(This is an extended English version of the publication 'De bewaakte rivier door niemandsland: het west- Nederlandse limesgebied aan het eind van de derde eeuw', Kropff, A., 2015, Westerheem 64, page 178-188. The text of the publication in Dutch can be found on this page.
This English version was first published on www.thirdcentury.nl August 20, 2015. Published on Academia July 26, 2018).

The guarded river through no man's land: the Roman limes in the western Dutch River Area at the end of the third century AD.

Antony Kropff *

Some thirty years ago, Van Es described the fall of the Roman *limes* in the Netherlands: "Around 270 not only the Zealand coastal defence collapsed, but the whole Dutch *limes* sector ceased to exist. The River Area and the Scheldt Area are flooded by Franks, Frisians and allied rabble. The *limes* period had ended".[1]

We will evaluate this scenario, still current in recent literature. What happened in the western part of the *limes* area after 275 AD? We will analyse the results of a number of recent excavations. The results will be interpreted in the light of recent views on the concepts 'crisis' and 'continuity' in the Roman period. The conclusion will be, that at the end of the third century AD the *limes* did not 'fall'. Rather, we see a process of gradual change, safeguarding vital *limes* functions.
The *limes* in the western part of the Dutch River Area was more enduring than has long been thought. However, the *limes* ceased to be a line of defence and turned into a guarded logistical infrastructure.

At first sight, a violent end of the Dutch *limes* system seems to be plausible. The invasions of the Franks in 275/276 [2] caused large scale destruction in Gaul.[3] The Middle Rhine was crossed between Strasburg and Mainz.[4] But did the Lower Rhine *limes* suffer? In recent literature we still find the notion that the *castella* between Nijmegen and the coast were deserted by 275 AD as a result of the attacks by the Franks.[5] However, the Dutch River Area did not really invite an invasion. No rich booty could be easily obtained here and the route to the prosperous heart of Gaul would be long and cumbrous.[6] No uniform and simultaneous destruction layer could be identified in the Dutch *castella*.[7] On the other hand, the coin series in most of the *castella* in the western Dutch River Area do indeed end around 275 AD or even (much) earlier. In some of the western *castella,* like De Meern (fig. 2) and Woerden (fig. 3), we see coin loss even after 274 AD.

Coin series from the *castella* and settlements in the eastern part of the Dutch River did not end in 274 AD but show a break between 274 and 317 AD, followed by renewed coin loss in the later period, for instance in Grave, Cuijk (fig. 10), Maurik (fig.11), Nijmegen, Heerlen and Maastricht.[8] This break in the coins series in the eastern river area does not imply a break in occupation as was often thought. This coin hiatus between 274 and 317 AD is also found in Britain, where no major invasions threatened continuity of occupation.

The coin gap was caused by the nature of coin circulation in the west during this period. Coins of the emperors ruling between 274 and 317 AD scarcely reached the provinces Britain, Gaul, the two Germania's and Spain.[9] We will discuss the causes of this restricted coin supply later in this survey. Based on the similarity between de British histograms and the histograms from the eastern Dutch River Area and on other considerations, we have (in a preceding review) argued the possibility of continuity in some *castella* and settlements in the latter area.[10] Since this publication, others have accepted this numismatic data to support the idea that the eastern and southern Dutch River Area might indeed have known continuity during the 274-317 AD period.[11]

Nevertheless, the end of the coin series around 275 AD in many castella in the western Dutch River Area seems to indicate an end of the *limes* system in this region, as no renewed coin loss occurs during the Constantinian period.
We also know that during the second half of the third century the population of the western Dutch River Area decreased markedly, to an estimated 10% of the original number.[12] This depopulation has been attributed to the "ever increasing disintegration of the Roman Empire".[13] We will argue a different scenario.

Fall of the Lower Rhine *limes* less plausible

Could the Roman authorities indeed have lost control of the western Dutch River Area and the Lower Rhine as a result of invasions at the end of the third century? We will review the relevant data.

<u>*Trade between Britain and the Rhineland*</u>

The second half of the third century has long been seen as a period of general economic decline, but this view cannot be sustained. Each province knew a distinct and individual economic development during this period.[14] In Britain, the economic development was quite good during the third century.[15] The production of textiles ameliorated, both in quantity and in quality.[16] Agriculture showed a positive development: the late third and early fourth century were a period of vigorous *villae* building.[17]

Although part of the Rhineland suffered from the attacks by the Franks, the area around Cologne and Trier prospered.[18] Trade between Britain and the Rhineland continued during this period, although on a lower scale. The trade contacts can be charted by the pottery, found in large quantities, while other traded goods like corn, textiles and raw materials hardly ever left archaeological traces.
The fact that the region and period of production of pottery can be determined is an important feature when trade contacts are monitored and mapped. Roman Britain imported (among other items) wine, olive oil and pottery, the latter mainly from Northern Gaul and the Eiffel.[19] The third- and fourth century pottery from the Eiffel found in Britain, the Mayen pottery, would have been part of the return freight connected to corn transports from this province to the continent.[20] Typically, pottery was a ‘gap filler’ combined with other trade products.

Britain in its turn exported pottery during this period, the ‘British ware’. It is mainly found in the Dutch River Area and in the north-western part of Gaul.[21] Not only the third- and fourth century pottery but also the late Roman *horrea* in Valkenburg (discussed below) bear witness to the corn transports from Britain.[22] As the Rhine was an important transport route in the trade between the Rhineland and Britain during this period, control of the river would have been vital.[23] Roman government would have gone to great length to control and guard the river in any period. Loss of control of the westernmost segment of the Rhine *limes* would not have been acceptable.

Demography and marshy conditions

The disintegration of the Roman Empire is supposed to have caused the decrease of population in the western part of the Dutch River Area at the end of the third century. However, the depopulation was most likely caused by the increasingly wet conditions in the area.[24] These marshy conditions were probably caused by large scale exploitation of peat land in the area and subsequent setting and oxidation of the soil. Also, creeks in the present day Westland (the area north of the Helinium, close to the coast) silted up, causing problems with the drainage of the hinterland.[25] Fireplaces were raised, a newly constructed *hypocaustum* was never used and ditch systems were extended. A large area of farmland was given up, for instance in present day Midden Delfland.[26]

The increased marshiness during the third century had been preceded by flooding of the Rhine from the middle of the second century onwards, causing erosion and sedimentation. As a result of this process, the *vicus* area of the Utrecht *(Traiectum) castellum* had to be raised.[27] Also, the subsoil in the *castellum* of Woerden *(Laurium)* was raised during the second half of the second century[28] and the same procedure was necessary in the settlement of Valkenburg- De Woerd[29] and in the *castellum* of Alphen aan den Rijn *(Albaniana)*. Part of the latter *castellum* even seems to be washed away during the last quarter of the second century.[30]

The very wet conditions in the western part of the Dutch River Area can be demonstrated on many spots while traces of a violent end are absent. We do not find skeletons in draw wells as are known from Speyer, no burn layer, no large scale destruction in the hinterland of the *limes.*
The fact that the coin series and other find material break off in many *castella* in the west around 275 AD probably was not caused by attacks and invasions but by the wet conditions and marshiness: these *castella* could no longer be used. But present day South- Holland, the area under discussion here, was not totally uninhabitable during the late third- and the fourth century. Along the Rhine, parts of a raised bank formed by the river remained unimpaired and so was the coastal bank.[31]
We will now try to find out whether any *castella* and settlements in the west were still in use at the end of the third century.

Continued use of some *castella*

Data from some recent excavations suggest continued use of some *castella* or settlements at the end of the third century. We have included older data when relevant. Figure 1 shows the Dutch *limes* segment for orientation.

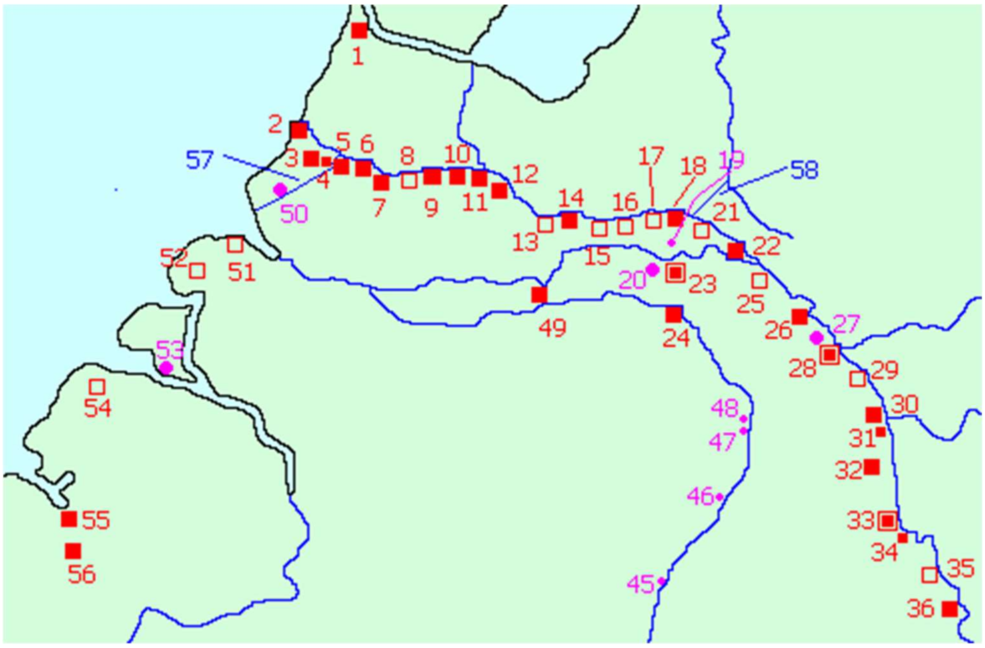


Fig.1 Dutch limes- segment (source: www.livius.org)

2. Katwijk	*9. Woerden*
3. Valkenburg	*10. De Meern*
5. Leiden- Roomburg	*11. Utrecht*

6. Alphen aan den Rijn	*14. Maurik*
7. Zwammerdam	*24.Cuijk*

In a preceding publication we have primarily discussed the *castella* and settlements to the east of Utrecht *(Traiectum)*.[32] Now we will discuss the area to the west of Utrecht.

Utrecht – Traiectum

The *castellum* under the Dom square was situated at ca. 1,2 to 1,45 m. above sea level.[33] Part of the *castellum* was excavated in 1929 and later by Van Giffen et al. The coins, found in the pre-detector era, are not conclusive for as far as the post-275 occupation is concerned. The youngest coin found by Van Giffen was struck for Gordianus III in 240 AD.[34] In the 19th century a coin for Galerius (305-311) had been found.[35] As the site only yielded fifteen coins, we did not make a coin histogram. Remnants of buildings from the fourth and fifth century were not found, but we do have find material from this period: a *fibula*, a hair pin, a fragment of a comb and dozens of pottery fragments.[36] We can assume some late Roman activity in the Utrecht *castellum*, but nature and scope are unknown.

Vleuten - De Meern

Only a few small scale surveys were carried out in the *castellum* area situated on the Hoge Woerd, ca. 3 m. above the direct environments.[37] Much remains unknown, but Fleur Kemmers published a comprehensive analyses of 745 coins from the site, many of which were found by amateurs using a metal detector.[38] Thirty one fourth century coins were found, a remarkable number compared to other *castella* in the western Dutch River Area.[39] A cluster of fourth century coins found near the Roman road to the north is understood by Kemmers as a clear sign of military occupation during the fourth century.[40]
We show the coin finds in a histogram (fig. 2).

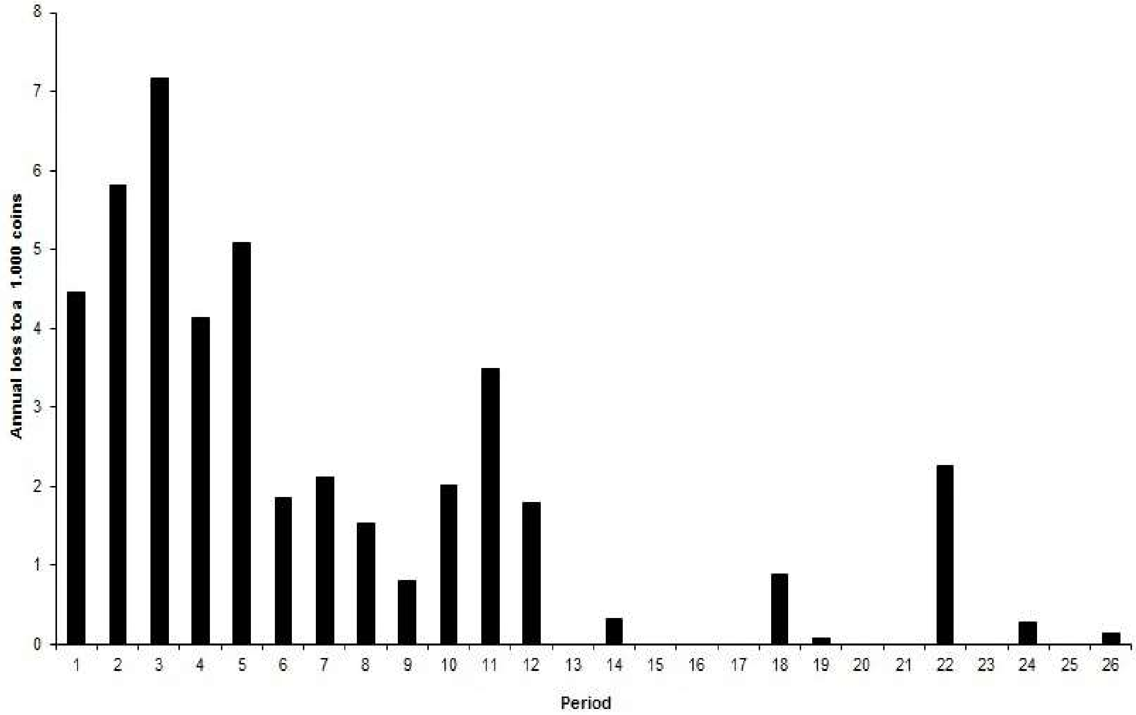


Fig. 2 Coin histogram castellum De Meern.

The histogram presents the weighed coin loss for each period.[41] The number of coins for a ruler or cluster of rulers is divided by the number of years covered by that period. The outcome is multiplied by a factor 1.000 and then divided by the total number of coins from the site. This correction standardizes the sites by computing the yearly loss per thousand coins. The calculated figures are presented in a bar chart, the histogram. The period numbers on the x-axis are explained in table 1.

Table 1

No.	Period	Beginning -end	No. of years
1	Augustan (Augustus, Tiberius, Caligula)	27 B.C.-41 AD	68
2	Claudian (Claudius, Nero, Civil war)	41-68	27
3	Flavian I (Vespasian, Titus)	68-81	13
4	Flavian II (Domitian)	81-96	15
5	Trajanic	96-117	21
6	Hadrianic	117-138	21
7	Antoninian I (Ant. Pius)	138-161	23
8	Antoninian II (M.Aurelius)	161-180	19
9	Antoninian III (Commodus)	180-192	12
10	Severan I (Septimius Severus, Geta, Caracalla)	192-217	25
11	Severan II (Elagabalus)	217-222	5
12	Severan III (Severus Alexander)	222-235	13
13	Post-Severan I (Maximinus I)	235-238	3
14	Post-Severan II (Gordian III)	238-244	6
15	Post-Severan III (Philip I)	244-249	5

16	Post-Severan IV (Decius, Gallus)	249-253	4
17	Post-SeveranV (Valerian I, Gallienus joint reign)	253-260	7
18	Gallic Empire (Postumus, Victorinus, Tetrici, Gallienus, Claudius II)	260-273	13
19	Pannonian-Illyric (Aurelian - Diocletian)	273-296	23
20	Tetrarchic (Diocletian, Maximian, Constantius, Galerius, Constantine I)	296-317	21
21	Constantinian I (Constantine I, Licinius)	317-330	13
22	Constantinian II (Constantine I, Constantine II, Constans, Constantius II)	330-348	18
23	Constantinian III (Constantius II, Magnentius, Julian)	348-364	16
24	Valentinian (Valentinianus I, Valens, Gratianus)	364-378	14
25	Theodosian I (Gratian, Theodosius I, Magnus Maximus)	378-388	10
26	Theodosian II (Theodosius I, Honorius, Arcadius)	388-402	14

Table 2 gives the total number of coins for each site and the source material. Republic and unidentified coins are disregarded.

table 2

site	**number of coins in histogram**	**source:**
De Meern	516	Kemmers 2009
Woerden	276	Kemmers 2008
Alphen aan den Rijn, 2001-2002	522	Kemmers 2004
Alphen aan den Rijn, Numis	235 [1]	Numis
Valkenburg, *castellum*	88	Beliën 2008
Katwijk- Zanderij	144	Beliën 2008
Cuijk	351	Kropff and Van der Vin 2003
Maurik	288	Kropff and Van der Vin 2003

1) without excavation 2001-2002

After discussing the individual sites, we will compare and analyse the histograms, in order to decide whether the site was abandoned or knew continuity.

Woerden – Laurium

The castellum of Woerden is situated on the Hoge Woerd (or Hoochwoert), 2,4 m. above sea level.[42] The coins are represented in the histogram of figure 3.

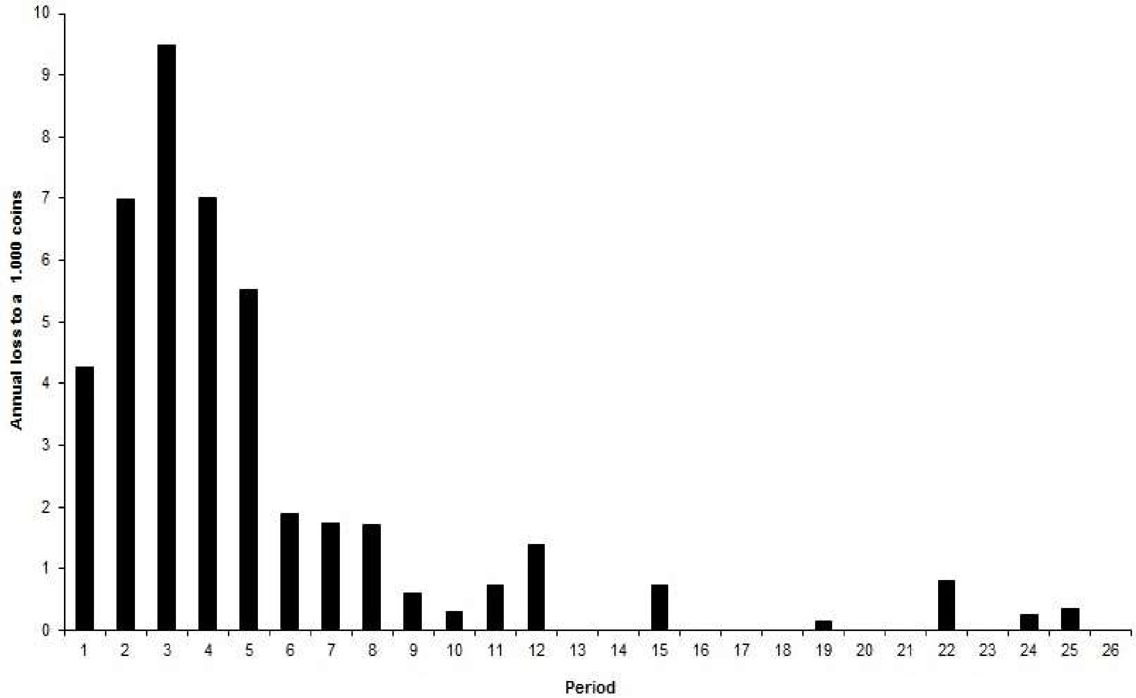


Fig. 3 Coin histogram castellum Woerden.

Coins from the fourth century were found, the youngest for Theodosius (379-395 AD).[43] The histogram and the pottery[44] suggest that full occupation ended around 230 AD. But in fact, dating the end of occupation is difficult. The youngest Roman levels were disturbed and removed during the Middle Ages, resulting in the loss of third and fourth century material.[45] However, the coins show fourth century activity on the site.

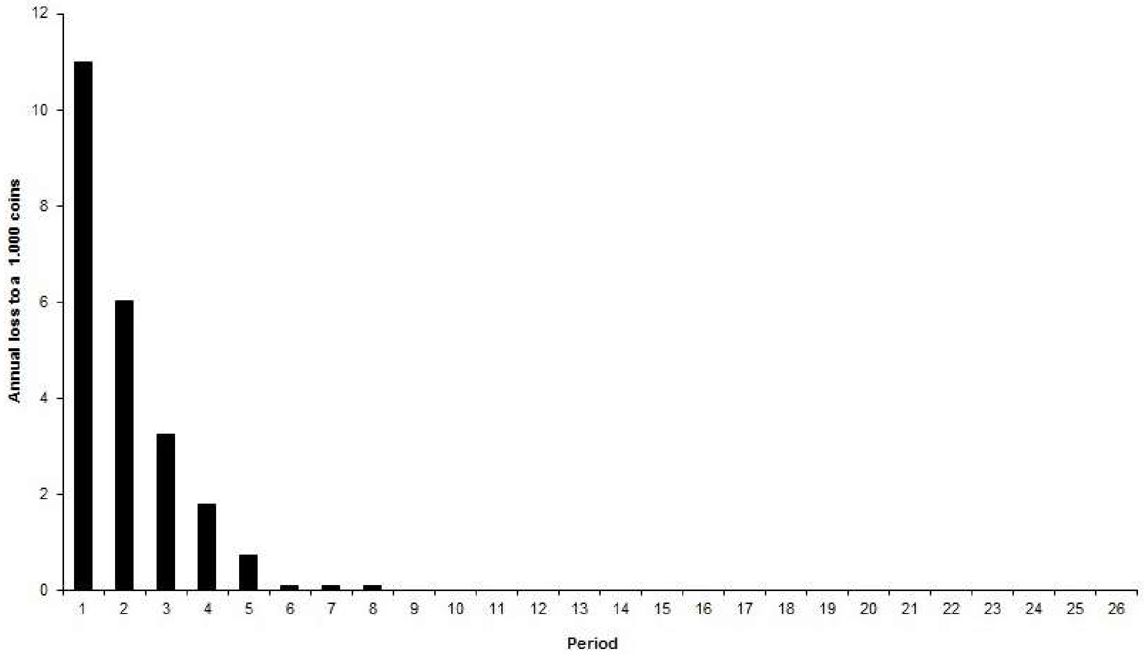
Zwammerdam – Nigrum Pullum

In Zwammerdam, the remnants of a small *castellum* have been fully excavated.[46] Around 275 AD it was probably accidentally destroyed by fire and was given up. From the 18th century on, late Roman coins have been reported, including a coin for Tacitus (275-276) and one for Honorius (393-423). After the excavations forty years ago, a coin for Constantine and sons was found.[47] The small number of post-275 AD coins and the other data from the excavation show, that the *castellum* was not (re)used after that date.

Alphen aan den Rijn – Albaniana

The *castellum* had to cope with flooding, beginning with the breakthrough of the Rhine upstream during the last quarter of the second century. The dry ditch *(fossa)* was partly washed away and a wall was undermined by the water.[48] A building inscription from 208-211 AD could have been connected to a partial reconstruction of the defences after this flooding.[49]
For the later periods, we see erosion of the youngest Roman levels.[50] Coin finds

from Alphen aan den Rijn are represented in two histograms: one of the coins from the excavation in 2001-2002 (fig. 4) and one of the total number of coins in the Numis database of the former Coin Museum in Utrecht (fig. 5).



Above: fig. 4 Coin histogram castellum Alphen aan den Rijn (Kemmers 2004).

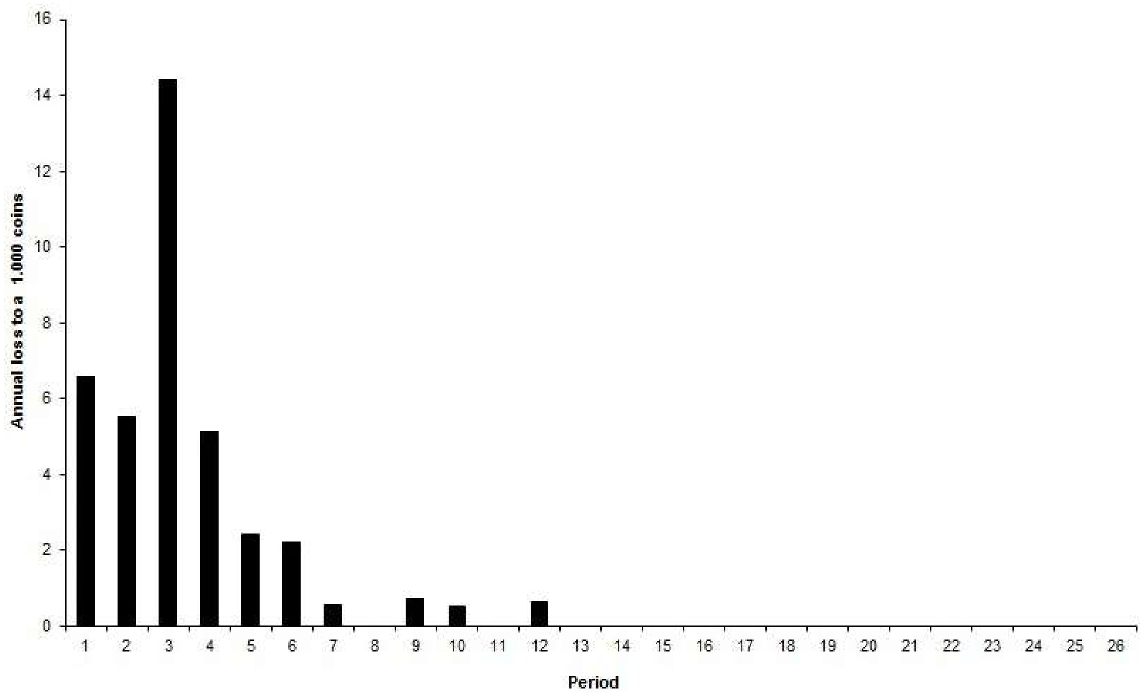


Fig. 5 Coin histogram Alphen aan den Rijn (Numis).

The histogram of the excavation shows a relatively early end to the coin loss while the histogram based on the Numis database shows coin loss up to period 12. The youngest coins date from the rule of Severus Alexander (222-235 AD). Also, a sigillata cup from the third century was found.[51] But as the youngest Roman layers have for the greater part disappeared, we are as yet uncertain about the end date of the *castellum*, although an evacuation around 275 AD has been considered.[52]

Leiden – Matilo

To the east of Leiden the *castellum* of *Matilo* was discovered, but not fully excavated. In view of the find material from the spot, an end date of around 275 AD has been proposed.

Valkenburg – Praetorium Agrippinae

The occupation of the *castellum* of Valkenburg is thought to have ended circa 260-275 AD, but in the fourth century two *horrea* were built. The proposed end date is not supported by the coin finds: the histogram (fig. 6) even suggests an end after the rule of Elagabalus (217-222 AD).

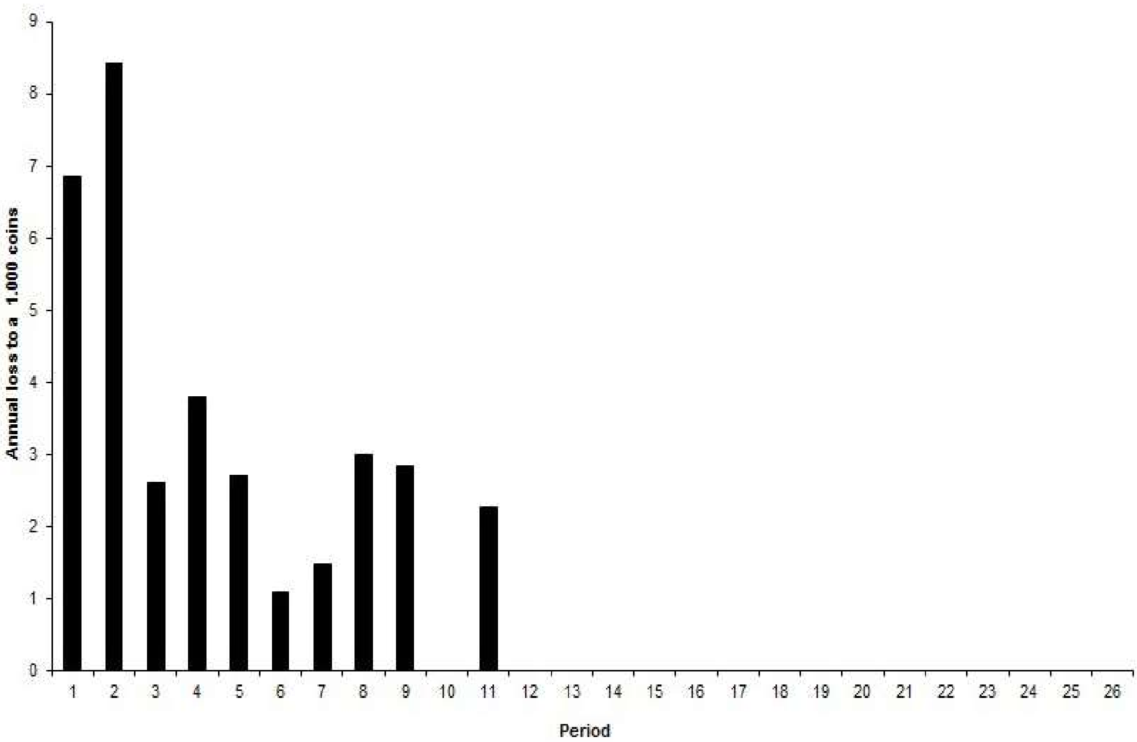


Fig. 6 Coin histogram castellum Valkenburg.

Other material from the second half of the third century is also absent, which presents an unexplained gap up to the (re)use of the *castellum* terrain in the fourth century.
In the adjacent settlement of Katwijk- Zanderij (discussed below) however, coins from the second half of the third century were found. New coins entered circulation only through the army and when army units left an area, the supply of new coins simply stopped.[53] The Roman Empire did not issue coins to facilitate civil transactions in ‘the market’ as is done in modern times. The late coins of Zanderij

would have reached the settlement through army units located in the *castella* of Katwijk (discussed below) and/or Valkenburg. As the remnants of the *castellum* of Katwijk are swallowed by the North Sea and the youngest Roman levels in Valkenburg could have disappeared as a result of erosion[54], the source of the late third century Zanderij coins remains unknown. However, the occupation gap between the mid third century and the fourth century *horrea* in Valkenburg might only be apparent.
Dendrochronological dating shows that one *horreum* could have been built shortly after 316 AD, but probably later in the fourth century. Repairs were made after 365 AD.[55] The archaeologists directing the survey did not link the *horrea* to a regular military occupation, but to the transhipment and storage of corn, shipped from Britain during the second half of the fourth century.

We suggest that the *castellum* might have had a limited military function in the late third- and fourth century: dendrochronological analyses has shown that the south wall of the *principia* has been repaired after 346 AD and after 354 AD.[56]

Katwijk- De Brittenburg – Lugdunum

The remnants of the Katwijk *castellum* are now situated under the North Sea, some 1.500 m. off the present coast line, but the precise location remains unknown. Any interpretation must consequently be based on drawings, paintings and etches made after the first time the walls, until then covered by dunes and the beach, were uncovered by the tide in 1520 AD. All representations show a square plan and an outer wall with (partly double) hemispherical towers and a rectangular building in the centre. (Fig. 7).

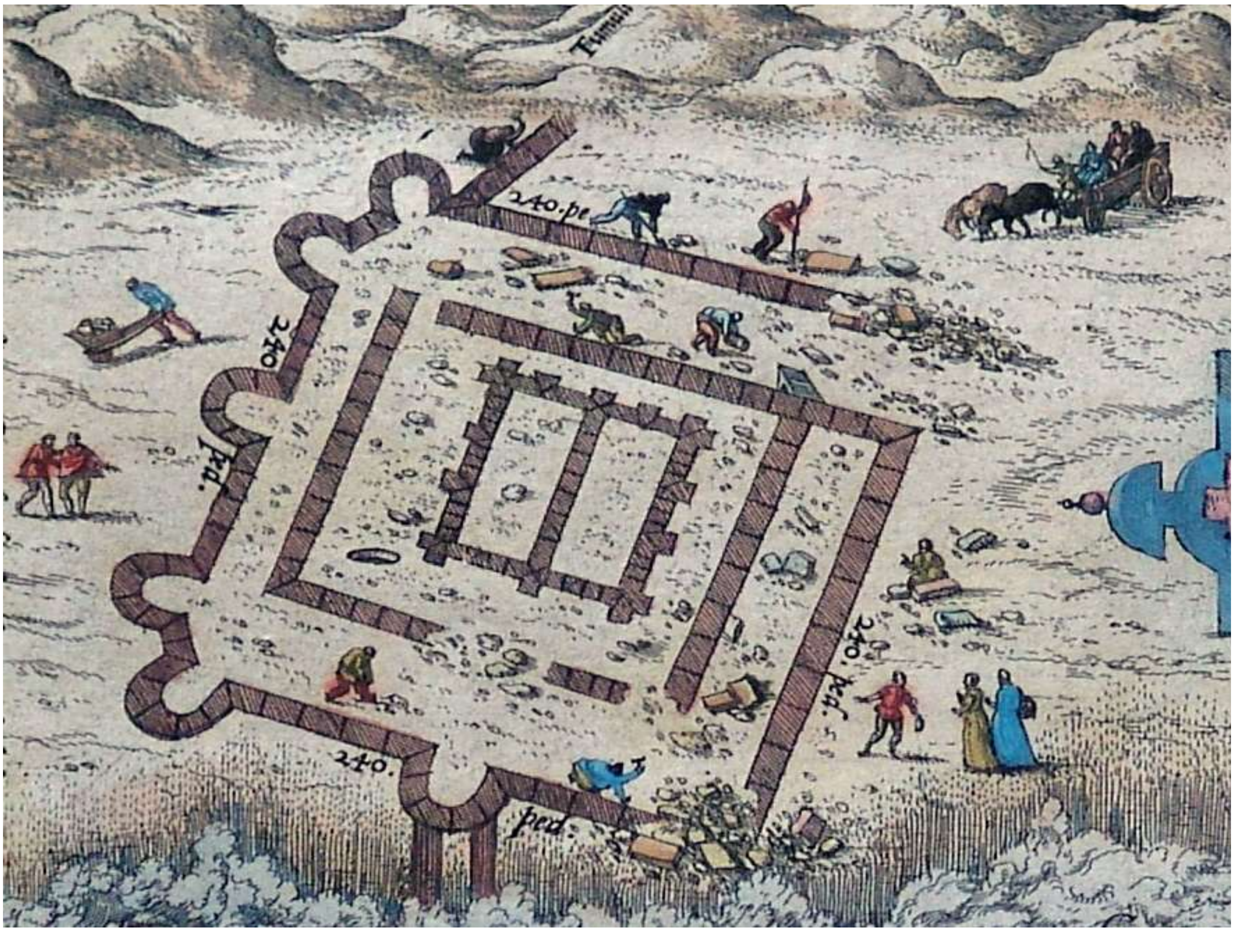


Fig. 7 Katwijk- De Brittenburg, detail of etching by Ortelius, 1581.

The most plausible interpretation is that of a *castellum*, apparently with a fourth century *horreum* within the walls.
Katwijk- De Brittenburg may have been a guarded granary during the fourth century, comparable to the last phase of the Valkenburg *castellum.*[57]

<u>*Katwijk- Zanderij*</u>

The Roman settlement on the location Katwijk- Zanderij Westerbaan is situated on a stable sandy subsoil at some distance from the Rhine mouth, so flooding would not have been a big risk.[58] The research team proposed occupation of the settlement during the period 40-250 AD. The end date has been linked to the "German raids" in the *limes* zone and the following "social and economic disruption".[59] And yet, coins produced after 250 AD were found on the site as can be seen in the histogram (fig. 8).

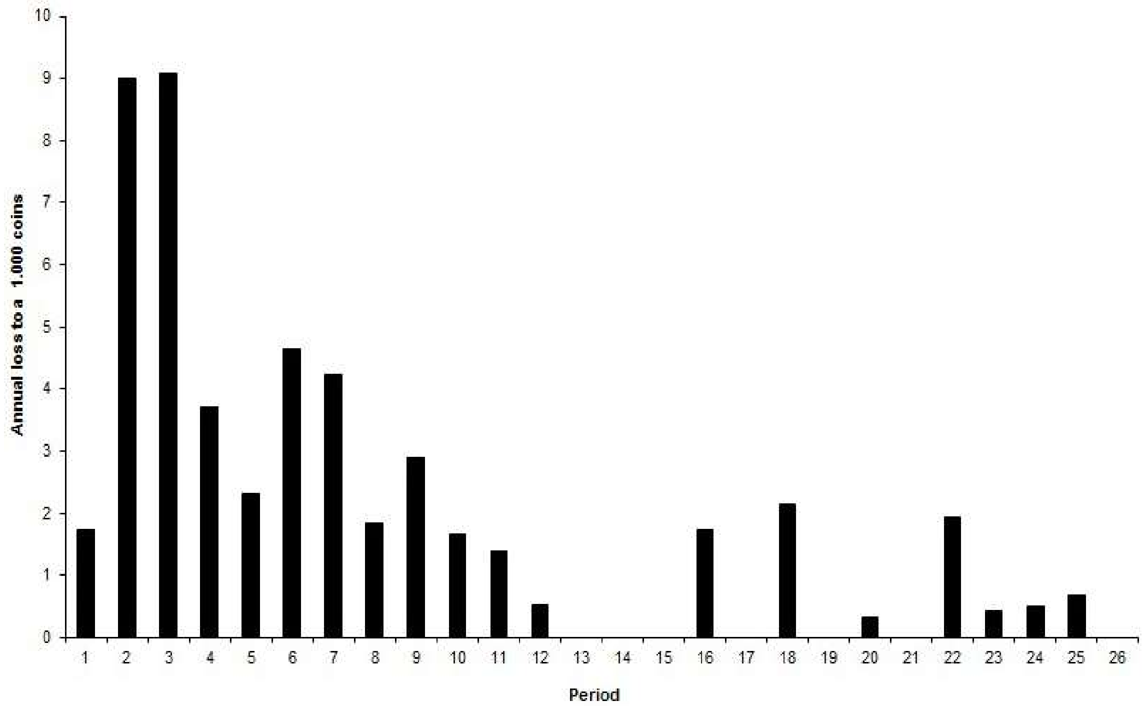


Fig. 8 Coin histogram Katwijk- Zanderij.

As pottery and other site finds dating after 250 AD were not found, the authors of the final report on Zanderij are hesitant to interpret the coins struck between 307 and 388 AD.[60] In their view, the coins may be related to fourth century activity on the site, but could also have been lost during the fifth or the sixth century.[61] Also, the authors state that the post- Severan coins (after 235 AD) do not necessarily show occupation of the site during the second half of the third century, as these coins might have entered the Zanderij coin pool during the fourth century.[62]
In our view, both presumptions are less probable considering the coin circulation in the Dutch River Area.[63] The coins do in fact show fourth century activity on the site.

Late third century coin circulation in the Dutch River Area

The histograms should be analysed in the context of the Dutch River Area coin circulation, which began to deviate from circulation in the central Empire from 260 AD on.[64] The area was a part of the independent Gallic Empire, ruled by the usurper Postumus and his successors to the throne between 260 and 274 AD. When governor Postumus made a bid for power in 260 AD, coin circulation in the then seceded Gallic Empire did not differ fundamentally from circulation in, for instance, the Balkans or Italy. Once coin production for Postumus (Fig. 9) had begun, his coins -and later those of his successors- began to dominate coin circulation in the Gallic Empire: Britain, Gaul, the German provinces and Spain.[65]

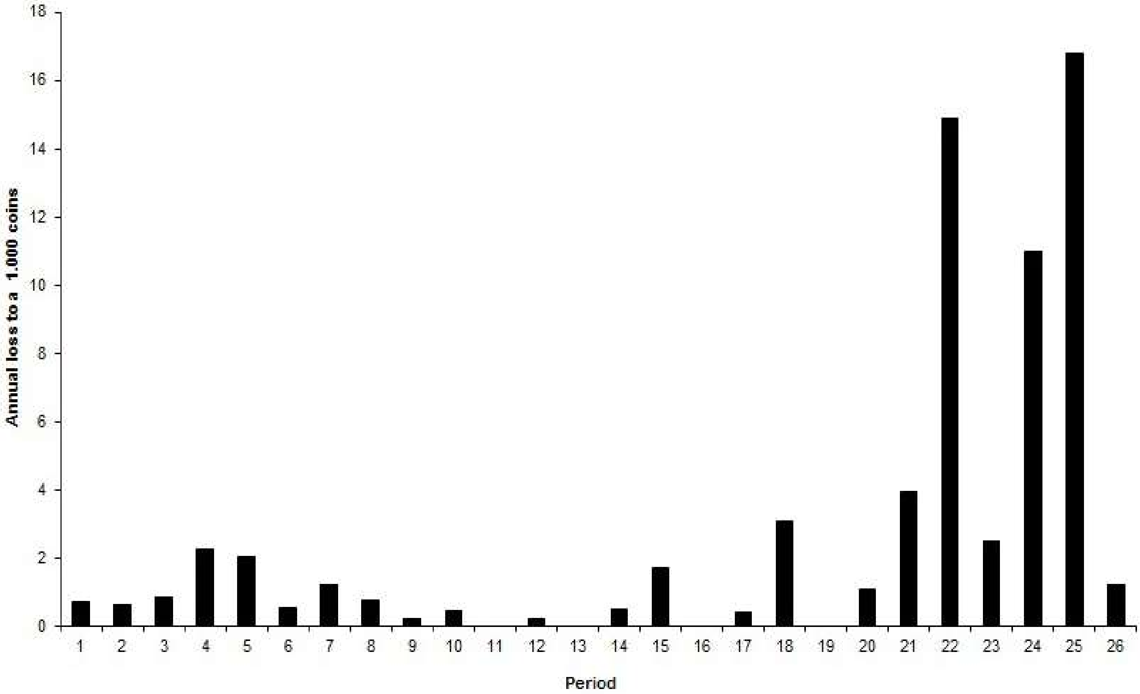
Fig. 9 Antoninianus for Postumus, Schulzki 61.

Between 260 and 274 AD, relatively small quantities of coins for the legitimate post-260 AD rulers Gallienus and Claudius II reached the west.[66] The coins of these emperors did not enter western coin circulation in considerable quantities until 274 AD when the Gallic Empire had ended.
Subsequently the coins of Gallienus and Claudius II dominated western coin circulation until 294 AD.[67] Alongside these coins, the coins of the last rulers of the independent Gallic Empire (Tetricus I and Tetricus II) and their locally produced imitations were an important component of western circulation until circa 280-282 AD.[68]

The coins for Aurelianus and his successors produced between 274 and 317 AD (period 19 and 20 in the histograms) hardly entered western circulation: the coins are scarce in the Dutch River Area. However, coins from this period were found in Cuijk (fig. 10) and Maurik (fig. 11) in the eastern Dutch River Area and in the west in De Meern (fig. 2), Woerden (fig. 3) and Katwijk- Zanderij (fig. 8). We will discuss the relevance of these finds in the paragraph ‘fleet or military patrols’.
In the central part of the Empire coins produced between 274 and 317 AD were circulating abundantly. The characteristic western ‘coin gap' for this period in the histograms is caused by the failure of the coin reform by Aurelianus in the west, probably related to logistical problems.[69]

Comparing the histograms

We will now compare the histograms of two settlements with apparent Roman continuity until the fourth century located in the eastern river area, Cuijk (fig. 10) and Maurik (fig. 11) with the histograms of the *castella* and settlement discussed so far.



Above: fig. 10 Coin histogram Cuijk.

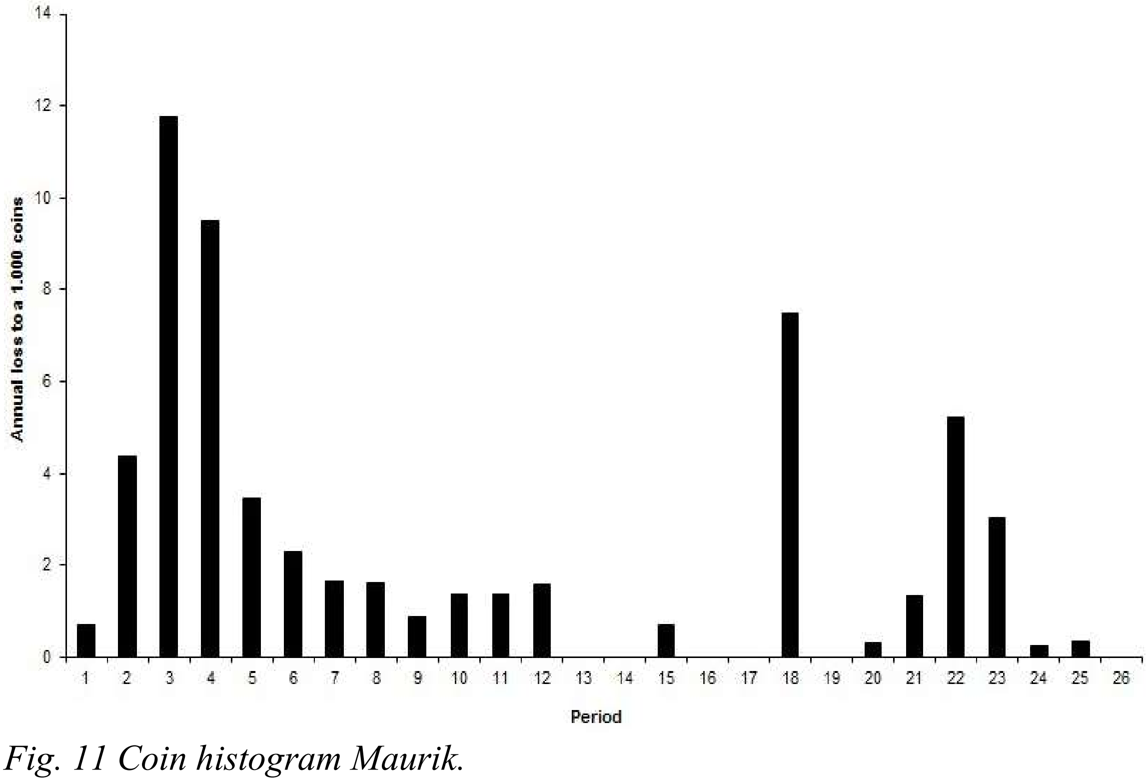


Fig. 11 Coin histogram Maurik.

The continuity in Maurik and Cuijk is shown by the histograms. In both these histograms the lack of coins for period 19 (274-296 AD), the small number of coins for period 20 (296-317 AD), the slight recovery for period 21 (317-330) and the notable increase of coin loss for period 22 (330-348 AD) does not show a break in continuity, but just illustrates the development of western coin circulation we have discussed. For as far as period 18-22 is concerned, the histograms of Cuijk and Maurik are quite similar.

The histograms for the *castella* of Alphen aan den Rijn and Valkenburg do not indicate late Roman continuity, although the *horrea* show fourth century activities in Valkenburg.
The histograms of Vleuten- De Meern (fig.2) Woerden (fig 3) and Katwijk- Zanderij (fig. 8) show post 274 AD activity but probably no full continuity of occupation. Katwijk- Zanderij is closest to Cuijk and Maurik, as the peak-gap-peak formation for period 18-22 shows.

The Roman Empire, a flexible system

In older research (but also in part of the recent surveys) the decades after 275 AD are usually seen as a period of crisis.[70] At the end of the previous century this view was challenged. Witschel stressed that the Roman Empire as a whole did not pass through a crisis, but rather developed new strategies to cope with the problems which did originate during this period.[71]
The fact that Witschel analysed individual provinces and individual types of human activity ('*Lebensbereiche*') proved to be important. Around 275 AD the situation in Britain was generally good, while northern Gaul was disrupted. With regard to the different human activities Witschel differentiates for instance between the political-military domain and the socio- economical domain.[72]

A striking example is the *Agri Decumates*, the area on the right bank of the Rhine, guarded by the limes of *Germania Superior* and *Rhaetia* (approximately present day Baden- Württemberg). Until recently, this part of the limes was supposed to have 'fallen' in 260 AD after which the area was thought to be taken over by the Alemanni. This hypothesis is now thought to be implausible. The *castella* in this area were indeed given up in 260 AD, but in good order without a fight. The area was not evacuated by the Roman army under military pressure but in view of internal- political considerations. The Alemanni did not occupy the area until the fourth century and until their arrival, the Romanised provincial population just carried on as usual.[73] A similar situation can be found in Dacia, evacuated by the army in 271 AD to stabilise the Danube *limes*. The rich upper class also left the province, but the Romanised middle and lower class provincials were tenacious of the accustomed Roman way of life and for the most part stayed on in towns and villages until the fourth century, when the Goths arrived in the area.[74]

The flexibility of the Roman Empire and its culture was remarkable and the inherent adaptability explains the longevity of the Empire.
We will now return to the western part of the Dutch River Area to see whether the area shows any form of continuity after 274 AD.

Lower Rhine *limes*: essential infrastructure

We have seen that the vast majority of the population left the western part of the Dutch River Area on both sides of the limes during the third century, while most of the *castella* were abandoned after 270-275 AD. We found no traces of violent attacks, but see the effects of water problems and marshiness on many locations. Did the evacuation of *castella* mean an end of the Roman sphere of influence in this area, or do we find continuity in any field of Roman activity or *'Lebensbereich'*? To answer this question, we will have to consider the function of the Rhine *limes*. The *limes* had always been a barrier to control the movement of persons and goods rather than an impenetrable wall of defence.[75] Also, the Rhine *limes* was an essential infrastructure, an important trade route between Britain and the Rhineland.[76]
At the end of the third century, the *limes* in the western Dutch River Area no longer guarded the deserted hinterland against (now also absent) invaders, it just had to guard itself. The *limes* now was solely a means of surveillance of the Rhine.[77]

<u>*Fleet or military patrols?*</u>

How did the Roman authorities ensure the safety of this transport route? First of all, infantry could have played a role in the surveillance. Also, naval units may still have been active on the Lower Rhine. The *Classis Germanica Pia Fidelis*, the Rhine fleet of old, did no longer exist at the end of the third century. The task of this Rhine fleet was now taken over by marine units of the legions, the *milites liburnarii*. The operational units were now smaller in size, less mobile, and were using lighter equipment.[78]

On the *castellum* terrains of Utrecht, Vleuten- De Meern and Woerden we noted late third century and fourth century coins and sometimes other find material. Remarkably, coins which are very scarce in the Dutch River Area have been found in De Meern, Woerden and Katwijk- Zanderij. In De Meern, a coin for the Emperor Tacitus (275-276 AD) was found.[79] Woerden yielded a coin for Diocletian (284-305 AD) [80] and Katwijk- Zanderij a coin for Maximinus as Caesar (305-308 AD).[81]

On the coastal banks, site finds testify to late third / fourth century points of support in Valkenburg (*horrea*) and at Katwijk- Zanderij. Valkenburg might have functioned in the fourth century as a guarded port for storage and transhipment as is testified by the *horrea* and the late repairs to the *principia*. Katwijk- De Brittenburg most likely was also part of a late Roman system to guard the Rhine and to store goods.

The *castella* and settlement with late Roman material are all situated on higher grounds where Roman units could 'keep their feet dry' and operate without difficulty. Between Woerden and the coastal banks, a very marshy peat area, we didn't find elevated spots and we have not noted material to indicate late points of support. Roman transports on the Rhine would not have been endangered here, through marshes saturated with water.

We would like to present the following hypothesis for discussion. The late third- and fourth century coin finds from the elevated terrains in the western part of the Dutch River Area show military activity on these sites after 275 AD. Coins from the period 274-317 AD would not have been introduced here if the occupation would have been of a civil nature: new coins came to the army only. Whether the military activities were related to naval units or to small infantry units we do not know.

Conclusion

The Roman *limes* in the western part of the Dutch River Area did not 'fall' at the end of the third century AD. At that time, this *limes* segment no longer functioned as a line of defence to keep raiders out and protect the hinterland, but as a guarded infrastructure, essential for transport and trade between Britain and the German Rhineland.
A linear, stationary defence bases on permanently occupied *castella* was no longer necessary because of the depopulation on both sides of the *limes* and in fact no longer feasible as a result of the marshiness in the area.

We propose the hypothesis that the permanent linear defence of the Lower Rhine was replaced by a new concept showing remarkable flexibility and continuity. At the end of the third century the Rhine was probably guarded by means of a mobile surveillance, using points of support on the elevated *castellum* grounds of Utrecht, De Meern and Woerden.
The mouth of the Rhine was also guarded. Late Roman find material from Katwijk-Zanderij shows that the fourth century *horrea* of Valkenburg did not stand on their own. Katwijk- De Brittenburg may also have played a role, guarding the mouth of the Rhine during the late third- and fourth century.
During this period the Rhine *limes* between Utrecht and the coast only had to guard one thing: itself.

** The author gratefully remembers Willem J. H. Willems. Before his untimely death he gave his comments and contributions.*

References

1 Van Es 1981[3], 121.
2 Kreucher 2008, 401.
3 HA Tac. 3.4; Prob. 13.5-8; Aur. Vict. Caes. 37.3; Eutr. 9.17.1; Zos. 1.67.1.
4 Witschel 1999, 348-349; Künzl en Künzl 1995, 3.
5 Dijkstra 2011, 72.

6 Kropff and van der Vin 2003, 80-81.
7 Dhaeze 2011, 197.
8 Kropff en van der Vin 2003, 79.
9 Ibidem 65-66; 83-84.
10 Ibidem, 83-84.
11 Willems and van Enckevort 2009, 48, 87, 100-101.
12 Dijkstra 2011, 81-83.
13 Ibidem, 70.
14 Johne and Hartmann 2008, 1033; De Blois 2007, 9.
15 Witschel 1999, 362.
16 Ruffing 2008, 839.
17 Witschel 1999, 371-372.
18 Ruffing 2008, 834.
19 Fulford 1978, 59-60.
20 Esmonde Cleary 1990, 33, 83.
21 Driessen and Besselsen 2014, 328, 471 note 187; Van Kerckhove and Driessen 2011, 16; Fulford 1978, 59.
22 Bechert and Willems 1995, 96; Ozinga 1989, 56; Groenman- van Waateringe 1986, 167.
23 Colenbrander (in discussion with J. Bazelmans) 2005, 37; Graafstal 2002, 3.
24 Kropff and Van der Vin 2003, 82.
25 Kropff 2008, 9; compare Dijkstra 2011, 34-35, 57-58.
26 Bloemers 1978, 96, 187-188; Dijkstra 2011, 71; Van Londen 2006, 137.
27 Ozinga 1989, 58.
28 Blom and Vos 2008, 415.
29 Bloemers 1980, 166; Bloemers 1978, 96.
30 Polak, Kloosterman c.s. 2004.
31 Dijkstra 2011: 81-83.
32 Kropff and van der Vin 2003.
33 Ozinga 1989, 37.
34 Ibidem, 156.
35 Ibidem, 55.
36 Ibidem, 41, 55, 152.
37 Bechert and Willems 1995, 86.
38 Kemmers 2009.
39 Ibidem, 30-32.
40 Ibidem, 45-46.
41 Kropff and Van der Vin 2003, 60-61; Casey 1988, 41, 45; Reece 1979, 175-176.
42 Bechert and Willems 1995, 86.
43 Kemmers 2008, 281.
44 Blom and Vos, 183.
45 Ibidem, 420.
46 Haalebos, J.K., 1977.
47 Dijkstra 2011, 425.
48 Polak c.s. 2004, 126.

49 Ibidem, 127.
50 Kemmers 2004, 181.
51 Polak c.s. 2004, 164.
52 Ibidem, 127, 253.
53 Aarts 2000, 41, 209; Casey 1986, 82; Willems 1984, 258.
54 Beliën 2008, 262.
55 Groenman and Van Beek 1988, 32.
56 Ibidem, 34.
57 Bechert and Willems 1995, 96-97.
58 Van der Velde, Van Doesburg, Müller and Waldus, 2008, 123.
59 Van der Velde 2008, 81.
60 Beliën 2008, 268.
61 Ibidem, 254-255.
62 Ibidem, 258, 260.
63 Kropff 2005, 79-81.
64 Kropff and van der Vin 2003, 58-59.
65 Besley and Bland 1983, 16.
66 Schulzki 1989, 51.
67 Ibidem.
68 Ibidem, 60.
69 Kropff 2005, 84-85.
70 Gerhardt 2008, 125-157; Johne and Hartmann 2008, 1031-1032; De Blois (contra) 2007, 5.
71 Witschel 1999.
72 Ibidem, 377.
73 Goltz 2008, 440-441; Glas and Hartmann 2008, 649-650; Witschel 1999, 214-217.
74 Hartmann 2008, 315-316.
75 Graafstal 2002, 3, 19.
76 Dhaeze 2011, 209; Graafstal 2002, 3.
77 Colenbrander (in discussion with J. Bazelmans) 2005, 37.
78 Dhaeze 2011, 52.
79 Kemmers 2009, 30.
80 Kemmers 2008, 280.
81 Beliën 2008, 268.

Literature

Aarts, J.G., 2000: *Coins or Money? Exploring the monetization and functions of Roman coinage in Belgic Gaul and Lower Germany 50 BC- AD 450,* Amsterdam.

Bechert, T. & W.J.H. Willems, 1995: *De Romeinse rijksgrens tussen Moezel en Noordzeekust*, Utrecht.

Beliën, P., 2008: De Romeinse munten aangetroffen op de Zanderij, in: H.M. van der Velde (ed.), *Cananefaten en Friezen aan de monding van de Rijn. Tien jaar archeologisch onderzoek op de Zanderij- Westerbaan te Katwijk (1996-2006)*, Amersfoort, 251-268.

Besley, E. & R. Bland, 1983: *The Cunetio Treasure, Roman Coinage of the Third Century AD*, London.

Bloemers, J.H.F., 1978: *Rijswijk (Z.-H.), 'De Bult'. Eine Siedlung der Cananefaten.* (Nederlandse Oudheden 8), Amersfoort.

Bloemers, J.H.F., 1980: Engelse drop. Een poging tot ontleding van het romanisatieproces in Nederland, *Westerheem* 29, 152-173.

De Blois, L., 2007: *Een eeuw van crisis, het Romeinse Rijk in de derde eeuw na Christus. Afscheidsrede,* Nijmegen.

Blom, E. & W.K. Vos, 2008: *Woerden- Hoochwoert. De opgravingen van 2002-2004 in het Romeinse castellum Laurium, de vicus en van het schip de 'Woerden 7',* Amersfoort.

Casey, P.J., 1986: *Understanding Ancient Coins*, London.

Casey, P.J., 1988: The interpretation of Romano-British site finds, in: P.J. Casey & R. Reece (eds.), *Coins and the Archaeologist*. 2nd print, London, 39-56.

Colenbrander, B., 2005: *Limes Atlas,* Rotterdam.

Dhaeze, W. 2011: *De Romeinse kustverdediging langs de Noordzee en het Kanaal van 120 tot 410 na Chr,* Gent.

Dijkstra, M.F.P., 2011: *Rondom de mondingen van Rijn & Maas, landschap en bewoning tussen de 3e en 9e eeuw in Zuid- Holland, in het bijzonder de Oude Rijnstreek,* Leiden.

Driessen, M. & E. Besselsen 2014: *Voorburg- Arentsburg: een Romeinse havenstad tussen Rijn en Maas* (Themata 7), Amsterdam.

Es, W.A. van, 1981[3]: *De Romeinen in Nederland,* Haarlem.

Esmonde Cleary, A.S., 1989: *The ending of Roman Britain*, London.

Fulford, M. 1978: Roman trade between Britain and the Rhine provinces: the scope of medieval historical and archaeological analogy, in: J. Du Plat Taylor & H. Cleere (eds.), *Roman shipping and trade: Britain and the Rhine provinces*. (CBA research report no. 24), London, 59-69.

Gerhardt, T. 2008: Forschung, in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlin, 395-423.

Glas, T. & U. Hartmann, 2008: Die Provinzverwaltung, in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlin, 641-672.

Goltz, A., 2008: Die Völker an der nordwestlichen Reichsgrenze (Rhein und obere Donau), in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlijn, 427-447.

Graafstal, E.P., 2002: Logistiek, communicatie en watermanagement. Over de uitrusting van de Romeinse rijksgrens in Nederland, *Westerheem* 51, 2-27.

Groenman- van Waateringe, W. & B.L. van Beek, 1988: De Romeinse castella te Valkenburg Z.H. Zeventiende opgravingscampagne 1980, Werkput VI 1, in: J.H.F Bloemers (ed.), *Archeologie en oecologie tussen Rijn en Vlie,* Assen- Maastricht, 1-121.

Haalebos, J.K., 1977: *Zwammerdam- Nigrum Pullum, ein Auxiliarkastell am Niedergermanischen Limes,* Amsterdam.

Hartmann, V., 2008: Claudius Gothicus und Aurelianus, in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlin, 297-323.

Johne, K.-P. & U. Hartmann, 2008: Krise und Transformation des Reiches im 3. Jahrhundert, in: K.-P. Johne, U. Hartmann en T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlin, 1025-1053.

Kemmers, F., 2004: Munten, in: M. Polak, R.P.J. Kloosterman & R.A.J. Niemeijer, *Alphen aan den Rijn – Albaniana, 2001-2002. Opgravingen tussen de Castellumstraat, het Omloopkanaal en de Oude Rijn,* Nijmegen, 165-187.

Kemmers, F., 2008: Munten, in: E. Blom & W.K. Vos, *Woerden- Hoochwoert. De opgravingen van 2002-2004 in het Romeinse castellum Laurium, de vicus en van het schip de 'Woerden 7',* Amersfoort, 269-288.

Kemmers, F., 2009: De Romeinse muntvondsten van het terrein De Hoge Woerd in

De Meern (gemeente Utrecht), *Jaarboek voor Munt- en Penningkunde* 95, 1-64.

Kerckhove, J. van, & M. Driessen, 2011: The city of Forum Hadriani: a supply centre for the military on the Dutch coast. The ceramic evidence. In: *Newsletter of the Study Group for Roman Pottery* 52, 10-17.

Kreucher, G., 2008: Probus und Carus, in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlin, 395-423.

Kropff, A.C., & J.P.A. van der Vin, 2003: Coins and continuity in the Dutch River area at the end of the third century AD, *European Journal of Archaeology* 6, 55-87.

Kropff, A., 2005: "Radiate copies": Late third century Roman emergency coins, *Revue Belge de Numismatique et de Sigillographie* 151, 75-96.

Kropff, A., 2008: De militaire context van Forum Hadriani, *Westerheem* 57, 2-15.

Künzl, E. & S. Künzl, 1995: *Ein Schatz aus dem Rhein: der grosse Kiesbaggereifund von Neupotz*, Rheinzabern.

Londen, H. van, 2006. De inheemse bewoning in het landelijk gebied. In: W. de Jonge, J. Bazelmans en D. de Jager (eds.), *Forum Hadriani. Van Romeinse stad tot monument.* Utrecht, 131-139.

Ozinga, L.R.P., M.D. de Weerd & M.J.G.Th. Montforts, 1989: Taiectum: een hulptroepencastellum aan de Rijn- limes, in: L.R.P Ozinga, M.D. de Weerd & M.J.G.Th. Montforts (eds.), *Traiectum: een hulptroepencastellum aan de Rijn-limes,* Utrecht, 37-62.

Polak, M., R.P.J. Kloosterman & R.A.J. Niemeijer, 2004: *Alphen aan den Rijn – Albaniana, 2001-2002. Opgravingen tussen de Castellumstraat, het Omloopkanaal en de Oude Rijn,* Nijmegen.

Reece, R., 1979: Zur Auswertung und Interpretation römischer Fundmünzen aus Siedlungen, in: *Studien zu Fundmünzen der Antike* 1, Berlijn, 175-195.

Ruffing, 2008: Die Wirtschaft, in: K.-P. Johne, U. Hartmann & T. Gerhardt (eds.), *Die Zeit der Soldatenkaiser, Krise und Transformation des Römischen Reiches im 3. Jahrhundert n. Chr. (235-284),* Berlijn, 817-841.

Schulzki, H.J., 1989: *Die Fundmünzen der römischen Strassenstation Flerzheim*, Keulen.

Velde, H.M. van der, J. van Doesburg, A. Müller & W.B. Waldus, 2008: Resten uit de Romeinse tijd in het centrale deel van de Zanderij: een Romeinse weg, in: H.M. van der Velde (ed.), *Cananefaten en Friezen aan de monding van de Rijn. Tien jaar archeologisch onderzoek op de Zanderij- Westerbaan te Katwijk (1996-2006)*, Amersfoort, 107-126.

Velde, H.M. van der, 2008: Sporen en structuren behorende tot de Romeinse nederzetting, in: H.M. van der Velde (ed.), *Cananefaten en Friezen aan de monding van de Rijn. Tien jaar archeologisch onderzoek op de Zanderij- Westerbaan te Katwijk (1996-2006)*, Amersfoort, 55-92.

Willems, W.J.H., 1984: Romans and Batavians. A regional Study in the Dutch Eastern River Area, II, *Berichten ROB* 34, 39-331.

Willems, W.J.H. & H. van Enckevort, 2009: *VLPIA NOVIOMAGVS- Roman Nijmegen, The Batavian Capital at the Imperial Frontier.* (JRA Supplemetary Series 73), Portsmouth, Rhode Island.

Witschel, C., 1999: *Krise - Rezession - Stagnation? Der Westen des römischen Reiches im 3. Jahrhundert n. Chr,* Frankfurt.