LATE ROMAN COIN HOARDS IN THE WEST:
TRASH OR TREASURE?

1. Introduction and theme

The late third century AD yielded many Roman coin hoards in the west, and especially the hoards closing in the years after 274 AD stand out. Two hypotheses have been proposed to explain the enormous number of hoards closing with a coin for the Tetrici in the north-western part of the former Roman Empire. One theory states that the hoards can be related to wars, invasions, raids and rebellions. We shall refer to this hypothesis as the "troubles theory". Although contemporary historical sources for the late third century in the west are very scarce and the precise course of events is not clear, we can safely say that this was a troubled period for this part of the Roman world. It seems obvious to link the peak of non-recovered hoards to these troubles and this has become the generally accepted way to explain these hoards.

An alternative hypothesis proposes the "monetary theory": the non-recovery of hoards was caused by the fact that coins had been demonetised or had simply lost their value. The non-recovery then was in fact abandonment, after the hoard had become worthless.

Both theories have found advocates and some of the arguments seem very compelling at first sight. However, both hypotheses have also drawn objections. This survey examines both hypotheses in relation to the hoards, closing with a coin for the Tetrici (sometimes for Aurelian) in Britain, The Netherlands, Belgium, France and Germany.

As both the "troubles" and the "monetary" hypothesis fail to fully explain these hoards in a convincing way, an adapted hypothesis is proposed.

2. Incidence and distribution of late third century hoards in the west

The number of late third century hoards in the west is very high, compared to preceding periods. Callu has compiled data concerning the coin
hoards during and just before and after our period (1). The data are summarised in the following table.

Table 1.

<table>
<thead>
<tr>
<th>Closing coin for</th>
<th>Period of reign</th>
<th>Number of hoards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordian III</td>
<td>238-244</td>
<td>51</td>
</tr>
<tr>
<td>Philip I</td>
<td>244-249</td>
<td>111</td>
</tr>
<tr>
<td>Trajan Decius</td>
<td>249-251</td>
<td>65</td>
</tr>
<tr>
<td>Trebonianus Gallus and Aemilian</td>
<td>251-253</td>
<td>48</td>
</tr>
<tr>
<td>Valerian I and Gallienus</td>
<td>253-260</td>
<td>259</td>
</tr>
<tr>
<td>Gallienus (sole reign) and Postumus</td>
<td>260-268</td>
<td>262</td>
</tr>
<tr>
<td>Claudius II and Victorinus</td>
<td>268-270</td>
<td>120</td>
</tr>
<tr>
<td>Aurelian and the Tetrici</td>
<td>270-275</td>
<td>414</td>
</tr>
<tr>
<td>Tacitus and Florianus</td>
<td>275-276</td>
<td>17</td>
</tr>
<tr>
<td>Probus</td>
<td>276-282</td>
<td>113</td>
</tr>
<tr>
<td>Carus and Carinus</td>
<td>282-285</td>
<td>26</td>
</tr>
<tr>
<td>First Tetrarchy</td>
<td>285-305</td>
<td>261 (2)</td>
</tr>
</tbody>
</table>

More recently, Reece has summarised the British hoards (3) as follows.

Table 2.

<table>
<thead>
<tr>
<th>Period</th>
<th>Number of hoards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up until 41 AD</td>
<td>18</td>
</tr>
<tr>
<td>41-54 AD</td>
<td>26</td>
</tr>
<tr>
<td>54-69 AD</td>
<td>11</td>
</tr>
<tr>
<td>69-96 AD</td>
<td>60</td>
</tr>
<tr>
<td>96-117 AD</td>
<td>21</td>
</tr>
<tr>
<td>117-138 AD</td>
<td>43</td>
</tr>
<tr>
<td>138-161 AD</td>
<td>66</td>
</tr>
<tr>
<td>161-180 AD</td>
<td>97</td>
</tr>
<tr>
<td>180-192 AD</td>
<td>35</td>
</tr>
<tr>
<td>192-222 AD</td>
<td>49</td>
</tr>
<tr>
<td>222-238 AD</td>
<td>31</td>
</tr>
<tr>
<td>238-260 AD</td>
<td>36</td>
</tr>
<tr>
<td>260-296 AD</td>
<td>530 (4)</td>
</tr>
<tr>
<td>296-317 AD</td>
<td>99</td>
</tr>
<tr>
<td>317-348 AD</td>
<td>195</td>
</tr>
<tr>
<td>348-364 AD</td>
<td>119</td>
</tr>
<tr>
<td>364-411 AD</td>
<td>280</td>
</tr>
</tbody>
</table>

(2) Up to the coin reform of 295 AD: 175 hoards; after 295 AD: 86 hoards.
(4) Included are 141 hoards, closing with a coin for the Tetrici.
Of a total of 641,000 coins from British Roman coin hoards which have been listed and described, 57% came from hoards ending with coins of the mid- to late third century AD. (5)

The present study concentrates on the peak (see table 1) of hoards closing with a coin for the Tetrici (sometimes for Aurelian) hoards. The map shows the geographical distribution of these hoards.

Map 1. Western hoards closing with the Tetrici or Aurelian. (6)

A striking and dense cluster of hoards can be seen in and around present day Luxembourg and in the Moselle / middle Rhine area. The map shows a very low number of non-recovered hoards in southern Gaul. We will analyse this geographical distribution of hoards later in this survey.

3. Non-recovery of hoards: the hypotheses

We will now discuss the two hypotheses in relation to non-recovery: the troubles option (non-recovery was caused by invasions, inroads and other violent troubles) and the monetary option (non-recovery was related to coin reforms, withdrawal of coins from circulation and other monetary factors).

3.1. Troubles hypothesis

The coin hoards from the late third century have traditionally been interpreted as a sign of invasions, inroads and other violent troubles during this period. Over the years, there has been a lot of support for the troubles option, mainly — but not exclusively — from continental archaeologists. (7)

A number of observations and arguments have been presented to support the troubles option. First of all, the general relation between a relatively large number of hoards and troubles in other periods has been noted. Parallels have been drawn between the hoards from the late third century AD and the hoards from the British civil war, the later Roman Republic and the first World War (8) or the hoards from the 16th and 17th century in the Low Countries. (9)

Furthermore, although the contemporary sources are silent on the routes invaders would have followed during raids, some authors have tried to establish such routes on maps showing the location of hoards. Inroads during the reign of the Gallic ruler Postumus were supposed to have followed the Cologne/Tongeren/Bavay road. During the period

(8) J.F. Drinkwater, op. cit. [n. 7], p. 194.
(9) J. van Heesch, op. cit. [n. 7], p. 149.
around 274 AD the Mainz/Trier/Reims road would have been preferred, (10) as is thought to be illustrated by the relatively large number of hoards from this period in Luxembourg, the south east of Belgium and the area around Mainz. (11)

The fact that southern Gaul, a densely populated area, did not yield many hoards from the late third century has been interpreted as a sign that this area did not suffer from raids and invasions. (12)

3.2. Monetary hypothesis

The «troubles» hypothesis fails to explain the large number of hoards from this period in Britain, as this area at that time did not suffer from large scale attacks. (13) The «monetary» hypothesis however does seem compatible with the British hoards and has received support over the years, recently from British archaeologists. (14) The supposed demonetisation of the hoarded coins has been linked to the coin reform by Aurelian and its enforcement by Probus. (15) It has been pointed out that the historian Zosimos (16) reports that «He [Aurelian] likewise called in all the counterfeit money, and issued new, to avoid confusion in trade». (17) However, the passage in Zosimos can be explained in more than one way and is open to interpretation. It is by no means certain which coins Zosimos referred to when he mentioned the withdrawal of coins from circulation. It is also uncertain whether or not a withdrawal was actually executed during this period.

Active demonetisation by withdrawal from circulation is not the only option covered by the monetary hypothesis. Passive demonetisation by complete loss of value has also been assumed. The individual coins in

(10) H. Cüppers, Die Römer in Rheinland-Pfalz, Stuttgart, 1990, p. 125; R. Ziegler, op. cit. [n. 6], p. 84.
(11) R. Ziegler, op. cit. [n. 6], p. 84.
(12) Ibid., note 172.
(15) A.S. Robertson, op. cit. [n. 5], p. 29.
(16) Zosimos, Nea Historia, 1.61.3.
hoards had a very low buying power to begin with and would become worthless during the period after hoarding. (18)

The monetary hypothesis presents a number of problems. If the withdrawal or demonetisation of certain coins had caused the non-recovery of hoards, the demonetised and abandoned coins would not turn up abundantly in hoards, closing in a much later period. However, the coins of the Gallic rulers, the radiate copies and other coins with a (very) low intrinsic value keep appearing in hoards well into the fourth century AD. (19)

Also, the monetary hypothesis is incompatible with the non-recovered hoards of debased coins which also contain a number of coins with a considerable intrinsic value (20) or even gold or silver objects, jewellery etc. (21) Even if the bulk of the coins would have become completely worthless, the high value coins or the valuable objects would have made it worthwhile to recover such hoards.

The concept of deliberately abandoned hoards has been criticised on other grounds also. The assumption that coin hoards would have been abandoned is based on the projection of present day standards and values on the ancient world. Even if the hoarded coins had become worthless as an instrument of payment, it would have been worthwhile to recover the hoards and sell the coins to a local coppersmith because even base metal would have had its value. (22) Even as late as the nineteenth century this practice could be observed. During that century, nobody took any interest in the radiate copies or placed any value on them. A contemporary informs us, that in Luxembourg many thousands of copies were found and indeed sold to the local coppersmith. (23)

A further objection can be raised against the monetary hypothesis. If coins were demonetised or had become worthless, other coins must have taken their place in circulation. But which coins would have succeeded the «old» coins that are claimed to have become worthless? The hoards from the last three decades of the third century show that the coin circulation did not change abruptly in this period. Rather, we note a gradual

(18) R. Reece, op. cit. [n. 3], p. 77; P.J. Casey, op. cit. [n. 13], p. 62; P. Tyler, op. cit. [n. 14], p. 5.
(20) A.S. Robertson, op. cit. [n. 5], p. 126, 128-129, 131, 135, 140.
(22) J.F. Drinkwater, op. cit. [n. 7], p. 198.
(23) R. Weiller, op. cit. [n. 7], p. 16.
change. The coins produced for Gallienus and Claudius II between 260 and 270 AD came to the area of the former Gallic Empire with a considerable delay and did not enter western circulation in appreciable numbers until circa 278-280 AD. (24)

By that time, the equally base Gallienus/Claudius issues started to replace the emissions for the Gallic rulers and their radiate copies. The Aurelian coin reform did take place in 274 AD, but the demonetisation of «old» coins that Zosimos seems to hint at never took place in the west and only a few post reform coins did enter western circulation. (25)

As the introduction of new, reformed coinage did not succeed in the west and the coin pool was quite unchanged until the end of the third century, it seems impossible to explain the non-recovery of hoards as the result of a process of demonetisations.

We can now conclude that the present monetary theory should in fact be rejected. Now we will analyse the influence of inflation in itself.

4. Coin circulation and inflation

We will take the site finds as a point of departure to analyse the influence of inflation on coin circulation, coin loss and hoarding. Figure 1 shows the histogram for the site finds of Housesteads in Britain (25) and figure 2 shows the histogram for the site finds of Maastricht in the Netherlands. (27)

These histograms can represent many other site finds from Britain, the Dutch River Area and the Middle Rhine area, with a similar pattern in the histograms. (28) The number of coins for each ruler or group of rulers is divided by the number of years covered by that period. The outcome is multiplied by a factor of 1000 and then divided by the total number of coins the site yielded. This correction standardises all site finds to an equal size, by computing the yearly loss per thousand coins. (29) The details of all periods need not concern us here, but period 18 covers the coins for Gallienus' sole reign, Claudius II, Postumus, Victorinus and the

(26) A.C. Kropff and J.P.A. van der Vin, op. cit. [n. 25], p. 65.
(27) Ibid., p. 74.
(28) Ibid., p. 78-80.
Tetricti, the last Gallic rulers. Their combined reigns cover the period 260-274 AD. The histograms show a very high coin loss for this period. This high coin loss was not caused by an increased occupation of the site or a local upsurge of commerce and wealth.

The high coin loss was related to the number of coins in circulation, the value of each coin and the care a person took in handling the coins and in looking for a coin which was dropped, for instance in a crowded marketplace. The histogram bar for period 18 shows a coin circulation consisting of an enormous mass of low value coins. This resulted in a high accidental loss and as the individual coins had little value, a lost coin was not sought after intensively.

The genesis of this type of coin circulation took a couple of decades. Throughout the third century we find a declining silver content and intrinsic value of the coins and an increasing coin production. Under Severus in 193 AD coins had a silver content of nearly 80% while under Caracalla in 215 AD the silver content had dropped to 50% and under Gallus in 253 AD to just over 35%. All percentages are for coins from the Rome mint. (30) Coins struck for Gallienus after 265 AD contained

less than 5% of silver, while the coins minted for the Tetrici contained less than 1%. (31) The falling of silver content of the coins shows the uncontrolled inflation of the period. The papyri tell us, that in Egypt between circa 267-268 AD and circa 277-280 AD, prices had risen to an eightfold. (32)

After 268 AD coin circulation speeded up and coins with a low intrinsic value began to drive better coins out of circulation. As a result of this rapid coin circulation and the driving out of better coins, hoards of this period contain a very high percentage of coins struck within a short period of time. (33) Coin production increased markedly. During the years 265 and 266 AD the production of antoniniani for Gallienus was circa three times as high as it was during the first years of his sole reign (260-261 AD). The number of officinae was doubled and also, the production of each officina nearly doubled. (34) Looking over a longer period of time, we find that between 238 AD and 274 AD coin production had increased to a sevenfold and the pace of circulation had risen to a five-

(32) Ibid., p. 401.
(33) Ibid., p. 253, 255, 276.
(34) P. Tyler, op. cit. [n. 14], p. 5-6.
fold. In this calculation, the enormous production of radiate copies was not included. (35) During the same period, the number of mints increased from just one to nine; the total number of officinae went from 6 in 238 AD to 15 in 259 AD and to even 43 in 274 AD. (36)

We will have to conclude that during the period under investigation, an unprecedented number of low value coins were in circulation. The effect on hoard patterns will be discussed in the next paragraph.

5. Hoards and inflation

Inflation characterised by an enormous mass of coins in circulation and a declining value of individual coins resulted in an increasing loss and non-recovery of coins on sites. How did inflation influence the number of hoards?

Inflation and the number of coins in circulation seem to be underestimated as an autonomous cause of (part) of the non-recovery of hoards. As we have noted, coin production in 274 AD was circa a sevenfold of the production in 238 AD, even excluding the very large scale production of radiate copies in the former Gallic Empire which further increased circulation in the western provinces. More persons had to hoard more units of coins more often than before, as the amount of coins one could carry around or store conveniently in the house was limited.

Even in the absence of external influences, a certain more or less determined percentage of hoards will not be recovered, for instance because of the unexpected natural death of the owner or even plain forgetfulness. As hyperinflation must have caused an increased number of hoarded units of coins, this type of basal unspecific non-recovery, not related to troubles or other external factors, will have caused at least part of the increase of non-recovered hoards during the second half of the third century. A similar effect can be noted on the sites: a more or less stable percentage of accidental loss of individual coins will lead to an enormous increase of coin loss at the site during a period of hyperinflation. And when an individual coin represents a very low value, a dropped coin will not be sought after long. This will also apply to the hoards: if the hoarded coins have a very low value, an initial failure to recover the hoard might not have been followed by an intensive search. This should not be considered as conscious abandonment and is not related to demonetisation.

Hyperinflation will have resulted in more hoards, but will not explain the geographical distribution of hoards, unless inflation would have been

(36) Ibid., p. 237.
more severe in some areas. And this, quite unexpectedly, seems to have been the case. Radiate copies, very base low value coins, were abundant in Northern Gaul, Britain and the middle and lower Rhine area and rather scarce in Southern Gaul, Spain and Northern Italy. (37) When we look at the share of radiate copies in the total number of coins produced between 260 and 295 AD found on the sites in Northern Gaul, we find that 65.4% of these coins are copies. (38)

Hoard hidden in northern Gaul between 274 and 280 AD also show the large share of copies in circulation: the La Vineuse hoard consists for more than 60% of copies. (38)

In Southern Gaul however, the share for the copies in hoards and site finds is much lower. The share of copies in the total number of coins produced between 260 and 295 AD found on the sites in Southern Gaul is 3.4%. (40)

We will have to bear in mind that at least part of the overrepresentation of hoards in the north-western limes area could be caused by the larger mass of radiate copies and other low-value coins in circulation in this area. In Southern Gaul, not enough of these coins were available to form the type of hoards discussed here.

6. Troubles in a time of inflation

The main cause for the enormous number of often large hoards closing with a coin for the Tetrici (or Aurelian) will be hyperinflation and the enormous mass of low-value coins in circulation.

When hyperinflation however is claimed to be the sole cause of the large number of hoards from this period, the geographical distribution of the hoards is not fully explained. Part of this geographical distribution could be related to the larger number of low value coins in the North, as suggested in this survey.

However, when we try to attribute the distributions of the hoards on the map to external causes, we are facing some problems. We take note of the many hoards and the historical sources tell us that around 275 AD the Franks launched a large scale invasion into Gaul, capturing seventy cities on their way. The invaders were eventually repelled by Probus. (41)

Knowing this, we are tempted to see the cluster of hoards on the Middle

(37) A.C. KROPP and J.P.A. VAN DER VIN, op. cit. [n. 25], p. 78.
(39) P. LE GENTILHOMME, op. cit. [n. 25], p. 36.
(40) C.E. KING, op. cit. [n. 38], p. 110.
(41) Historiae Augustae, *Vita Probi*, 13.5-7, 15.3; Zosimos, op. cit. [n. 16], 1. 67-68.
Rhine and in or around present day Luxembourg as an indication of a main point of entry of the attacks. From there, the hoards seem to suggest that the invasions fanned out into Gaul. Nevertheless, we can raise some objections to this view. Two of the captured (and, in this cases, destroyed) cities were the walled Colonia Ulpia Traiana (Xanten) and the city of Noviomagus Nemetum (Speyer). Roman Speyer must have been destroyed by fire during the attack. All over the Roman city we find a burnt layer, dated to this period by stray coins. Many parts of skeletons were discovered in this layer and in draw-wells. (42) And yet, no hoards connected to these specific events of destruction could be marked on the map.

We will have to consider that hoards from this period, consisting of a (very) large number of debased, low value coins cannot really be identified as typical emergency hoards, buried in direct reaction to an invasion. These coins could have been buried after the sale of a calf, or could represent the business transacted in a market stall over a couple of days, deposited with the intention to buy an aureus to pay taxes once enough of these low value coins would be available to the owner. These hoards definitively do not represent the result of years of saving, buried to be kept safe during a troubled period.

These hoards would have been buried all the time during this period all over the north-western part of the Empire and patterns representing routes of invasions only emerge because the ancient sources mention these inroads. It is a bit like the concealed image hidden within an illustration, a genre quite popular during the first half of the last century: we can only visualise the image with some effort after we are told it really is there. We cannot use these hoards and their distribution on the map as a proof of invasions we are informed about by ancient historians.

In fact, the map of hoards in itself shows this. The British hoards are just as heavily scattered and mildly grouped as those on the continent, that is: the distribution looks exactly the same on the map. But we already noted that the hoards in Britain from this period are not related to troubles, in fact the opposite: it was a time of vigorous villa building. So even if a cluster of hoards near the river Thames seems to point at an attack with this river as a point of entry, we know there never was such an attack. And if the hoards in Britain are not caused by troubles, it would be a clear case of special pleading to say that the hoards in Gaul are caused by invasions.

So in the end we are not able to substantiate the troubles hypothesis, just as we could not give support to the monetary (or demonetisation) hypothesis.

(42) H. CÜPPERS, op. cit. [n. 10], p. 565.
Conclusions

In the north-western part of the area of the Roman Empire we see an enormous number of coin hoards from the eighth decade of the third century.

Two hypotheses have been proposed to interpret this accumulation of hoards. Traditionally, the hoards have been explained as the result of raids and invasions into Roman territory during this period, which can be referred to as the ‘troubles’ hypothesis. This hypothesis has been criticised because Britain shows a hoard density at least equal to for instance Belgium and north-western France, although Roman Britain did not suffer the same number of large scale raids and invasions the Gallic area did. A number of mostly British archaeologists proposed that the hoards from this period (both British and continental) are the result of abandonment after the hoarded coins had been demonetised or just became worthless.

In this survey, we show that this demonetisation or ‘monetary’ hypothesis is less probable and should be rejected. Both the nature of many hoards and the development of coin circulation during the last decades of the third century plead strongly against this hypothesis.

Still, we will have to concede that the British hoards cannot convincingly be explained solely by the ‘troubles’ hypothesis. To deal with this problem, we take the site finds as point of departure. Analysing the stray coins found on Roman sites in the west, we will very often observe an unprecedented peak in the histogram for the coins of the emperors ruling between 260 and 274 AD (Gallienus and Claudius II, plus in the west the coins of the Gallo-Roman rulers and the radiate copies of their coins). This does not indicate a sudden increase of the occupation of sites, or a sudden rise of prosperity. The peak in the histograms just reflects the increasing inflation and the enormous production of debased, low value coins during this period. The hoards from this period also show this transformation of the coin production.

This survey proposes that the hyperinflation of the period will have influenced the number of non-recovered hoards. The huge number of low value coins in circulation meant that more individuals than before had to conceal more units of coins more often. After all, the amount of coins that can be kept in a purse or conveniently and safely stored in a house is limited, and no banks were available. Leaving aside all possible external causes for non-recovery (invasions, war, plague, economic changes) a certain more or less fixed basic percentage of non-recovery, related to causes only concerning the owner, should always be expected. For instance, we will have to consider unexpected natural death, or forgetfulness. When inflation and increased coin production result in more con-
sealed hoards, the number of non-recovered hoards due to individual ill fortune of the owner will also rise. A parallel between site finds and hoards of this period can now be drawn. Both the peaks in many site finds for the coins minted for Gallienus, Claudius II, the Gallic rulers and the radiate copies and the enormous number of hoards of these coins are caused first and foremost by hyperinflation. There is no need to explain the number of hoards or the peak in the site finds as such as the result of other external factors.

And yet, this has often been done in the past. Both the *Historiae Augustae* and Zosimos inform us about the attacks and invasions by the Franks into Germania Superior and Gallia around 275 AD. Archaeological evidence (a layer of fire and destruction) seems to confirm this information.

Now we will be tempted to connect the hoards from this period and their pattern on the map to the invasions and try to identify clusters of hoards, indicating points of entry and lines of attack. However, this survey shows that we are not (yet) able to substantiate the troubles hypothesis in relation to these hoards.

The «inflation hypothesis» proposed in this survey seems to be more probable than both the monetary and troubles hypotheses as tested and discussed in this survey.