 & 43 Vechten 1800-2000 4 & 44 Vechten 1986 7), 45 Europoort 1976, 46 Ewijk, 47 Bylandse Waard, 48 Nijmegen 1908 1 (+ 49 Ophemert 2018), 50 Nijmegen 1951, 51 Nijmegen 1957, 52 Nijmegen 1987-1997 1, 53 Nijmegen 1987-1997 2, 54 Nijmegen 1782 1, 55 Nijmegen 1992 (+ 56 Nijmegen 1991), 57 Nijmegen 1989 1, 58 Nijmegen 1989 2 (+ 59 Nijmegen 1989 4), 60 Nijmegen 1990 (+ 61 Nijmegen 1992 & 62 Nijmegen 1965 1 & 63 Nijmegen 1965 2), 64 Nijmegen 1815, 65 Ubbergen (+ 66 Nijmegen 1951 & 67 Nijmegen 1989 3 & 68 Beek 1805), 69 Megen, 70 Nijmegen 1947, 71 Nijmegen 1970, 72 Nijmegen before 1931, 73 Lith 1960 1, 74 Lith 1960 2 (+ 75 Lith 1965 1), 76 Lith 1965 2 (+ 77 Lith 1973), 78 Hatert, 79 Rossum 1835, 80 Rossum 1956-1957, 81 Herpen, 82 Escharen, 83 Maas, 84 Boxmeer, 85 Helvoirt, 86 Esch 1866, 87 Bergen 1968, 88 Ginneken, 89 Roosendaal, 90 Someren 2000, 91 Someren 2018, 92 Blerick- De Staay, 93 Borkel, 94 Budel, 95 Merum, 96 Obbicht 1854, 97 Elsloo, 98 Kerkrade.

On the map it's clear that most hoards are either directly on the Limes itself or following other rivers and Roman roads. The empty diagonal stretch from the north of Gelderland and the south of Overijssel to the IJsselmeer and continues in Noord-Holland is quite a surprise. South of the Rhine its to be expected that there are quite a few hoards, but a bit north of the river where trade with the Romans would still be easy no hoards are to be found. This could be evidence that the Romans created a no mans land between their border and peoples outside the empire. The hoards in the far north are likely from the expeditions under Drusus and Germanicus, seeing as the Romans used the North Sea to get to the Elbe easier and made several attacks inland into the territories of Germanic tribes.

According to Adrian Goldsworthy, Caesar not only referred to the people of Belgium but also parts of the Netherlands as part of the territory of the Belgae.²³ His reading of the events do not however seem to show any Roman military activity happening in the present-day Netherlands during Caesar's campaigns. Nearly all of the military action happening in the Gallic Wars which Caesar started took place in modern day France and Belgium. Depending on the exact extent of the territory of the Menapii, it can be said that Roman military activity reached the Netherlands when Germanic tribes attacked the Menapii and Caesar intervened.²⁴ Harry van Enckevort and Elly Heirbout claim that in his campaign against and subsequent extermination of the Eburones Caesar had been in the Netherlands, though they state that no evidence for this has been found.²⁵ There are two Roman coin hoards of which the dating can show that they can be from the time of Caesars campaign: the coin hoards of *Cronesteijn 2015* and *Vechten 1922-1926*. It is more likely however that these hoards are from the early imperial era. There has been some debate between various authors ever since the archaeological dig in 1946-1947 about when the Roman fort at present day Vechten was built, ranging from the expeditions of Drusus (12-9 B.C.) to those of Germanicus (14-16 A.D.).²⁶ The report states that the coins found on a similar site as where the *Onna 1884* hoard was found, at

²³ Adrian Goldsworthy, *Caesar: life of a colossus* (New Haven 2006) 238.

²⁴ Ibidem, 271.

²⁵ Harry van Enckevort and Elly N.A. Heirbout, 'Nijmegen, from Oppidum Batavorum to Ulpia Noviomagus, civitas of the Batavi: two successive civitas-capitals', *CNRS Éditions Gallia* 72:1 (2015), 285-298, there w.p.

²⁶ M.J.M. Zandstra and M. Polak, *Auxiliaria 11 De Romeinse versterkingen in Vechten Fectio het archeologisch onderzoek in 1946-1947* (Nijmegen 2012) 19.

Steenwijkerland, were most likely hidden during the time of the expeditions of Germanicus and Gnaeus Domitius Corbulo (14-47 A.D.).²⁷ The hoards *Onna 1884-1886* and *Onna 1886* are thought in CHRE to maybe be part of the *Onna 1884* hoard. Beliën takes the similarities between the *Onna 1884*, *Fyns* and *Nijmegen 1992* hoards, the similar closing dates and marks on the coins, to come to the conclusion that they are likely originating from the pay chest of the *castra* at Noviomagus.²⁸ This would make all three hoards fall into the military category. The *Zoutkamp 1991* hoard also fits the expectation of what a hoard from the time of the expeditions would consist of, as well as where it would be found. Due to being a metal detector find in a field in combination with the knowledge of there being no Roman settlements this far north and of the expeditions, it is likely the hoard is from these events. This conclusion is strengthened by a coin of Tiberius being the closing coin. Another hoard with an unclear finding method that ended up in a private collection is the hoard *Appelscha (Appelskea)*, which consists of a single aureus of Tiberius. This makes it possible that the coin was from the last campaign of Germanicus, though due to no information being available on the find spot nor the coin giving away its exact minting year, it is difficult to draw a concrete conclusion. The coin could just as well be a gift to the leadership of a Frisian tribe or from a payment to keep them on the Roman side. Plenty of other Roman coins have been found in Friesland, dating from the early imperial period to halfway the 6th century. The Frisii also paid taxes to the Romans, served in their armies and traded with them resulting in Roman coins entering Frisii territory.²⁹ Also in the far north, around two kilometres apart, the hoards *Fyns* and *Oosterend* were found. The *Fyns* hoard is thought in CHRE to have been found in a tumulus in a box that had rotten away, which would make it a grave find, hence why in the data it will not be included. However, the conclusion of Beliën mentioned before would make the *Fyns* hoard a military hoard. Details for the *Oosterend* hoard are lacking, but it could have arrived by either trade or as a gift to a local Frisian tribal chief. The same can be said about the *Warfum* hoard. Both coins being from Nero means the disclaimer at the start of the chapter will have to be invoked and the two hoards will be classified as civilian.

The coin hoard *Vechten 1800-2000 1* with its closing date of 19 B.C. is likely to have been from a similar period as the *Vechten 1922-1926* hoard, seeing as they were found at the same Roman site. Both hoards can't be from Caesarian times since the closing date of the latter is from later and the fort was built long after Caesar's time. The different versions of the fort would remain in use until at least the early third century, whilst simultaneously being the largest castellum in the Netherlands.³⁰ The total number of 18 hoards from Vechten for the period of this thesis is then not surprising.

²⁷ Ibidem, 211-212.

²⁸ Paul Beliën, 'Denarii op drift' *Westerheem AWN* 43:4 (1994) 176-180, there 177-179.

²⁹ Ronald Stenvert, Chris Kolman, Sabine Broekhoven, Saskia van Ginkel-Meester and Yme Kuiper, *Monumenten in Nederland. Fryslân* (Zwolle 2000) 14.

³⁰ Zandstra and Polak, *Auxiliaria* 11, 259-260.

Table 1: the coin hoards of Vechten up to 68 A.D. sorted by closing dates. Names of the hoards are taken from the name in the CHRE database.

Hoard	Closing date (latest)
Vechten 1922-1926	42 B.C.
Vechten 1800-2000 1	19 B.C.
Vechten 1800-2000 2	37
Vechten 1986 1	37
Vechten 1986 2	37
Vechten 2011 1	37
Vechten 1800-2000 3	54
Vechten 1800-2000 4	58
Vechten 1833 1	65
Vechten 1957 1	65
Vechten 1986 3	65
Vechten 1986 4	65
Vechten 1986 5	65
Vechten 1992	65
Vechten 1986 6	66
Vechten 1988 1	66
Vechten 1986 7	67
Vechten 1986 8	67

According to Chrystel R. Brandenburgh and Wilfried A. M. Hessing in their book about the area that is now the neighbourhood Roomburg in Leiden, the Roman general Corbulo arrived in the area in the year 47 A.D. The fort Matilo was built on his orders around the year 70 A.D. according to them.³¹ The timing seems to indicate that when he arrived there was little need for fortifications in the area, but that this changed after the Batavian revolt, possibly to secure the obedience of the local population. In the report of the *Archeologische Monumentenzorg* it is stated that the oldest ditches at the site are from after the Batavian revolt, providing further evidence that the fort isn't from caesarean times.³² This results in the conclusion that even though the closing date of the hoard *Cronesteijn 2015* can be put in the Republican period by looking at just the coins, the coins are likely left behind during or after the Batavian revolt and would thus fall outside of the time period of this thesis, but this cannot be certain, hence the inclusion. The same then goes for the *Leiden Roomburg 1502 1* hoard, though the closing date of this hoard is 65 A.D. This is a great example of one of the main problems with looking at history through the lens of coin hoards: coins can stay in circulation for a long time after being minted, which makes dating the moment of them being lost or hidden impossible without additional sources and context. Thus being selected in the original selection due to their closing date, these two hoards will be excluded when analysing the data.

In between Alphen aan den Rijn and Bodegraven a small castellum was found during archaeological digs between 1968 and 1971: *Nigrum Pullum*, built in 47 A.D.³³ The fort was burnt down during the Batavian revolt but rebuilt after and would stay occupied until around 270. Though not found in the fort itself, a connection to the fort is still very likely for the *Zwammerdam 1935* hoard, making it a military hoard. Since the closing date is within the period under consideration and the coin not having been found in the fort itself it can't be said with certainty that the coin was lost due to the revolt, though it is likely. Hence the hoard will still be included. An additional three hoards were found in the area, of which the *Zwammerdam 1986* hoard does fall into the time period, but

³¹ Chrystel R. Brandenburgh and Wilfried A. M. Hessing, *Matilo Rodenburg Roomburg de Roomburgerpolder: van Romeins castellum tot moderne woonwijk* (Leiden 2005) 11, 16-17.

³² M. Polak, J. van Doesburg and P.A.M.M. van Kempen, *Op zoek naar het castellum Matilo en het St. Margarethaklooster te Leiden-Roomburg: Het archeologisch onderzoek in 1999-2000: RAM 109* (Amersfoort 2005) 64.

³³ P.F.J. Franzen, J.K. Haalebos and E. van der Linden, *Aanvullend archeologisch onderzoek op het terrein De Hooge Burch te Zwammerdam* (Bunschoten 2001) 6.

that hoard is not included due to the lack of details. The only details the NUMIS database has are that two of the coins are Minerva-type and one of them is a Libertas-Augusti.³⁴

The first Roman structures in Oppidum Batavorum, present day Nijmegen, appear around 19 B.C. when Augustus' general Agrippa had a fortress built which could house an estimated 15.000 soldiers, though following a Roman defeat three years later it would be abandoned.³⁵ In 13 B.C. during a redeployment of the army, troops would again be stationed at the site, which resulted in the development of a Roman civitas to control the Batavians.³⁶ Oppidum Batavorum would be the centre of the Roman Netherlands for the following centuries. This is also shown by the number of hoards found there: 24 hoards out of a total of 100 hoards this thesis covers are from this location, as shown by the list below. Nijmegen has the largest concentration of hoards in the Netherlands, certainly for the early Roman period. In the database the hoard Nijmegen 1815 has at least one mistake in the little information that is provided. It's stated that the coins are from the first half of the first century A.D., but some of the coins are said to be *antoniniani*, which weren't minted until way later. Hence one of these two pieces of information has to be wrong, though it is impossible to say which one without having more information on the coins.

Table 2: the coin hoards found in and around present-day Nijmegen up to 68 A.D. sorted by closing dates. Names of the hoards are taken from the name in the CHRE database.

Hoard	Closing date (latest)
Nijmegen 1989 2	13 B.C.
Nijmegen 1989 1	10 B.C.
Nijmegen 1989 4	10 B.C.
Nijmegen 1991	6 B.C.
Nijmegen 1989 3	4
Nijmegen 1908 1	14
Nijmegen 1965 1	14
Nijmegen 1965 2	14
Nijmegen 1990	14
Nijmegen 1992 (CHRE 12612)	37
Nijmegen 1992 (CHRE 12620)	37
Nijmegen 1622	41
Nijmegen 1815	50
Nijmegen 1951 (CHRE 12621)	54
Nijmegen before 1931	54
Ubbergen	54
Hatert	65
Nijmegen 1951 (CHRE 12630)	65
Nijmegen 1957	65
Nijmegen 1987-1997 1	66
Nijmegen 1987-1997 2	66
Beek 1805	68
Nijmegen 1782 1	68
Nijmegen 1947	68

The hoard with the earliest closing date out of the 22 is the *Nijmegen 1989 2* hoard, with a closing date of 13 B.C., which coincides with the military redeployment in the same year. Two hoards are from 68 A.D., where the timespan of the thesis ends, but those are not the youngest coins found at the site. The youngest coin hoard found at Oppidum Batavorum is *Nijmegen 1948*, consisting of a single gold solidus from emperor Valentinian III, dating from between 425 to 455. This could be some supporting evidence for Roman activity in the area for long after the first century had passed.

³⁴ Numis object 1051204, <https://nnc.dnb.nl/dnb-nnc-ontsluiting-frontend/#/numis/object/1051204> (counselled 22-12-2022)

³⁵ Van Enkevort and Heirbout, 'Nijmegen, from Oppidum Batavorum to Ulpia Noviomagus', w.p.

³⁶ Ibidem.

The *Hatert* hoard was found around five kilometres from the centre of the Roman town, so it's well connected to the civic centre being in its rural hinterland. The same goes for *Beek 1805* and *Ubbergen*, also being five kilometres away. It is however remarkable that these three coin hoards in the rural area around the vicus are all aurei. Nearly all the hoards found at Nijmegen are from a military context, something that Aarts states as well.³⁷

The *Ewijk* hoard was found around nine kilometres away from Nijmegen. According to Verhelst in the publication *Plangebied keizershoeve 1 te Ewijk, gemeente Beuningen* (RAAP rapport 1689), there is evidence of habitation on the site from the Late Iron Age, through Roman times to Carolingian times, as shown by the *fibula* finds.³⁸ A luxurious villa complex was built in the area, likely between 103 and 120 following the dating of a stamp on a tile from a legion that was there in that period. The villa was abandoned in the late third century.³⁹ The coordinates of the findspot of the coins and the location of the villa are however a kilometre apart. Early Roman pottery has not been found at the villa and of the coins in the rapport only one has been identified as belonging to an emperor from the timespan of this thesis, being from Nero.⁴⁰ A conclusion subscribed to in the rapport is the conclusion from Willems (2004) that the villa likely belonged to a veteran of the Roman army.⁴¹

The hoard *Bylandse Waard* was found around 15 km from Nijmegen and is thus less likely to be directly connected to *Oppidum Batavorum*, hence why it's not in the table above. As can be seen on the map below, this lines up with where general Drusus had a dam built to contain the Rhine and to keep the troops busy.⁴² This also served to make naval movement over the Rhine easier and to prevent ships from having to go over the North Sea to go north.⁴³

³⁷ Aarts, *Coins or money*, 21.

³⁸ E.M.P. Verhelst, *Plangebied keizershoeve 1 te Ewijk, gemeente Beuningen RAAP rapport 1689* (2007) 40.

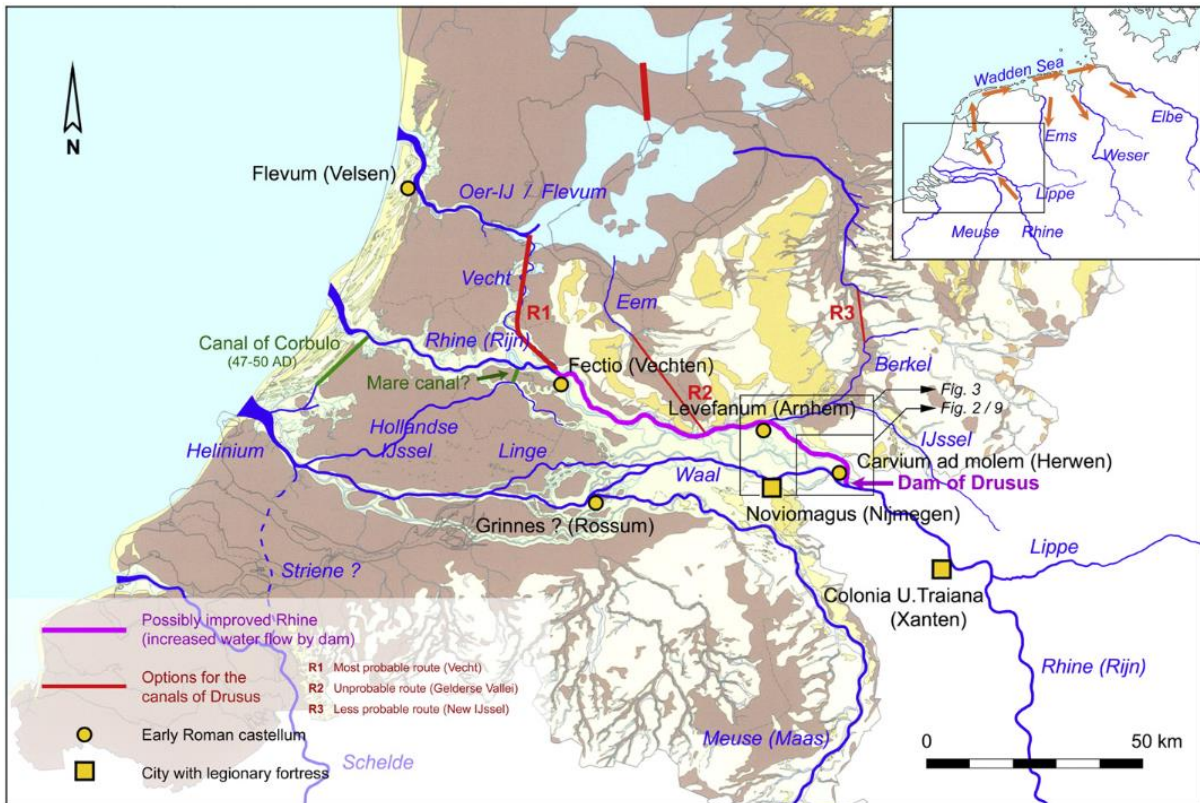
³⁹ *Ibidem*, 3.

⁴⁰ *Ibidem*, 39.

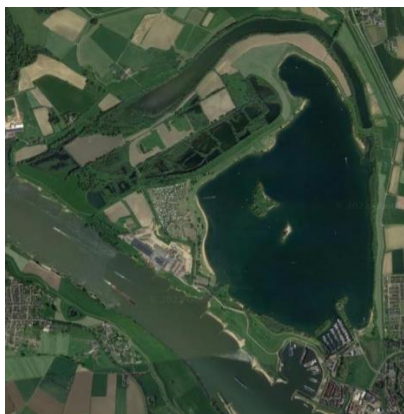
⁴¹ *Ibidem*, 35.

⁴² Tacitus, *Annales*, 13.53.

⁴³ Jan G.M. Verhagen, Sjoerd J. Kluiving, Emiel Anker, Liz van Leeuwen and Maarten A. Prins, 'Geoarchaeological prospection for Roman waterworks near the late Holocene Rhine-Waal delta bifurcation, the Netherlands', *Catena* 149:1 (2017) 460–473, 461–462.



Map 2: waterways in the present-day Netherlands in early Roman times. In the inset are the possible invasion routes of Drusus, Germanicus and Tiberius. Map from Jan G.M. Verhagen, Sjoerd J. Kluiving, Emiel Anker, Liz van Leeuwen and Maarten A. Prins, 'Geoarchaeological prospection for Roman waterworks near the late Holocene Rhine-Waal delta bifurcation, the Netherlands', *Catena* 149:1 (2017) 460-473, there 461.



In his article *Geoarchaeological prospection for Roman waterworks near the late Holocene Rhine-Waal delta bifurcation, the Netherlands* Verhagen states that at present day Herwen an Roman castellum was located, Carvium, underneath what is now the lake De Bijland.⁴⁴ Assuming the find location data in the CHRE database is correct, being marked on the western side of this lake, it can be seen as evidence supporting the theory that the coins could have come from this castellum. Additional evidence of Roman activity in this area comes from dredging which has resulted in quite a few bronze finds in the form of dishes.⁴⁵

Map 3: an aerial view of lake De Bijland from Google Maps (28-4-2023).

Originally the Romans conquered as far north as the Elbe River following the first expedition of Drusus in 12 B.C., which did not include just present-day German territory but also current Dutch land. The Batavi and Frisii were exempted from tribute in exchange for military aid. Starting from the coast of the North Sea the Romans went inland into Germany. In this phase of the expedition in 9 B.C. however Drusus fell from his horse and died shortly after. The Romans going inland during the

⁴⁴ Ibidem, 462, 472.

⁴⁵ Unknown Author, Agenda, in: A. Carmiggelt, P. Stuurman, R. van Lit en A. Numan eds., *Westerheem* 41:1 (1992) 146-148, there 147.

expedition of 12 B.C. might explain the find spot of the *Denekamp* hoard. At Denekamp during an archaeological dig remains were found of a small Germanic settlement which was inhabited from the late iron age until the third century.⁴⁶ Due to only three large scale excavations in the province out of the 50 estimated possible settlement locations there is a bias in finds towards these locations.⁴⁷ It's reasonable, due to the proximity, that the *Denekamp* hoard could be connected to the settlement. Due to the hoard being found in the 19th century accurate find spot information is lacking and three quarters of the hoard was melted down in 1870.⁴⁸ The remaining coins are for all but one from the Republican period, with the sole Augustan coin being the only coin from the imperial period. With this last coin closing the hoard at 13 B.C. the coins were minted in time to be able to be taken with the Romans on the expedition of Drusus, during which they could have passed the settlement. Verlinde states that better perspective for the coin find isn't military movement, that being unlikely due to the main routes used being more west or east, but instead money used by negotiators or merchants visiting the settlement.⁴⁹

After Varus' defeat in 9 A.D., Tiberius took over command at the Rhine front, followed by Germanicus in 13 A.D. The single *aureus* that is the hoard *Zuid-Holland* is likely from this period if the dating of 19 B.C. is correct. There is however very little information to be found about this coin, possibly as a result from being in a private collection, which is possibly the result of being found by that person. Though a NUMIS number is provided on CHRE (1051139), the coin doesn't show up in the DNB's listing of *aurei*. The location where it was found is also unknown. Due to the lack of information, this coin will not be used to draw definitive conclusions, though due to possibly being from the military campaigns it will be classified as having a military origin.

The single *aureus* of Augustus found at *Velsen* can be linked at the outpost the Romans had there during the time of Augustus. Tacitus mentions this place as a *castellum*, which was there according to him to guard the shores of the ocean.⁵⁰ The fort was built on the orders of Germanicus during his second campaign in two phases with the end result of being an heavily fortified port with a small area outside the walls.⁵¹ This outpost was a base of the *Classis Germanica*, the Roman fleet in the provinces of Germania Superior and Inferior, though it would be abandoned in 47 B.C.⁵² Though the latest closing date of the hoard is 13 B.C. it's still likely to have ended up in the ground during the time the fort was in use or abandoned, seeing as how it's within a single generation.

The first archaeological finds at Rossum were done in 1842. Though there were descriptions made of the finds, many objects, including coins, went missing.⁵³ The collecting of the finds wasn't done by professionals, so many of the finds will have to be assumed to be missing or have gone unreported due to being kept behind for private sale by the finders.⁵⁴ This includes the coin finds, of which Leemans already in 1842 states that many were lost due to carelessness. He described 233 coins, though 285 in total have been documented to have been found at the site.⁵⁵ Due to the coins not being listed as a hoard in the database and the coins ranging from Early Imperial to Late Roman periods the coins are not included here.

⁴⁶ A.D. Verlinde, *De Germaanse nederzetting te Denekamp binnen een regionaal archeologisch kader van de Romeinse tijd*, Overijsselse Historische Bijdragen 119 (2004) 61, 64.

⁴⁷ Ibidem, 83, 85.

⁴⁸ Denekamp, <https://chre.ashmus.ox.ac.uk/hoard/9870> (counselled 28-5-2023).

⁴⁹ A.D. Verlinde, *De Germaanse nederzetting te Denekamp*, 87.

⁵⁰ Tacitus, *Annales*, 4.72.

⁵¹ Arjen Bosman, 'Romeinen en velsen "...castello cui nomen flevum"', *Westerheem*, 61:6 (2012) 357-369, there 360.

⁵² Bernard van Daele, *De Romeinse marine* (Leuven 2006) 116-117.

⁵³ Jelle van Hemert, *Het rivierenknooppunt bij Rossum/Alem opnieuw bezien Rossum-Het Klooster en Alem-De Marensche Waarden in de Late IJzertijd en Romeinse tijd* (Master thesis West-European Archaeology, Vrije Universiteit, Amsterdam 2010) 4.

⁵⁴ Ibidem, 5-7.

⁵⁵ Ibidem, 15.

Information on the *Rossum 1956-1957* hoard is lacking in the CHRE database, so it can't be said whether the seven asses described by Leemans in 1842 are the asses from the *Rossum 1956-1957* hoard. Whether it is or isn't, the coins are likely originating from the same site, the Marensche Waarden.⁵⁶ Van Hemert agrees with the conclusion of Reuvens and Wilhelm that the settlement there was the *vicus* Grinnes whilst nearby Lith has to be identified as the *vicus* Vada.⁵⁷ Both were attacked during the Batavian revolt, according to Tacitus because Roman troops were based there.⁵⁸ In nearby Alem another 125 coins were found, though most of the coins found there besides the 125 have also gone undocumented and are now lost.

What is clear from the descriptions of the coins by Leemans is that the *as* denomination is very common in this archaeological site. With this the *Rossum 1956-1957* hoard fits right in. The aureus that is *Rossum 1835* does however not. It is the only aureus that came from the site following what's in the CHRE database. Two altars have been found in Alem, which could have suggested that the coin finds have could be votive in nature, was it not that the altars are from the late second or early third century.⁵⁹ 39 Celtic coins have also been found at the site.⁶⁰ Being located so close to the Waal River, the site was likely already inhabited before the Romans arrived and became part of the *limes* after. Between Holwerda and Byvanck on the side of Augustan times and Glasbergen and Haalebos on the side of Flavian times there is disagreement on when the Romans became active at the site.⁶¹ The Romans stayed until the late fourth century. Returning to the *vicus* Lith, more coins have been found there. Being only five km away, at the Lithse Ham during multiple dredging works Roman remains were found, including building materials and remains of a temple.⁶² A total of five coins hoards have been found, of which *Lith 1965 1*, *Lith 1965 2* and *Lith 1973* have been confirmed to come from dredging work, making it likely they had a similar original context. *Lith 1960 1* and *Lith 1960 2* do not list a discovery method, but it is likely to assume they also came from dredging works since they are not mentioned in archaeological dig site reports. It is suggested that the coins could be coming from the temple and would thus be votive in nature. The finding of remains of a temple and the coins being *aurei* support this argument. However, due to the exact find locations being vague and no in-depth research having been done at the site, as well as it being a location where the camps of the *auxilia* were stationed according to Tacitus, the hoards could also be military in nature.⁶³ A civilian origin is here however more likely, since the way the text is phrased seems to imply that the military camps were not part of the *vici*. Hence the choice has been made to put these hoards in the civilian category and to include them as non-votive hoards.

The aureus of Claudius of the hoard *Maas* was found at the river Maas in between Bokhoven and Hedel, just a bit less than 10 km southwest from the Rossum and Alem find spots. The chance that the river could have washed the aureus that far downstream is small. That the aureus came from a travelling merchant is more likely, especially if the river was low enough to allow a crossing. 15 km south of the alleged find spot of the *Maas* hoard is the county Haaren where the *Helvoirt* hoard consisting of a single aureus, again from Claudius, was found. Details on where exactly it was found are missing, resulting in an unknown archaeological context. Again using the disclaimer, the coins have been classified as being of civilian origin. Rivers were very important for efficient transport in the pre-industrial age. Keeping this a mind a pattern can be seen when the Maas is followed. Starting at Lith and following the Maas upstream, there is a line of coin hoards following the river. In multiple locations in Boxmeer Roman pottery has

⁵⁶ Ibidem, 54.

⁵⁷ Ibidem, 57.

⁵⁸ Tacitus, *Historiae* 5.20.

⁵⁹ Van Hemert, *Het rivierenknooppunt bij Rossum*, 39.

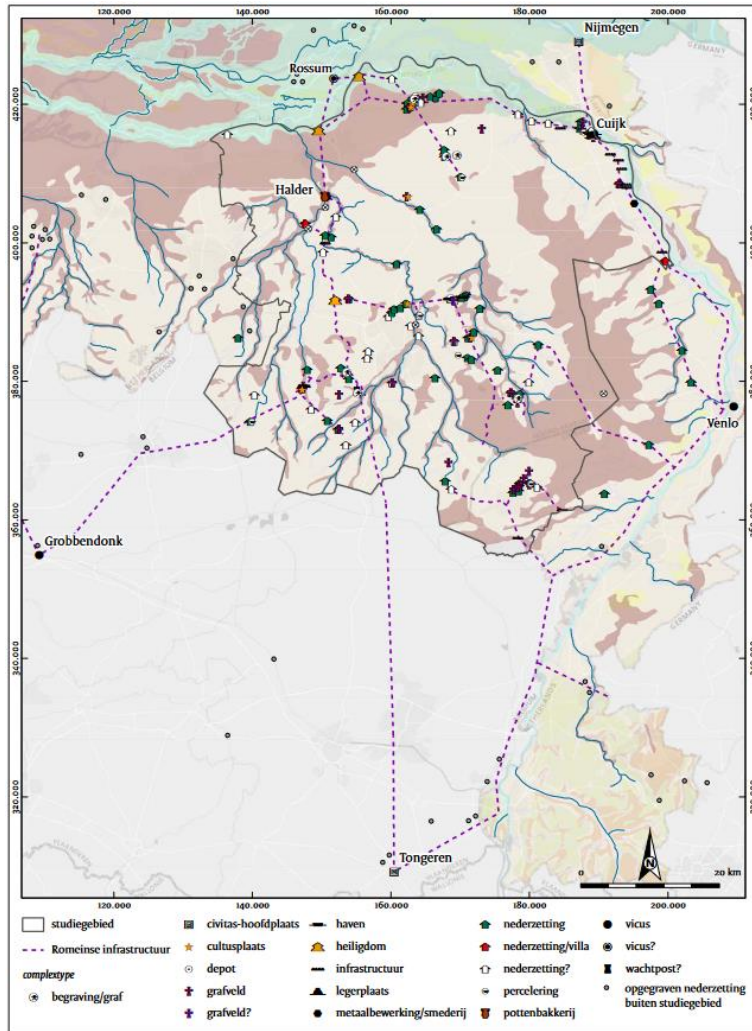
⁶⁰ Ibidem, 44-45.

⁶¹ Ibidem, 51-52.

⁶² J. Huizer and N.F. Mulder, *De archeologische verwachtings- en beleidsadvieskaart voor de gemeente Lith*, (Lith 2011) 29-31.

⁶³ Tacitus, *Historiae*, 5.20.

been found, which are connected to the Roman road than ran through the present-day town.⁶⁴ The road seemingly followed the river. Possible explanations for the *Boxmeer* hoard are that the coin was lost whilst travelling on the road or that the coin was buried before going to sleep to prevent theft. The theory of it being lost is unlikely due to the value which would make the owner careful with it. The theory of being buried before going to sleep is unlikely due to the castellum at Cuijk being just 10 km or two hours walking away, making Boxmeer quite close.



Map 4: Roman archaeological find spots and infrastructure, from R. Berkvens, 'Romeinse overheersing Locatiekeuze en bewoningsdynamiek in de Romeinse tijd in oostelijk Noord-Brabant' in: E.A.G. Ball and R. Jansen eds., *Drieduizend jaar Bewoningsgeschiedenis van oostelijk Noord-Brabant Synthetiserend onderzoek naar locatiekeuze en bewoningsdynamiek tussen 1500 v.Chr. en 1500 n.Chr. op basis van archeologisch onderzoek in het Malta-tijdperk deel 1* (Amersfoort 2018) 404.

The hoards following the river are *Megen*, *Herpen*, *Escharen*, *Boxmeer*, *Bergen 1968*, *Blerick-De Staay*, *Merum*, *Obbicht 1854* and *Elsloo*. The first remarkable thing is that following the Maas downstream from where it enters the Netherlands, one has to go as far as to Rossum before finding the first hoard that isn't an aureus. The *Rossum 1956-1957* hoard is the only hoard that's nearby that

⁶⁴ H.M. van der Velde L. van Beurden and J. Buurman, *Archeologisch onderzoek in de Maasbroeksche Blokken te Boxmeer: RAM 64* (Amersfoort 1998), 24, 61; M.C.M. Langeveld, J. P. Flamman and R.M. Jayasena, *Begraven Beugen. Inventariserend veldonderzoek op het toekomstig bedrijvenpark Beugen-zuid, gemeente Boxmeer: AAC 8* (Boxmeer 2003) 35-36; E.M. ter Broeke, *Eindrapportage archeologisch vooronderzoek (5248.001) Hoek Koorstraat en Wilhelmina Passage te Boxmeer* (2017), 16.

consist of a different denomination, being all bronze. If one takes the view that find is connected to the river Waal, only gold coins have been found at the Maas for the period of the thesis. The hoards listed seem to follow the map above.

The castellum at Valkenburg in Zuid-Holland is one of the most researched and best documented Roman sites in the Netherlands. Built around 39 to 40 A.D., the castellum was targeted and destroyed by the Batavian revolt.⁶⁵ It was a purely military location until the end of the first century.⁶⁶ This makes the six hoards (*Valkenburg 1915*, *Valkenburg 1916*, *Valkenburg 1941-1943 1*, *Valkenburg 1941-1943 2*, *Valkenburg 1968* and *Valkenburg 1987*) from the timespan of the thesis military hoards. In an interview Wouter Vos states that there had been a fortified camp with a harbour, large enough for a legion, at Valkenburg which the Romans themselves had dismantled, which has led to a couple scenarios ranging from being from Caligula's attempted military campaign in the region to the expedition of general Gabinius in 41 A.D. to Germania to the invasion of Britain under Claudius in 43 A.D. to Corbulo's expedition against the Frisians in 47 A.D.⁶⁷ The *Valkenburg 1916*, *Valkenburg 1941-1943 2* and *Valkenburg 1987* hoards could have originated at this camp. It is mentioned however in the article *De castra van Valkenburg (Zuid-Holland) Een onverwacht legioenskamp uit de vroeg-Romeinse tijd* that a small hoard of Tiberius was found in the courtyard of the castra.⁶⁸ This is very likely the *Valkenburg 1941-1943 2* hoard, so that one can with some certainty be moved to being from there. The other hoards however likely originate from the fort being destroyed during the Batavian Revolt, though this cannot be guaranteed due to the camp also being located at Valkenburg, hence the hoards are included in the data.

At Bodegraven remains of a Roman fort were found during an archaeological dig in 1995.⁶⁹ Treasure diggers had unfortunately quite some time after this dig to plunder the area of finds and dug deep pits destroying traces in the ground. In the publication *Romeins Bodegraven een overzicht van en visie op de archeologische bewoningsresten* the *aureus* that is the *Bodegraven* hoard is mentioned, but no more details than the limited few available in the CHRE come to light. At least one more coin has been found, a *sestertius* of Traianus, shown below.⁷⁰ The lack of coin finds is interesting, seeing as how methodical the dig of much of the fort has been. That the *aureus* was found by an amateur with a metal detector can lead to the conclusion that the remaining coins at the site have either not yet been discovered or been stolen from the site by treasure diggers. This explanation is however unlikely, since a decent size fort would lead to more coins than the two found, even if treasure diggers have been present.



⁶⁵ Wouter Vos, Ester van der Linden and Boudewijn Voormolen, *Romeinen op de Woerd reconstructie van een woonwijk op grond van een vergeten opgraving in Valkenburg (ZH)* (Waddinxveen 2012) 16.

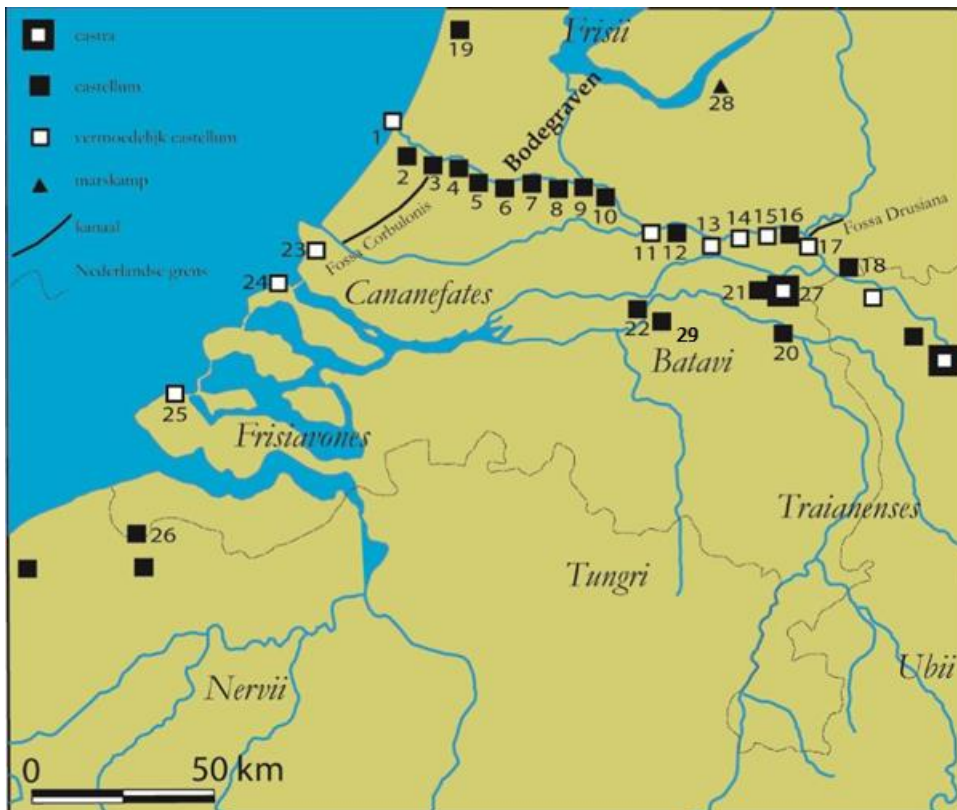
⁶⁶ Ibidem.

⁶⁷ Leendert van der Ent, *Archeoloog Wouter Vos plaatst legioenskamp in context*, 1, 5-7, 10 <https://www.rijnlandgeschiedenis.nl/documenten/valkenburg-vereniging-oud-valkenburg/archeoloog-wouter-vos-plaatst-legioenskamp-in-context.pdf> (counselled 28-5-2023); Wouter Vos, Edwin Blom, Brecht Cornelisse, Lourens van der Feijst, Jeroen Loopik and Adrie Tol 'De castra van Valkenburg (Zuid-Holland) Een onverwacht legioenskamp uit de vroeg-Romeinse tijd', *Archeologie in Nederland* 4 (2020) 2-11, there 10.

⁶⁸ Vos a.o., *De castra van Valkenburg*, 9.

⁶⁹ Wouter Vos, Joris Lanzing and Hans Siemons, *Romeins Bodegraven een overzicht van en visie op de archeologische bewoningsresten* (2016), 15.

⁷⁰ Ibidem, 79.



Map 5: the *limes* in the middle of the first century A.D. Vada has been added to the original map. 1 Katwijk-Brittenburg (Lugdunum Batavorum), 2 Valkenburg (Praetorium Agrippinae), 3 Leiden-Roomburg (Matilo), 4 Alphen aan den Rijn (Albaniana), 5 Zwammerdam (Nigrum Pullum), 6 Bodegraven (?), 7 Woerden (Laurium), 8 Vleuten-De Meern (Fletione?), 9 Utrecht (Traiectum), 10 Vechten (Fectio), 11 Wijk bij Duurstede/Rijswijk (Levefanum), 12 Maurik (Mannaricium), 13 Kesteren (Carvo), 14 Randwijk (?), 15 Driel (?), 16 Arnhem-Meinerswijk (Castrum Herculis), 17 Duiven-Loowaard (?), Herwen-De Bijland (Carvium), 19 Velsen (Flevum), 20 Cuijk (Ceuculum), 21 Nijmegen (Ulpia Noviomagus/Oppidum Batavorum), 22 Rossum (Grinnes), 23 Oostvoorne (Helinio?), 24 Goedereede-Oude Wereld (?), 25 Walcheren-De Roopot (?), 26 Aardenburg (?), 27 Nijmegen-Hunerberg/Kops Plateau (?), 28 Ermelo (?), 29 Lith (Vada). Edited from the original map from Wouter Vos, Joris Lanzing and Hans Siemons, *Romeins Bodegraven een overzicht van en visie op de archeologische bewoningsresten* (2016), 37.

The archaeological context of the *Someren 2000* and *Someren 2018* hoards are difficult to come by, due to being chance metal detector finds. On CHRE on the page of the *Someren 2000* hoard as the site comment in the archaeological context the find is connected to belonging to the riverside of the Aa and therefore possibly being a votive hoard.⁷¹ This is however not included in the page of the *Someren 2018* hoard nor that of the *Someren 1936* hoard which consisted of 42 bronze coins from Augustus until Traianus. Being only high silver content coins that are not mixed with bronzes brings doubt to whether the three hoards are votive. For example, with the votive hoard found at a river crossing near Berlicum, there was a mix of silver and bronze coins. For a riverside hoard, the numbers are very low and timespan very short. Due to insufficient evidence that the *Someren* hoards are votive they will be included.

⁷¹ Someren 2000, <https://chre.ashmus.ox.ac.uk/hoard/10013> (counselled 29-5-2022).

The hoard *Nieuwe Krim* was found in 1926 during peat cutting. A lacking description of five coins has been made.⁷² The result is that only the two coins of Q. Crepereius Rocus have been fully determined, three coins have had their authority described and the rest of the information and seemingly the rest of the coins are missing.

The *Assen* hoard is severely lacking in information. Looking at where it was found it's far from the major waterways and thus the major trade routes. Being an aureus of Nero, it's also far too late to be from the expeditions of Germanicus. A gift, bribe or trade seem to be the most likely reasons for why the coin was found here, making it a civilian hoard.

Construction on Castellum Albaniana started in 41 A.D. and continued into 42.⁷³ During the Batavian revolt, the camp was attacked and destroyed, but it would be rebuilt afterwards.⁷⁴ Though unclear, it's believed that the fort was abandoned around 270-275, though in the dig site rapport it's suggested that the demolishing of the fort could have happened as late as the 9th century.⁷⁵ A total of 742 coins have been found during the archaeological digs at the site and *Alphen aan den Rijn 2001-2002*, *Alphen aan den Rijn 2001 1* and *Alphen aan den Rijn 2001 2* have in their CHRE description that they have been found at these digs, which leaves 713 of these 742 coins that have not been added to the CHRE database. The hoards *Alphen aan den Rijn 1996-2003* and *Alphen aan den Rijn 2002* have been found by private metal detector use, but seeing as they were found within the city where the fort was, they can be linked to it.

In Roman times, the southwest Dutch coast looked quite different than it does today. The mouth of the river Maas, the *Helinium*, was the closest place to the location of the *Europoort 1976* hoard that would have seen Roman activity, due to forming an intersection of the trade routes to Britannica.⁷⁶ The aureus of Tiberius could have been on a Roman trading ship before being lost. Due to the erosion of the coast, the coastline of Roman times is now submerged beneath the North Sea. This means that more hoards could have been created beyond the current coastline, though finding them is going to be difficult.

At Esch-Hoogkeiteren and Esch-Kollenberg, several *tumuli*, Roman burial mounds were found.⁷⁷ The graves are assumed to have been of rich villa owners living nearby.⁷⁸ The produce of these villas could have been sold to the Roman garrisons at the Limes. The proximity of the villa's makes it likely the aureus of the *Esch 1866* hoard is from the villa, but no exact find spot information is available. Due to the possibility of being from the villa and it not being sure whether it could have come from a tumulus, the hoard will be included in the data.

Around five kilometres northeast of Borkel lay the remains of a Roman graveyard, linked to a Roman settlement north of it.⁷⁹ Due to the exact find spot and method of the *Borkel* hoard being unknown, it is unclear whether the coin could originate from a grave. If it has come from a grave, it would fall outside of the specifications of the selection made for this thesis, but thus far there has not been enough information to prove the coin originates from the graveyard instead of the settlement, hence why it is included.

⁷² Jan Pelsdonk, 'Muntslag en muntgebruik in Nederland in de pre- en protohistorie. Beeldvorming op basis van geregistreerde munten van vóór onze jaartelling in de vondstdatabase NUMIS', *Jaarboek voor Munt- en Penningkunde* 100 (2013) 1-51, there 33.

⁷³ M. Polak, R.P.J. Kloosterman and R.A.J. Niemeijer, *Alphen aan den Rijn - Albaniana 2001-2002*, (Nijmegen 2004), 123.

⁷⁴ Ibidem, 123-124.

⁷⁵ Ibidem, 127.

⁷⁶ L.P. Louwe Kooijmans, 'Oudheidkundige boomkorvisserij op de Oosterschelde', *Westerheem* 20 (1971) 151-188, there 182.

⁷⁷ Harry van Enckevort, Tessa de Groot, Henk Hiddink and Wouter Vos, *De Romeinse tijd in het midden-Nederlandse rivierengebied en het Zuid-Nederlands dekzand en lössgebied* (2005), 3.

⁷⁸ Martijn Bink, *De Romeinse tijd op de zandgronden van Noord-Brabant 1975-2011, Halder, hart van Romeins Brabant? 50 jaar archeologie in Halder*, (2012) 7.

⁷⁹ M.P.F. Verhoeven, *Plangebied begraafplaats Eikenhof te Valkenswaard, gemeente Valkenswaard: archeologisch vooronderzoek: een bureau- en inventariserend veldonderzoek* (Amsterdam 2008), 7-8.

Information about the *Budel* hoard is difficult to come by, but it originates from an excavation before some road works at Cranendonck in 1935. Looking at the map earlier in the chapter, it shows a settlement at where Budel now is, with a Roman graveyard just north of the present-day town. This makes this a situation similar to the *Borkel* hoard.

The hoard at *Kerkrade* is on CHRE linked to the nearby villa at Kaalheide. The villa here was originally built in the early first century and replaced by a larger stone villa in the second century.⁸⁰ Though found recently in 2011, there is no information available on how it was found, though metal detecting would be a decent guess.

The main hoards that are lacking in details or context are *Gelderland*, *Merum*, *Elsloo*, *Ginneken*, *Roosendaal* and *Assen*. This makes these hoards harder to use, but they can still provide some information.

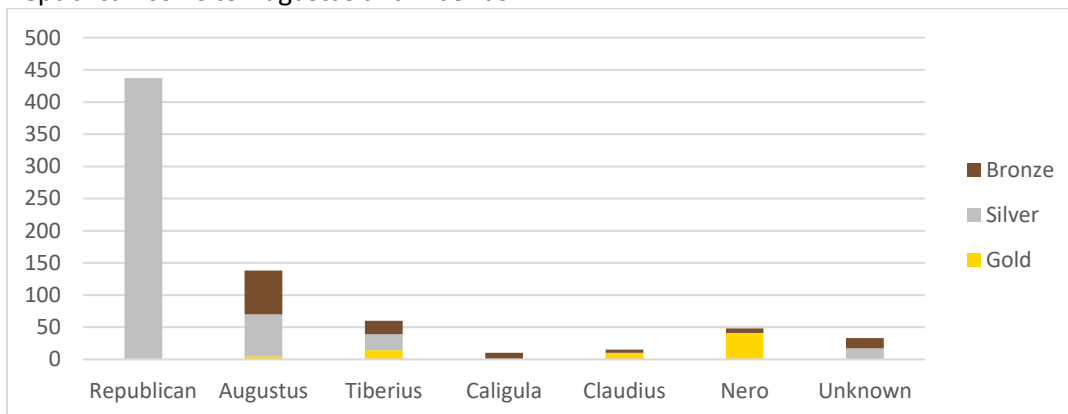
It seems clear that there is a wide variation in the quality of information available for the context of the hoards under consideration. It is not a surprise that many of the hoards are near Roman settlements or forts, with a clear concentration around Nijmegen. Hoards also follow the rivers and infrastructure. A clear problem thus far seems to be that with some hoards establishing whether a hoard was a result of the Batavian result, thus whether it falls outside the set boundaries of this thesis, is hard or impossible. In these cases, the choice has been made to include them.

⁸⁰ J.F. van Agt, *De monumenten van geschiedenis en kunst in Zuid-Limburg I* (1962), 16.

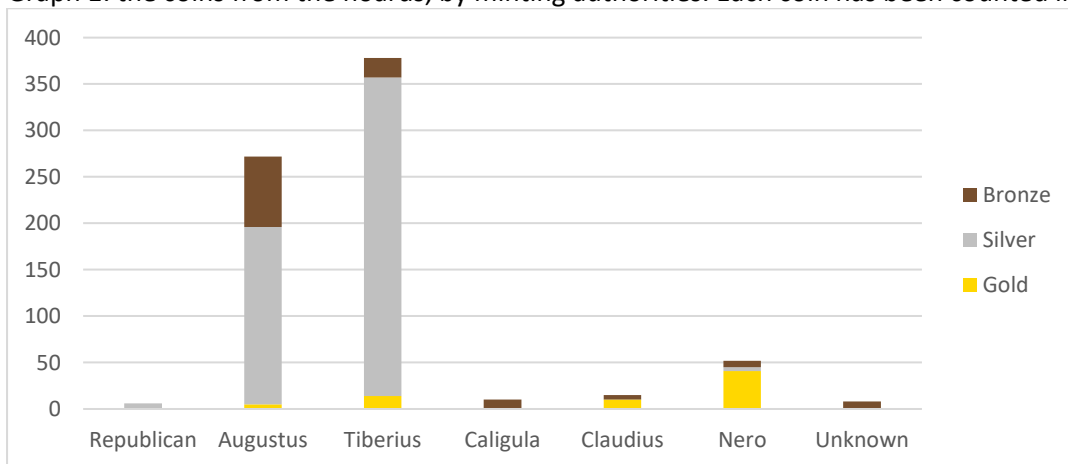
Chapter 2: the data from the hoards

In this chapter the metal composition, authority and locations of the coins will be looked at to gain an insight in the chronology of when the hoards were deposited and what that means for the understanding of how Roman coins entered society in the present-day Netherlands. For this, a distinction between military and civilian context will also be made where possible. To keep the graphs consistent, the chronology will be shown not in years or exact closing dates but with the emperor's individual reigns. The colouring will also be kept consistent, with each coin represented by its closest colour. The coins that were in a hoard of just Republican coins have been marked with Republican instead of with individual minter authorities. The coins that proved impossible to date have been grouped under the category unknown. Due to the extremely low amount of copper coinage, as well as the old tendency to group them together, the copper coinage will be grouped into the bronze coin category.

A quick first glance at the coin hoards available presents two problems, shown by the graphs below. The first problem shown by graph one is that the number of silver coins in the Republican category is overrepresented due to the size of the hoards *Bylandse Waard*, *Nijmegen 1989 2*, *Nijmegen 1989 3* and *1992, Lith, Denekamp* and *Onna* hoards. These hoards all consist of mostly Republican coins. This makes the graph show a large influx under in the Republican era, which is impossible so instead they have to be from Augustus. The number of coins quickly decreases, only to have another increase in the number of coins in hoards under Claudius and then another increase under Nero. Changing the presentation of the dataset so that all coins are marked as being from the emperor that provides the closing date of the hoard instead of the minting authority can show a more accurate view. This has been done in graph two. This approach moves nearly all of the Republican coins to Augustus and Tiberius.



Graph 1: the coins from the hoards, by minting authorities. Each coin has been counted individually.



Graph 2: the coins from the hoards, categorized to the closing coin's issuing date TPQ. Each coin has been counted individually.

What can explain the disproportionate amount of Republican silver? Of all the Republican coinage under consideration only a single coin, the *aureus* of Gaius Cassius Longinus of the *Vechten 1922-1926* hoard, minted during the Roman Civil War of 43-42 B.C., is not either a *denarius* or *denarius serratus*. Woytek states that between 78-49 B.C. the Roman state only minted *denarii*, followed by the Caesarians minting *quinarii* and *sestertii*. Caesar reinitiated the of minting *aurei* and started the minting of brass coins, the *dupondii*.⁸¹ Woytek also states that after 140 B.C. the minting of bronze coins only happened in low quantities at the same time as military pay was switched from bronze to silver.⁸² These factors, in addition to the military expeditions of Drusus, Germanicus and Tiberius and the start of the construction of military sites point to Republican *denarii* being widely available in the early first century, certainly in comparison to other denominations. The number of coins per emperor is mainly skewed towards Augustus and Tiberius due to the size of the hoards containing Republican *denarii*, as stated before.

An unexpected detail that comes out of graph two is the lack of a peak for Claudian coinage. The Claudian hoards lacking bronze coins does however fit with the observation of David Wigg-Wolf that the army brought barely any bronze coins along and that only under Nero the supply of bronzes increased.⁸³ Whilst under Claudius the lack of a significant increase is noteworthy, the lack of Caligula's coinage is not. No major military campaign happened in the region during his reign and after his death and the subsequent *damnatio memoriae* much of his coinage was melted down and made into new coins. It cannot be excluded that the strange story of Caligula claiming a victory on the sea itself and ordering his troops to collect shells as told by Cassius Dio happened near Katwijk.⁸⁴ In the first chapter a couple possible expeditions suggested by Vos have been mentioned as the possible reason as to why a temporary camp was built at Valkenburg. A different reason provided by Kemmers is also possible: she argues that coin production wasn't continuously and when the authorities either didn't see the need or didn't care new coins wouldn't be provided to a region.⁸⁵ The lack in hoards under these emperors seems to make this explanation likely. The peak under Nero likely has to do with the dating of the hoards: the Batavian revolt would have been the direct cause of the creation of many hoards, yet far from all of these can be precisely dated. Most coins of Nero under consideration being gold is a surprising factor. The lack of an influx of silver seems to continue under Nero but either diplomacy, the army or trade brought in significantly more gold coinage. This will be expanded on later.

Something that does seem to become clear is that most coins found in hoards have a military context. Even if the large silver hoards are left out sites with a military context still provides a lot more coins than civilian sites, as shown by graph three below. The most surprising observation is however that there are no silver coins at all in the civilian hoards. Though the uncertain category has quite a few silver coins, it still shows that silver coinage likely wasn't coming in through civilian sectors, such as the selling of food and crafts by short- and long-distance trade. That bronze in the civilian sites arrives in just Augustan times is also noteworthy. The gold coins seem to slowly arrive with a large increase under Nero.

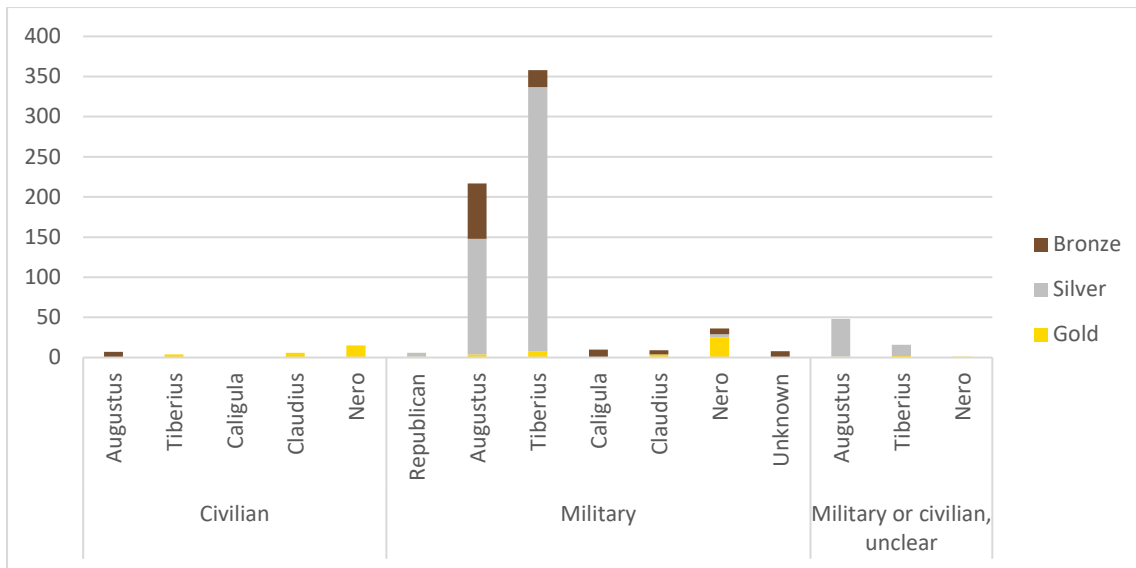
⁸¹ Bernhard E. Woytek, 'The denarius coinage of the Roman Republic' in: William E. Metcalf ed., *Oxford handbook of Greek and Roman coinage* (Oxford 2012) 315-334, there 322-323.

⁸² *Ibidem*, 331.

⁸³ David Wigg-Wolf, 'Coinage and money in the Roman Rhineland' in: Simon James and Stefan Krmnicsek eds., *The Oxford Handbook of the Archaeology of Roman Germany* 219-252, there 228.

⁸⁴ Vos a.o., *De castra van Valkenburg*, 3.

⁸⁵ Kemmers, 'Not at random' 39-40, 42.

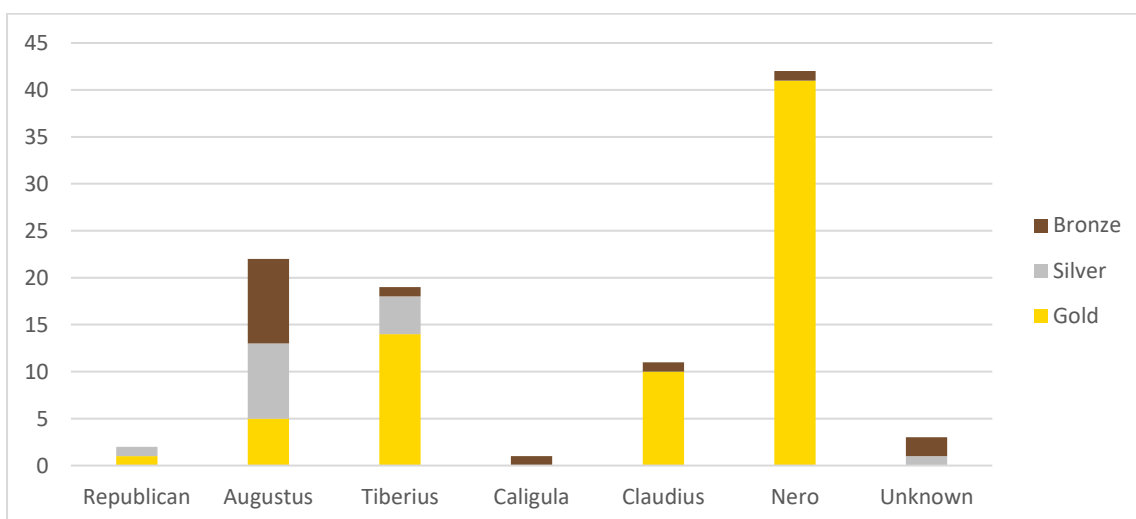


Graph 3: the hoards sorted by context, listed per closing coin's imperial authority. Each coin has been counted individually.

Perhaps a different approach will provide a clearer picture. Assigning each hoard as being a single metal to look at changes in metal introduction over time without having a distorted picture due to the sizes of individual hoards comes with an obvious problem: not every hoard consists of the same metal coins. In this case the five hoards *Nijmegen 1965 1*, *Nijmegen 1987-1997 2*, *Nijmegen 1989 1*, *Rossum 1956-1957* and *Zoutkamp 1991* are of mixed content. These hoards will not be included in graph four, but the table below will list their composition.

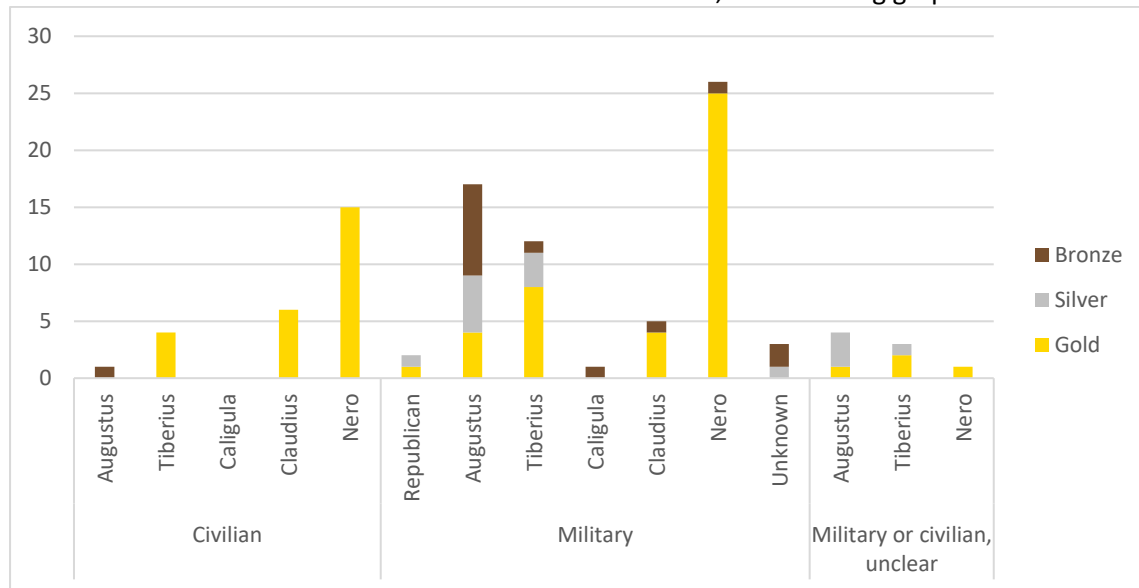
Table 3: hoard composition of mixed metal hoards.

Hoard	Composition	Authority closing coin
Nijmegen 1965 1	4 <i>sestertii</i> (copper), 5 <i>as</i> (bronze)	Augustus
Nijmegen 1989 1	1 <i>denarius</i> (silver), 9 <i>as</i> (bronze), 1 unknown	Augustus
Rossum 1956-1957	6 brass or copper, 1 <i>as</i> (bronze)	Augustus
Zoutkamp 1991	23 <i>denarii</i> (silver), 2 <i>as</i> (bronze)	Augustus
Nijmegen 1987-1997 2	1 <i>aureus</i> (gold) 4 <i>denarii</i> (silver)	Nero



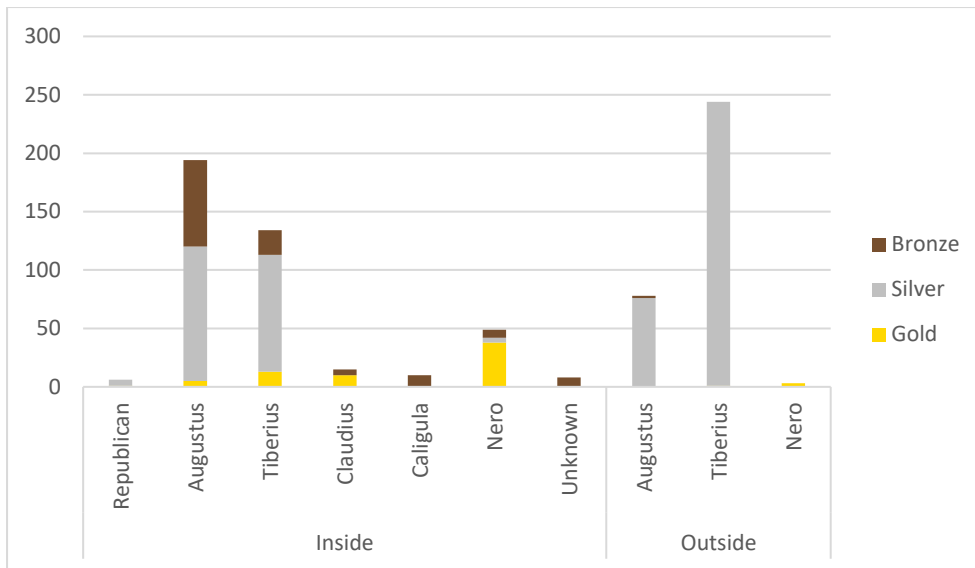
Graph 4: overview of metal content, each hoard counted as one, excluding hoards with a mixed content in table 3.

If the find location's context is then also taken into account, the following graph is the result:

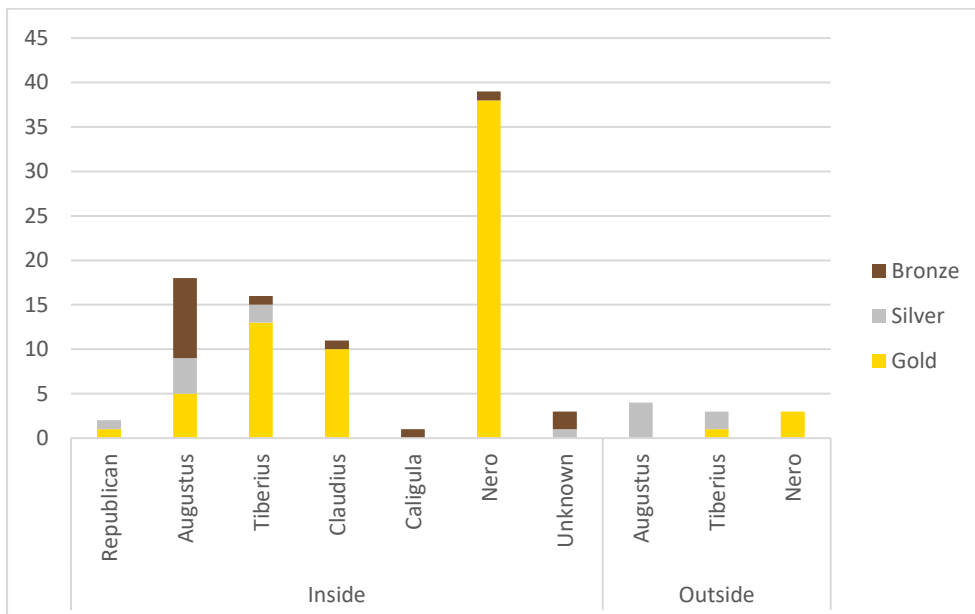


Graph 5: overview of metal content, each hoard counted as one, excluding the hoards with a mixed content in table 3, per archaeological context.

Looking at denominations, a couple observations can be made. The first observation is that of the 100 hoards in consideration, most are consisting of a single aureus. There is some bias here in the latter two graphs since single bronze and silver coin finds are not considered hoards, whilst single gold finds are. The second observation is that the number of civilian hoards increases over time, apart from there being no civilian hoards under Caligula. Though the earlier mentioned *damnatio memoriae* will have resulted in a lot of his coinage disappearing, it is extremely unlikely all of it was melted down. As the third observation, the number of military hoards decreases over time only to rise under Claudius and then spike under Nero. This increase can be attributed to the Batavian revolt significantly increasing military activity in the area, both in terms of active military units as well as an increased enlistment, whilst simultaneously yet again showing the problems working with coin hoards comes with. With military activity being at its peak during the reigns of Augustus and Tiberius the expected peak in hoards is visible. However, the expected peak for Claudian hoards drops below what would be expected if at least a significant part of his invasion set off from Dutch soil. Though an increase in hoards shows up, it stays far below the number of hoards under Augustus and Tiberius. This difference can be explained by the invasions of Augustus and Tiberius being based in Germania Inferior, whilst the main bases for the invasion of Britain were in Gaul and Gallica Belgica. The lack of hoards under Caligula has previously been explained.



Graph 6: distribution of metals/emperors of hoards inside and outside the empire. Closing date TPQ sorted by emperor. Each coin has been counted individually.



Graph 7: distribution of metals/emperors of hoards inside and outside the empire. Each hoard has been counted as one.

The main observation of graphs six and seven is that under only three emperors coins have been found outside the empire and that these are all either silver or gold denominations. The peaks outside the empire of Augustus and Tiberius are easy to explain as the results of the coins taken along by the military during the expeditions to conquer the Germanic territory up to the Elbe. The easiest explanation for the *aurei* of Nero would be the Batavian revolt since there was no significant military activity besides it in the area around 68 A.D. and if they would have ended up in the ground as a result of trade or travel there would be *aurei* of Claudius and Caligula as well. However, Benjamin Hellings provides a different answer: he suggests that the production of new *aurei* was considerable under Nero after 64 A.D., being almost 20% of all hoarded *aurei* that are known in Northwest Europe for the period 54-69 A.D., as well as showing that Nero's *aurei* would remain in

circulation until the early third century.⁸⁶ This would be in line with the data: whilst the percentage of Nero's *aurei* is higher at ~46% of all *aurei* under consideration, the large number of them does indicate a ready supply and the geographical spread seems to indicate a decent amount of circulation. The argument of Hellings also provides a factor that could be a potential problem: if so many *aurei* stayed in circulation for so long, how many of the single *aurei* hoards were really from the period up to 68 A.D.? This is a question that can't be answered with certainty but is something to keep in mind.

An important question remains thus far unanswered: how complete and thus accurate is the presented data? In his paper *Coin hoards in the Roman Empire: a long-range perspective. Some preliminary observations* Roger Bland shows that in terms of hoards per km² the Netherlands comes up in 6th place. This number however has to be placed into context: only the part of Netherlands that was within the empire has been taken into account and single gold coins have also been excluded.⁸⁷ Looking at the map above, the issue becomes clear: whilst inside the empire the density is high, the density outside the empire is very low. In addition to this, more than two-thirds of the hoards under consideration are single gold finds. This paints quite the different picture, especially since the 139 hoards listed in the article are for the hoards in total, not just the first century A.D., so timewise the paper is different to this thesis. No source is perfect, though what becomes clear is that depending on the selection of time and hoards taken under consideration results will vary widely.

⁸⁶ Benjamin D.R. Hellings, 'Coin supply and longevity of circulation: three case studies from hoards in North-west Europe' in: Jerome Meirat, Andrew Wilson and Christopher Howgego, *Coin hoards and hoarding in the Roman world* (Oxford 2022) 282-293, there 283-285.

⁸⁷ Roger Bland, 'Coin hoards in the Roman Empire: a long-range perspective', *Journal of Ancient History and archaeology* 7:1 (2020) 119-132, there 120-121.

Chapter 3: the integration of the Roman coinage

Whilst the hoards under consideration have been given their context in the first chapter and in the second chapter the data has been analysed chronologically per material and composition, this third chapter will try to explain the findings. Due to the large disparity in the expected bronze coinage and the actual numbers, the bronze coinage will be discussed first. This is mainly due to Aarts finding a lot more bronze to work with. Silver coinage will be discussed next and then finally gold.

According to J.H.F. Bloemers the local Germanic tribes living in what is now the Netherlands had a subsistence economy with little surplus, resulting from limited political and economic specialisation.⁸⁸ The Roman economy was a lot more sophisticated and had more different kinds of resources. This imbalance has the result that the local tribes had little to offer the Romans in trade that the Romans didn't already have, but the Romans had a lot of goods to offer the locals. The local's main contribution to the empire was in the form of manpower for the army instead of taxes. Whilst not in coinage this could still be seen as a form of paying tribute. The Batavians for example were exempt from monetary tribute in exchange for providing a high level of recruitment.⁸⁹ Bloemers further states that due to the combination of a too small economic surplus and limited administrative infrastructure in this early period economic integration of the (Batavian) area was very restricted.⁹⁰ This implies that not only did the tribal economies produce little more than subsistence amounts, they also did not have the state infrastructure to collect the revenue. What then happened to the soldiers pay? The Batavians in the Roman army were paid in Roman coinage, not Celtic. Having money is useless when it can't be spent and if the denominations the pay consists off is too large, small quantity or low value goods can't be bought from the locals with these coins. Seeing how it costed the state resources to produce coins, the state has an incentive to produce as high denomination coins as possible due to efficiency of production, but at the same time in order for an economy to function lower denominations are also required. This can be seen in the lack of bronze minting for years under certain emperors including all but Tiberius and Caligula for the emperors in the time period of this thesis.⁹¹ In *The Oxford Handbook of the Archaeology of Roman Germany* Wigg-Wolf states that there was a huge influx of Roman coinage in the period of the Roman attempts to conquer past the Rhine, with a rapid turnover in bronzes. He's also stating that a significant part of the pay of the soldiers had to be in bronze.⁹² It is clear from Roymans that before the Romans arrived the locals already used coins, seeing as how the Batavian territory had the highest usage in the present day Netherlands.⁹³ It has to be kept in mind that the Celtic coin use before the Roman arrival was more limited, both in scope and in which part of society it was used.

In his article "*The bronze enigma: soldier's pay and civilians' taxes in the Northwestern Roman Empire ad 69-197*" Antony Kropff starts in the year 69 since "*by then the rapid turnover of consecutive emissions of bronze coins in military camps had given way to a gradual increase of the share of old, recycled coins in the coin ensemble of new military sites*", taking his information from Kemmers 2009a.⁹⁴ Though the period in his consideration is after the time period of this thesis, this quote applies to the time period of this thesis as well. Looking at the data provided earlier, a problem appears: where are these bronze coins in the hoards? Of all the coins in consideration in

⁸⁸ J.H.F. Bloemers, 'Lower Germany: plura consilio quam vi proto-urban settlement developments and the integration of native society' in: T.F.C. Blagg and Martin Millet eds., *The early Roman empire in the west* (Oxbow 2016) 72-86, there 72.

⁸⁹ Aarts, 'Monetisation and army recruitment, 169-170.

⁹⁰ Bloemers, 'Lower Germany', 82.

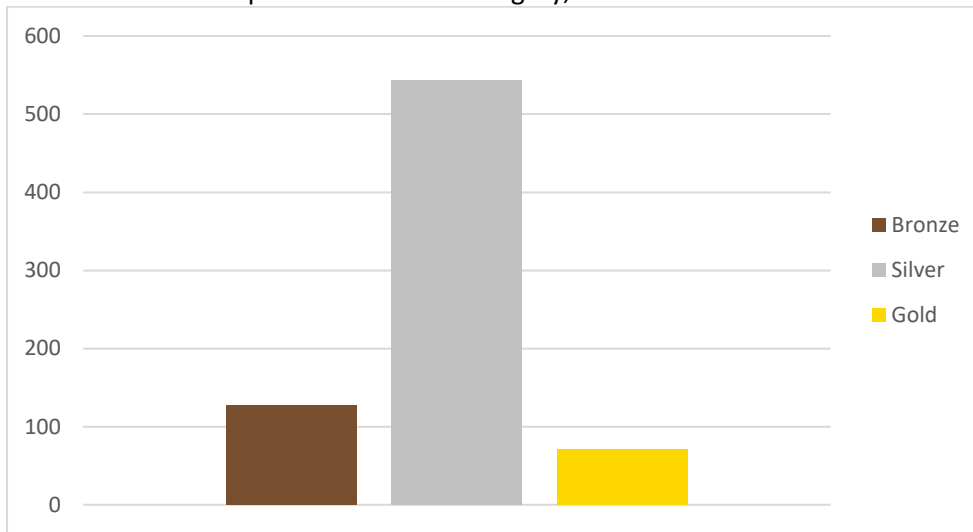
⁹¹ Van Heesch, 'Providing markets with small change', 126-127.

⁹² Wigg-Wolf, 'Coinage and money' 221.

⁹³ Nico Roymans, 'The Lower Rhine Triquetrum coinages and the ethnogenesis of the Batavi' in: Thomas Grünewald and Hans-Joachim Schalles eds., *Germania Inferior* 28 (2012), 93-145, there 113.

⁹⁴ Antony Kropff, 'The bronze enigma: soldier's pay and civilians' taxes in the Northwestern Roman Empire ad 69-197', *Jaarboek voor Munt- en Penningkunde* 106 (2019) 1-18, there 3.

this thesis, bronze coins are far from the most common metal, as can be seen below in graph 8. Gold coins still form as expected the rarest category, but there is a clear abundance of silver.



Graph 8: the denominations of the coins in this thesis. Each coin has been counted individually.

Heesch notes that even the smallest denomination was valuable, which can be seen in that a soldier was paid 10 asses per day.⁹⁵ The mentioned factors can be combined with the point from Roymans that the Celtic coins were alloys and had their value previously fixed by the Celtic authorities made them devalued when the Romans took over and thus became useful for low value daily transactions.⁹⁶ This would be a solution for the problem that the bronze coins are missing from the hoards under consideration, but where do the many bronze coins in Aarts' work then come from? As stated earlier, he mentions that the coin finds are heavily biased towards bronze coins, due to retrieval bias. Wigg also notes a 90% bronze share in all coins found for the period.⁹⁷ It seems like at least for this very early period, this isn't the case.

Looking through the hoards list in appendix 11 of Aarts' *coins or money* and comparing the hoards for the present-day Netherlands gives the following table. Note that he seems to have split up the content of single hoards by authority. If it is possible to match a hoard with one from the database by singling out in the way Aarts has done it will be done in this table. If the last authority in Aarts' listing of a location is from after the period the thesis covers the list of hoards from that location is not included.

⁹⁵ Van Heesch, 'Providing markets with small change', 126.

⁹⁶ Roymans, 'The Lower Rhine Triquetrum coinages', 132.

⁹⁷ Wigg-Wolf, 'Coinage and money', 231.

Table 4: the hoards in Aarts' dissertation with an overlapping time period.

Hoard name in Aarts' appendix	Composition	Date	In database during selection period	Notes
Nijmegen-Kops plateau	95 silver	Republican	no	Number of coins doesn't line up with Nijmegen 1992, but the location and authorities match
Nijmegen-Kops plateau	27 silver	Augustus	No	Closest match in database is Nijmegen 1989 2, with the same problems as above
Nijmegen-Kops plateau	19 bronze	Augustus	No	-
Nijmegen-Kops plateau	2 silver	Tiberius/Caligula	No	-
Beek	1 gold	Nero-68	Yes	If Beek 1805
Bijlandse waard	61 silver	Republican/Augustus	Yes (Bijlandse Waard)	Aarts has split this hoard, in the database it's Bijlandse Waard
Valkenburg-Marktveld/nederz	11 bronze	Unknown/Augustus	Yes (Valkenburg 1987)	Aarts has split this hoard, in the database it's Valkenburg 1987
Utrecht-Domplein I	50 gold	Augustus/ Tiberius/Caligula/ Claudius	No?	Possibly from after the set closing date for the thesis?
Den Bosch-De Maij	4 silver	Unknown/Republican	No	-

It is surprising how few hoards overlap between this thesis and Aarts' selection of hoards in the same time period. The bronze appears a bit more, but the difference is still telling. In the same list of hoards that Aarts shows in his appendix the answer to where the bronze coins are coming from can still be found. Whilst a lot of listed, though many split out hoards are composed of just a couple coins, there are quite a few large hoards of over 100 coins listed outside the present-day Netherlands, as can be seen in the table below. The *Vught-Bleijendijk 1962* hoard of 4775 third century silver coins, the *Woensel 1607* hoard of 141 silver coins of unknown authority and the *Baarlo-kerk 1830* hoard of 3000 silver and 32 gold coins being the three exceptions for large non-bronze hoards. If Aarts has listed more than one hoard for the location, each with 100+ coins in the amount column is listed as its own number and the additional coins are placed in between brackets behind the number of coins.

Table 5: the large hoards in Aarts' dissertation.

Hoard name	Composition (metal)	Amount	Date (total)
Burmerange-Tritlingen	Silver	572 (+39)	260-275
Dalheim-Petzel	Bronze/silver	219 (+168) silver, 9485 + 5167 (+11) bronze	69-330
Ermsdorf	Bronze/silver	17 silver, 1905 + 666 + 165 bronze	222-348
Ettelbruck-Heng	Bronze/silver	243 + 358 + 251 + 1197 + 388 (+7) silver, (92+46) bronze	238-317
Luxembourg 1911	Bronze	120	348-368
Kleinbettingen 1921	Silver	993 (+126)	222-275
Lenningen 1865	Unknown	129	260-275
Marscherwald-Breidweiler Dael 66	Bronze/silver	13 silver, 767 + 146 (+97) bronze	260-364
Reichlange-Stertz/L, ipesch	Silver	400	260-275
Tetelbiert 1952	Bronze/silver	450 (+16) silver, 1 bronze	260-296
Welscheid-Wark-Baeschterbaach	Silver	700	260-275
Altrier 1910	Silver	100 (+5)	260-296
Nospelt-Miecher/E 1983	Silver	2616 + 112 (+40)	222-296
Wecker 1972	Silver	3000	Unknown
Paal 1905	Silver	174 (+99)	69-260
Esch 1766	Silver	400	Unknown
Hapert-Zuiveringsinstituut 1939	Bronze/silver	12 silver, 2310 (+ 251) bronze	260-402>
Maashees 1840	Silver	500	Unknown
Helchteren <1910	Bronze/silver	2 silver, 132 + 100 (+29) bronze	260-402

It becomes clear in the table that a couple of the hoards will dominate the graphs Aarts made. The total amount of coins in the data spreadsheet in the appendix of this thesis is 741 coins, which is less than some of the hoards in the table above on their own. This makes comparing Aarts' data with the data of this thesis quite difficult.

Can the presence of Celtic coins be used to explain the oddities in the hoard compositions in the database? In his work *Coins or money* Aarts explores the way coins were used and what changed in the function in coinage over time.⁹⁸ One of the three areas he looks at is the Dutch river area, which overlaps with the area looked at in this thesis. On the other hand the time period and coin selection of this thesis are more restricted than those in his consideration. Aarts gives a total of 620 Celtic coins for the Dutch river area, 97% of which are from the period 15 B.C.-50 A.D.⁹⁹ In the period 70-15 B.C. there are five gold coins and 14 silver, whilst in the later period all the finds are of lower value denomination. Going to the NUMIS database and selecting the filters "Munten", "Kelten; Tungri?", "Kelten", "Kelten; Batavi/Eburonen" and "Kelten; Batavi of deelgroep van Eburonen" gives a list of 1.085 results, which are too many to go through and categorise into a table here, but Roymans has done research into the Celtic coins. He notes that the chronology is hard to pin down due to lacking sources and most of the coins being single metal detector finds.¹⁰⁰ The maps in his article show a wide distribution of Celtic coins, which, being of valuable metals will not have disappeared out of circulation immediately. The wide distribution also points to the Batavians not being the only coin users before the Romans arrived. There is evidence of Roman and Celtic coins being in circulation simultaneously, like at Rossum where both Roman and Celtic coins were found at the same site. Since the coins contained valuable metals, they could exist side by side without problems. As Aarts states, Celtic coins remained in use.¹⁰¹ Wiggs states that native coins could be used to fill gap of lack of fractions smaller than the Roman *as*.¹⁰² This points to not only coin use for small transactions, but also that there had to be a lot of such coins in circulation, since otherwise Roman *asses* that were broken in half could have been more widely used for such purpose. It is likely that such usage could have become more common since coin loss inevitably happens and no new Celtic coins would have been minted after the Romans took over and introduced their coinage. These factors can account as to why there was such an infrequent bronze coinage influx coming from Rome.

The amount of silver seems to be in line with what would be expected. Of the 741 coins under consideration, 543 are silver. Though likely somewhat distorted due to the size of the *Onna* and *Zoutkamp* hoards, the number of silver coins seems to be not that far apart when it comes to coins inside or outside the empire. Silver being the most common material is in line with the expectation. Shifting the graph to looking at hoards as a whole as in graph 10 shifts the perspective to where the coins are found massively. Only 10 hoards have been found outside the empire, six silver and four gold, with the *Zoutkamp* hoard being a mix of silver and bronze. This seems to show that few private actors were active with Roman coinage above the Rhine, especially since just 2 bronze and no copper coinage has been found there in the time period under consideration.

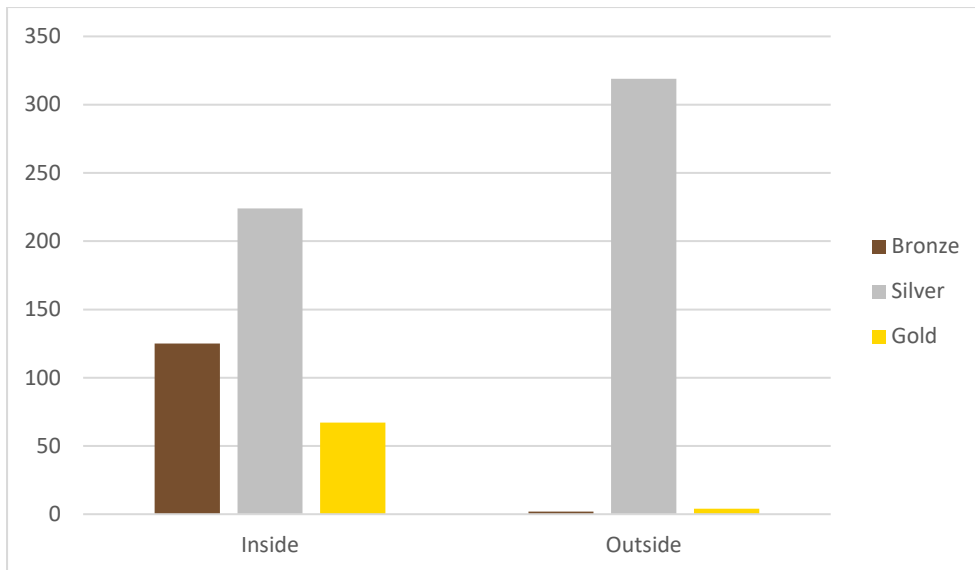
⁹⁸ Aarts, *Coins or money*, 2.

⁹⁹ *Ibidem*, 52.

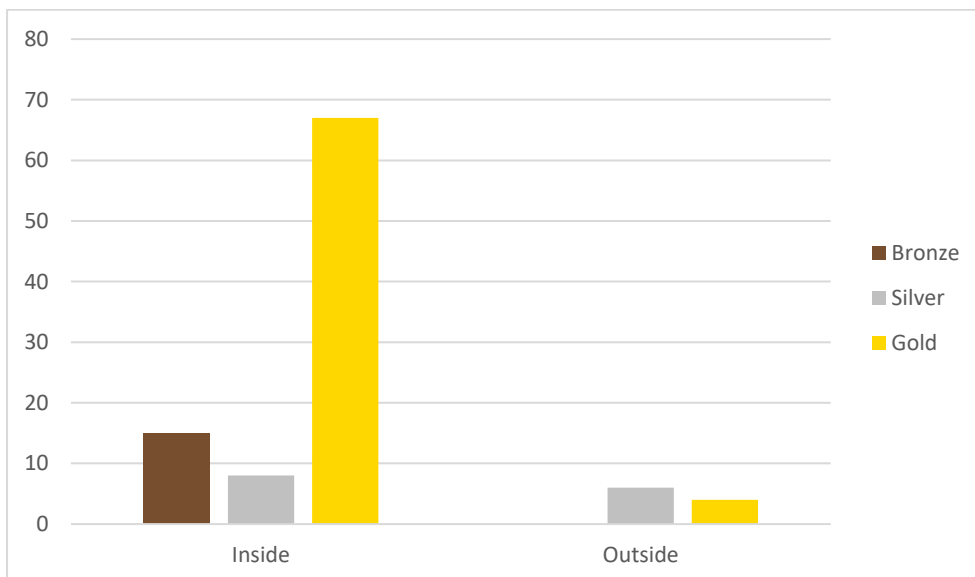
¹⁰⁰ Roymans, 'The Lower Rhine Triquetrum coinages', 105.

¹⁰¹ Aarts, 'Monetisation and army recruitment', 164.

¹⁰² Wigg-Wolf, 'Coinage and money' 224.

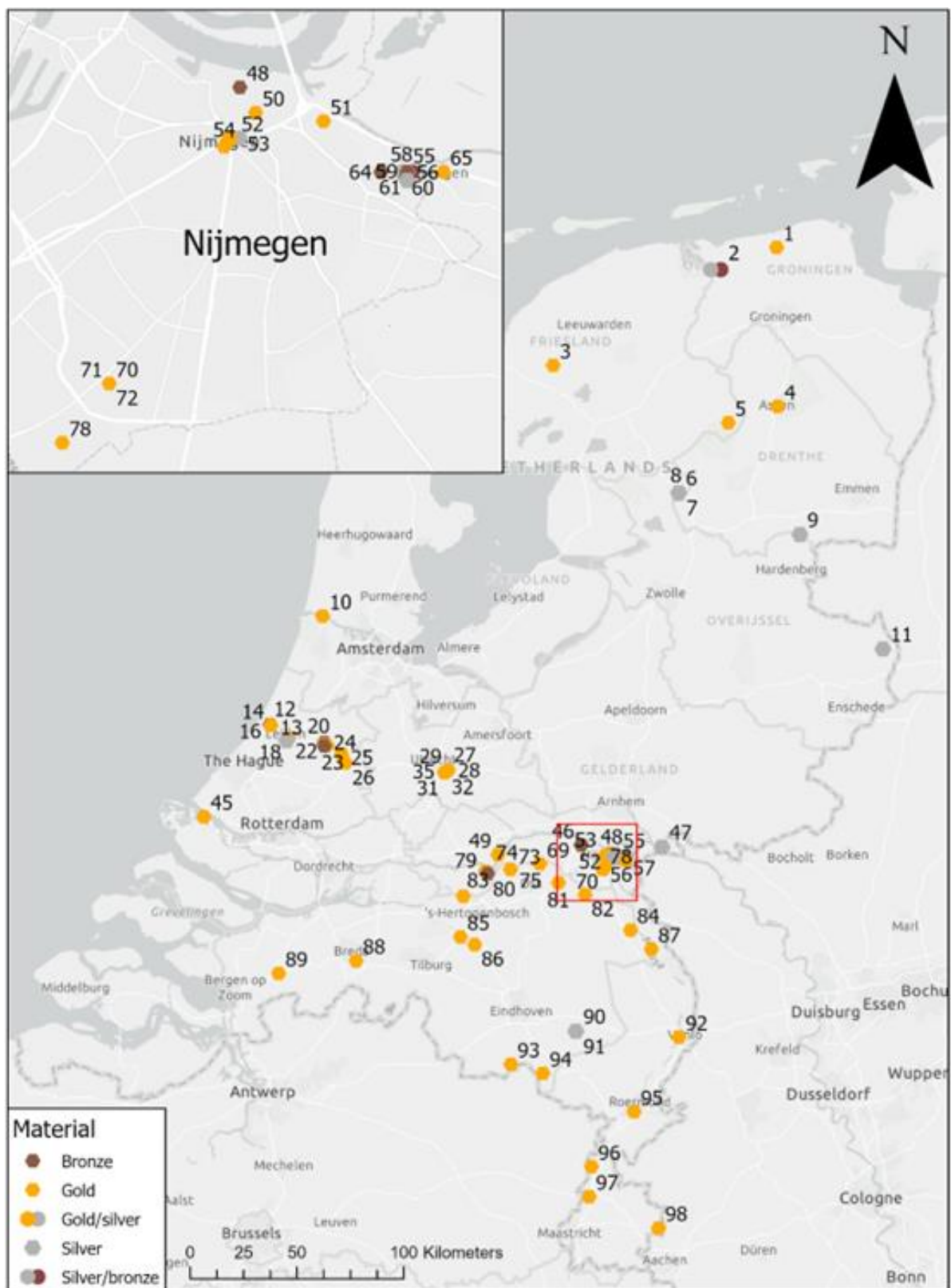


Graph 9: the distribution of coins found inside and outside the Roman Empire. Each coin has been counted individually.



Graph 10: the distribution of coins found inside and outside the Roman Empire. Each hoard has been counted as one.

Returning to a map, but this time adding the materials to the find locations, the result is map six. There seems to be a general spread of silver coinage, though most of these coins are within a couple large hoards. Combined with graph four, which displays the coinage per emperor, there is a lack of expected silver of Claudius and Caligula. This seems to point to their expeditions not having been staged from the present-day Netherlands but further south along the Belgian or French coasts. In terms of material silver is also clearly the most common outside the borders of the empire. This is probably due to the expeditions of Drusus and Germanicus who paid their soldiers in silver.



Map 6: the locations and metal compositions of the hoards. Due to its location being somewhere in a province wide area, the hoard Zuid-Holland is not on the map. The Nijmegen 1622 hoard is also not on the map due to no coordinates being given in the database, though the municipality is known. 1 Warfum, 2 Zoutkamp 1991, 3 Oosterend, 4 Assen, 5 Appelscha (Appelskea), 6 Onna 1884, 7 Onna 1884-1886, 8 Onna 1886, 9 Nieuwe Krim, 10 Velsen, 11 Denekamp, 12 Valkenburg 1987, 13 Valkenburg 1915, 14 Valkenburg 1916 (+ 15 Valkenburg 1941-1943 1), 16 Valkenburg 1941-1943 2

(+ 17 Valkenburg 1968), 18 Leiden Roomburg 1502 1 (+19 Cronesteijn 2015), 20 Alphen aan den Rijn 2001 1 (+ 21 Alphen aan den Rijn 1996-2003), 22 Alphen aan den Rijn 2001 2, 23 Alphen aan den Rijn 2001-2002, 24 Alphen aan den Rijn 2002, 25 Zwammerdam 1935, 26 Bodegraven, 27 Vechten 1992, 28 Vechten 1800-2000 2, 29 Vechten 1986 6 (+ 30 Vechten 1988 1), 31 Vechten 1922-1926, 32 Vechten 1833 1 (+ 33 Vechten 1986 1 & 34 Vechten 1986 2, 35 Vechten 1986 3 (+ 36 Vechten 1986 4 & 37 Vechten 1986 5 & 38 Vechten 1986 8 & 39 Vechten 2011 1 & 40 Vechten 1800-2000 1 & 41 Vechten 1800-2000 3 & 42 Vechten 1957 1 & 43 Vechten 1800-2000 4 & 44 Vechten 1986 7), 45 Europoort 1976, 46 Ewijk, 47 Bylandse Waard, 48 Nijmegen 1908 1 (+ 49 Ophemert 2018), 50 Nijmegen 1951, 51 Nijmegen 1957, 52 Nijmegen 1987-1997 1, 53 Nijmegen 1987-1997 2, 54 Nijmegen 1782 1, 55 Nijmegen 1992, 56 Nijmegen 1991, 57 Nijmegen 1989 1, 58 Nijmegen 1989 2, 59 Nijmegen 1989 4, 60 Nijmegen 1990, 61 Nijmegen 1992 (+ 62 Nijmegen 1965 1 & 63 Nijmegen 1965 2), 64 Nijmegen 1815, 65 Ubbergen (+ 66 Nijmegen 1951 & 67 Nijmegen 1989 3 & 68 Beek 1805 & 69 Megen), 70 Nijmegen 1947, 71 Nijmegen 1970, 72 Nijmegen before 1931, 73 Lith 1960 1, 74 Lith 1960 2, 75 Lith 1965 1 (+ 76 Lith 1965 2 & 77 Lith 1973), 78 Hatert, 79 Rossum 1835, 80 Rossum 1956-1957, 81 Herpen, 82 Escharen, 83 Maas, 84 Boxmeer, 85 Helvoirt, 86 Esch 1866, 87 Bergen 1968, 88 Ginneken, 89 Roosendaal, 90 Someren 2000, 91 Someren 2018, 92 Blerick- De Staay, 93 Borkel, 94 Budel, 95 Merum, 96 Obbicht 1854, 97 Elsloo, 98 Kerkrade.

The more surprising material is gold. The gold coins form the most widely spread type of coinage. What can explain this? That single gold coins are counted as a hoard will have a large impact of a map compared to such single silver and bronze finds not being counted as such and thus not being on the other maps. A second explaining factor is that the sites where the gold coins were found seem to line up with either waterways or Roman roads. Roads and waterways would have contained most if not all traffic, so some coin loss is to be expected. The find of mainly gold coins here could point to another factor being in play. Travellers could have hidden their valuable gold coins whilst resting for the night along the road and been unable to find their precious coins, resulting in a (gold) hoard being left in the ground. Something the many gold hoards could also be pointing to is the more widespread integration of Roman gold coinage into Celtic society. This is in line with gold coinage already being present before the Romans showed up with theirs. Southern states that a Roman pension for a legionary would be a one-time payment 3800 *denarii*.¹⁰³ This is the equivalent of 152 *aurei*. Looking at the sizes of the hoards, even the gold hoards, none of them in this thesis comes close to the full or even a tenth of a single pension. This put major pressure on the theory that hoards in the Batavian area could have originated from pensions of ex-soldiers.

The bronze is clearly quite absent from the map. The main problems with the bronze coinage has already been discussed, but on a map an observation can still be made. Apart from the bronze in the *Zoutkamp* hoard no bronze is to be found above the Rhine. What bronze has been found however seems to be all on the *Limes*, making it seem like bronze was mainly used by the military. Looking at the data in conclusion it can be said that there's a large difference in conclusions depending on which data gets selected. Though some differences between expectations and the outcomes of the data can be explained, it still remains a hard task.

¹⁰³ Pat Southern, *The Roman army: a social and institutional history* (Oxford 2007) 167.

Conclusion

What can the coin hoards in the CHRE database tell us about the introduction of Roman coinage in the present-day Netherlands? Making the selection of hoards was difficult, mainly due to the uncertainty around closing dates and the often-lacking information on a hoard's context. Whilst some archaeological sites are well documented, attributing a hoard to being either of a military or civilian context proved impossible at times. The database can surely be improved if more context information can be found to be added to the hoards.

Whilst some of the expectations in the introduction have come true, others certainly haven't. The first expectation of silver being dominant in the hoards seems to be confirmed. With roughly 73% of all coins being silver, as well as being geographically widely distributed, silver seems to be the best integrated coinage. It has to be pointed out however that the largest non-silver hoard is the 21 bronzes of the Alphen aan den Rijn 2002 hoard whilst several silver hoards are each a lot bigger. The bronze coinage has been most in contrast with the expectations. Whilst a lot of bronze was expected, comparatively little actually showed up, especially when compared to Aarts' data. Bronze hoards have thus either not been found, not been reported or, most likely, not been added into the database. All bronze hoards under consideration have been found within the empire and pretty much all on the *Limes*. With a single exception all bronze hoards have been found in a military context. The quantity and locations of the bronze coinage seems to point to a clear introduction through the military. Indeed many of the gold hoards consisted of single finds, yet there were a lot more hoards than expected. The spread is also interesting, seeing as how many of them were found in the hinterland. Most locations follow either the water or the Roman roads. It was of course easier to take fewer but higher value coins on a travel to save weight. Those found outside the empire are likely from the naval invasions of the first two emperors. Most gold hoards are military in nature, hinting at a military introduction.

The expected peak under Augustus and Tiberius appeared as expected, but the expected peak under Claudius failed to reach a similar level, seemingly pointing to less of the invasion force going through the present-day Netherlands than expected. There was an expectation to see some hoards of Caligula, but the number has still been quite low. When coin hoards are being taken as a measurement of Roman activity, there seems to have been less under Claudius than expected. The expected peak from Nero shows up, but it does so in an unexpected way. Nero has the highest number of hoards, but not the most coins. This is due to the huge amount of single gold coins which most of his hoards consist of. The expectation of a lot of Nero's hoards being silver coinage was thus wrong. The data does however line up decently well with the reasoning of Helling of why this is the case.

Which model is the most validated for the circulation of Roman coinage in the Netherlands? Though the source material seems to be quite different, Aarts' point that money mainly came from the military and diplomatic efforts seems to be at least partially confirmed. Most of the hoards being military in nature as well as only silver and gold coinage being above the Rhine is confirming the military to be a main source, though the lack of consistency between hoards per emperor seems to indicate that just military pay isn't a definitive explanation. Seeing as how the entire area under consideration is in the outer zone of Hopkins' model, it's difficult to say whether the evidence supports or opposes his model. More bronze coinage would however be expected. The payment of taxes in kind, as the Batavians did in the form of recruiting more soldiers for the Roman army, would also have heavily impacted the region, making his model less suitable here due to less taxes being paid in the form of money. Roymans' point of view that the pay of *auxilia* soldiers was a major way Roman coinage was introduced seems to be supported by the large concentration of hoards around the areas where the Batavi lived, though it is a problem for his view that so few of the hoards are civilian in nature. The lower-than-expected amounts of bronze are however supported by his point that Celtic coinage remained in use for a while to fill in for the lower denominations. The Heesch model of monetary islands can be placed alongside this, as the coin hoards are quite concentrated

with mainly single gold finds being outside the clusters. The hypothesis of Kemmers that the coin supply was regionalised can be supported with the data from this thesis. This is mainly due to the large influx under the first two emperors and the lack of new coinage under Caligula and Claudius, even though the Roman presence did not decrease significantly. The work of Howgego also seems to be confirmed, mainly due to the large imbalance between civilian and military hoards, as well as due to the Batavi not paying taxes in coined money but in recruits for the army. Private trade seems to be confirmed to have a small to neglectable impact due to the lack of civilian hoards. Overall the hypothesis of Kemmers seems to be the best explanation.

Whilst the data is numerous, the issue has mainly been in the lack of context for the hoards. In quite a few cases the context has been permanently lost or the exact find spot has not been reported or properly registered. It is clear however that in many more the context could be expanded on. Expanding on the context will provide a clearer picture as well as making further research easier. The clarification of sourcing has also proven to be important. Most of the hoards Aarts uses can't be traced back in the database and in the rest of the sources the listing is rarely done alike. Certainly with Aarts this has made comparing sources difficult and is something that future research can improve on.

So what can in the end be concluded about the introduction of Roman coinage in the Netherlands? From the presented evidence it's likely been a process mainly driven by the military expeditions, with only a very minor role for the civilian sector. Military expeditions result in visible peaks in the creation of hoards, mainly visible under Augustus, Tiberius and Claudius. If regular pay was the main source, a large influx would have been visible under Augustus and during the reigns of subsequent emperors the line would have flattened. This also has interesting consequences for savings, since some of the pay was only paid out once the military service was completed. If mainly expeditions were the source for new coinage, where did the money for these payments come from? Were the pensions paid out in gold? Could payments in kind such as land be where most of the value of the pension went? The introduction also went the most extensively in the Batavian area, followed by the rest of the *Limes*. The hinterland has way fewer hoards, mainly following roads and rivers, thus it can be concluded that in the rural settlements the integration of Roman coinage barely happened until later. Outside the empire it's very rare to see Roman coinage, so the integration can be concluded to not have happened there.

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