The paper offers an analysis of coins from several forts on the German frontier using a method established in one of the author’s earlier articles in order to test the orthodox date for the establishing of the German limes (AD 90). The coin lists of the selected forts were analysed in order to see whether those coin lists are homogeneous as might be expected from a single date given to the frontier. The analysis of the basic coin evidence provided in this paper suggests a spread of dates for the forts, both for beginnings and ends, rather wider than the years around a single calendar date. Thus the numismatic data supports other archaeological evidence for the formation and function of the German limes.

Key words: German limes, coinage, Hofheim, Hanau, Saalburg
Ključne riječi: Germanski limes, novac, Hofheim, Hanau, Saalburg

This short paper started as a series of notes made for British and German friends concerned with the current publication of the corpus of samian potters’ stamps. The Roman Frontier in Germany is important for the dating the working life of some of the potters whose products are widely distributed there. Now that the study has concentrated on the many different name-stamps that each potter used to mark his products detailed chronology has grown in importance. For the pottery experts in Britain there was a single orthodox date of c. AD 90 for the establishment of the frontier, but they were also aware that this date had been questioned in Germany by both the students of samian pottery and coins. Since the samian corpus will
be a major research tool for the future they wanted to take every precaution to make sure that they quoted reliable dates and asked me for an opinion as someone whose knowledge is based mainly on coins and on methods of dealing with lists of coins from sites.

The question had previously been discussed in detail by Prof Klaus Kortüm (Stuttgart) (Körtüm 1998) but as this had provoked rather acrimonious (though unpublished) arguments I thought it would be best to use my own methods to examine this question independently. This has the disadvantage that I have examined only disembodied coin lists published in the *FMRD* for a number of forts selected for me by Allard Mees (Frankfurt) because they had both good coin lists and information on samian pottery, and seemed likely to cover any possibilities of divergence in dating.

My aim is therefore to examine the coin lists of the selected forts to see whether those coin lists are homogeneous as might be expected from a single date given to the frontier. If the forts show divergences, the one from the other, a secondary aim is to see which forts resemble one another and which diverge. After an initial and, I hope, simple discussion of the numbers and possible divergences I aim to make purely coin-use and coin-list comments on what interpretations are possible, permissible and impermissible.

As a first step I went back to my paper in *Britannia* (Reece 1995). Those who are interested in the method can find it there together with the diagrams produced. I reproduce one of those diagrams (fig 6 in Reece 1995) to demonstrate the method and its uses. I have added several other sites to the original diagram and the result is reproduced here as fig.1.

The most useful point that can be derived from the diagram is the way that the different sites »take off« one after the other. So Southwark is the earliest to start, closely followed by London and Brecon. Since the coins were listed by imperial reigns (pre-Claudius, Claudius, Nero, Flavians) the resolution in the dating is roughly by 20 year periods and so cannot be made to confirm or refute textual evidence which usually deals in single calendar years. Nevertheless this corresponds well with the actual coins in the different coin lists – inevitable since the diagram depends on the coin lists – but it also agrees well with the current preconceptions of British historians. These are mainly derived from the classical texts to give a sequence of military campaigns in the first century of Roman occupation and the gradual northward spread of Roman domination. This does not necessarily mean that either the method or the preconceptions are right – simply that that are in agreement.

The vital point is that the *Britannia* method seems to be a good way to form a picture of a sequence of occupation on several sites deduced solely from their coins when judged against a background of British coin finds. It can be easily demonstrated that the SEQUENCE shown by such a diagram is virtually independent of the background, but that ups and downs and changes of direction DO DEPEND on the background. The method is therefore good for suggesting the outlines of a sequence (relative interpretation) but is of limited use for more detailed matters (absolute interpretation) such as start dates and dates of flourishing or decline.

Fig.1 involves British sites which traditionally spread between the Claudian (41-54) and the Hadrianic (117-138) periods. A first step was to put a selection of the German material on a similar diagram with no other aim than to produce a picture of the homogeneity of the German forts. The material was gathered by shorter reign-periods than the British material, but this is still a very blunt instrument compared with the more detailed work of Kortüm. The sites, and their material have all been taken from *FMRD* as used in the original paper by Körtüm (Körtüm 1998).
Bad Canstatt II 4 4458-63, 4466-68, 4475E1
Echzell V 2,1 2027

Frankfurt-Heddenheim V 2,2 2258-64

Frankfurt A (2258) 1. Das Steinkastell
Frankfurt B (2259) 2. Areal des Steinkastells
Frankfurt C (2260) 3. Vicus
Frankfurt D (2261) 4. Vicus – Grabung von Dr Ulrich Fischer, 1961-1963
Frankfurt E (2262) 5. Der Hallenbau am Marktplatz
Frankfurt F (2263) 6. Westthermen

Hanau-Salisberg V 1,1 1011, 1013
Heidenheim II 4 4183-8, 4183E1
Heldenbergen V 2,1 2128
Hofheim V 1,1 1089-94
Hofheim A (1089) Erdlager Einzelfunde
Hofheim B (1090) Angeblich Erdlager, Privatbesitz
Hofheim C (1091) Steinkastell Einzelfunde
Hofheim D (1092) Angeblick Steinkastell, Privatbesitz
Hofheim E (1093) Ausserhalb der Kastell anlagen (Süd und West Vicus) Einzelfunde
Hofheim F (1094) Ausserhalb der Kastell (Süd und West Vicus) Privatbesitz

Koengen II 4 4133, 4133E2
Rottenburg II 3 3317, 3317E1
Rottweil II 3 3204, 3207
Saalburg V 1,1 1158-63
Stockstadt I 6 6004-12
Weissenburg I 5 5099
As a first attempt these sites were set against a background based on »constant coin loss«. That is, though the numbers of coins on each site varied reign by reign they were set against a background in which it was assumed that the same number of coins was lost in each period. This is obviously wrong, but since it has already been pointed out that the relative SEQUENCE of sites does not depend on the background used there need be no objections.

The basic unit used was the *FMRD* find number. Most sites had reports of more than one find-group. For each site all the separate *FMRD* find-groups were compared (diagrammatically) with one another; where they were similar the *FMRD* find-groups were amalgamated to form one site-group. Where they were different they were kept separate and dealt with separately. It should be clear from fig.1 that while this is a good method for comparing up to about 10 sites all German 23 site-groups could not be put on one diagram. In fact the site-groups separated out into several diagrams which showed similarities between site-groups and differences between diagrams. I have selected 10 site-groups for fig. 2. It must be stressed yet again that the object of the exercise is only to give a picture of the similarity or difference between coin finds at different forts on the German frontier. More detailed interpretation must wait for the moment.

Fig.2

Fig 2 suggested to me many different possibilities, but the only interpretation that ought to be made from such a diagram, of site-groups set against a background of constant coin loss, is that the coin loss, and therefore presumably the coin supply on these sites was not uniform. It might be permissible to say that coin loss on virtually all sites was low up to the reign of Vespasian but changed on some sites during that reign.
Up to this point I think I have demonstrated only that coin loss on selected sites is not uniform. The immediate question to be asked is what the differences demonstrated consist of. Given that I can demonstrate that the background used DOES affect any more detailed absolute interpretation it would be good if further investigation went back as closely as possible to the actual numbers of coins found and avoided any use of a background.

If we want to compare several different site-groups of coins it is difficult to use a single diagram because the totals of the different groups of coins will be different and therefore the values for different sites will be on a different scale. For this reason it is necessary to pretend that all the site-groups have a similar total number of coins so that they will all then be of the same scale. The simple method of doing this is to reduce all groups to coins per thousand simply because the number of decimal points is reduced. Some people have an instinctive distrust of percentages – that they are manipulated and so not the same as actual numbers. A first step is to allay those fears.

Fig 3 shows the coins from Heidenheim first (3a) as actual numbers of coins and then (3b) as coins per thousand. The shape of the two diagrams is identical; the relationships formed by both numbers of coins and coins per thousand are the same.
So that several sites can be shown on one diagram it is easier to add up the coins from each site. Coins from the Republic are added to those of Augustus, coins of Tiberius are added on, and eventually the sum reaches the total coins from the site-group or 1000 if the coins have been expressed in per mills. Again, the two curves figs 4a and 4b, are identical.

If all 23 site-groups are shown on one diagram the result is confused. If the confusion is studied the different strands can be separated out so the »early flourishers« can be separated out from the »late flourishers«. The result is a placing together of coin-groups that look similar. This results in five clusters. To avoid worrying those to whom crude numbers are offensive I will give here only the diagrams of the five clusters but the actual numbers of coins, the coins per thousand, and the coins per thousand added up can easily be found in FMRD. Four of the clusters are illustrated on figs. 5, 6, 7 and 8. They move from the »early flourishers« to the »later flourishers«.

The presence of Hofheim in the earliest cluster, fig 5, is totally expected. Early coins from the earlier fort(s) are visible and the coins tail off very quickly at the end of the reign of Trajan. Finer tuning is of course possible but has not been attempted here. While early coins at Hofheim are obviously expected it is interesting that the method does separate out these site-groups of coins without any historical pleading.

The site-groups in fig 6 show coin loss under Vespasian and Titus and then strong growth under Domitian and Nerva. Coin loss seems to be slowing down under Trajan and weakening further after about 120. The cluster in fig 7 shows later movement than that in fig 6. There is movement in the later first century, but the strongest growth is under Trajan and Hadrian. The main growth in coin loss in fig 8 is from Nerva and then strongly under Trajan and Hadrian. I hope that I have restrained these comments to what is actually visible on the diagrams and what is visible on the diagrams is directly related to the actual numbers of coins lost, found and published. While of course later finds may change the pictures there do seem to be definite differences between the clusters which cannot be explained by giving all the forts the same starting dates and dates of flourishing and decline. These differences need to be examined further by someone conversant with the sites, their histories of excavation, and their material.
Frankfurt B, C and D form a further cluster whose values are erratic.

Meanwhile some questions can be put – though none can be definitively answered at this stage. It seems clear that some forts increase strongly in coin loss earlier and later than other forts. How can this be interpreted?
It might be easier to pose the vital questions if we take two sample forts, one »early flourisher« Hanau and one »later flourisher« Saalburg as on fig 9. It is quite clear from the diagram that coin loss on the two sites is different. The dates below the columns are the end-dates of reigns, so 79 shows the coins of Vespasian (69-79), 81 – Titus, 96 – Domitian, 98 – Nerva, 117 – Trajan, 138 – Hadrian, 161 – Antoninus Pius and so on. So both sites have coins of Vespasian, Titus and Domitian but Hanau has a considerably higher proportion. The sites differ most during the two-year reign of Nerva – Hanau being remarkably high (15%, 150 per mill) and Saalburg low as would be expected in such a short reign. Both sites are high under Trajan, but Hanau then declines under Hadrian while Saalburg rises to a peak and only then declines.

If the presence of coinage indicates an active settlement then both forts were founded under Vespasian, Hanau received direct supply under Nerva, which Saalburg did not receive, and Saalburg lasted longer in operation than Hanau. But are the coins of Vespasian and Titus evidence of flourishing settlement and activity on both sites, or on one site, or are those coins on both sites the contents of military purses brought to sites on which new forts were established under Trajan? In the case of Hanau I think this is impossible because of the totally abnormal and unexpected proportion of coins of Nerva. That does suggest to me direct supply rather than »drift« in purses and strong-boxes.

If an explanation of these differences is attempted on topographical lines then it must be remembered that the two forts were chosen from clusters with absolutely no thought in mind other than typicality. Such an explanation must therefore be for the clusters of which each fort is an example and not just the individual forts.

Perhaps I ought to say that I am sorry to end on a question at present unresolved. I cannot do this because I think it is the prime purpose of those who study material, that is, archaeologists, to provide irritating questions to orthodoxy based on textual assumptions. While the established view of the date of the Roman frontier in Germany is c. AD 90, clearly no adherent of the orthodox view would suggest that all the forts along the line were built in roughly the same year. But this attempt to consider the basic coin evidence does suggest a spread of dates for the forts, both for beginnings and ends, rather wider than the years around a single calendar date. In this it converges with the work of Kortümm who worked on much more varied evidence, in much more detail and with a more complex method.

ABBREVIATIONS

FMRD – Fundmünzen der römischen Zeit in Deutschland.

BIBLIOGRAPHY


RIMSKI NOVAC I GERMANSKA GRANICA

O datumu osnivanja i naseljavanja utvrda na rimskom limesu u Njemačkoj, za koji se tradicionalno uzima da je bio oko 90. godine, već se raspravljalo na temelju keramičkih nalaza i novca. U tom pogledu, Kortümmov je rad najpodrobniji, ali nije u potpunosti prihvaćen. U ovom se radu nastoji na najjednostavniji mogući način iskoristiti dokaze u obliku kovanica kako bi se razmotrilo ovo pitanje te se iznose neki rezultati koji upućuju na različite datume i osnivanja i naseljavanja odabranih utvrda. Opći je zaključak sukladan Kortümmovu detaljnijem djelu.