"The Circulation of Bronze Coinage in N.Gaul in the Mid-fourth Century A.D: the Numismatic Evidence for the Usurpation of Magnentius and its Aftermath, 350-361."

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"The Circulation of Bronze Coinage in N. Gaul in the Mid-fourth Century A.D: the Numismatic Evidence for the Usurpation of Magnentius and its Aftermath, 35o-361."

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The aim of the thesis is to use numismatic evidence to extend the picture of N. Gaul in 35o-361 which is available from other sources, and in particular to ascertain details about the usurpation of Magnentius in 35o-353, the German invasions of 35o-355 and the activities of Julian in 355-361.

1o3 hoards from Britain, Holland, Belgium, France, W. Germany and Switzerland are analysed, together with 54 site-finds from Belgium and the Rhineland which are compared with 5 site-finds from Britain and 6 from elsewhere in the Roman world.

A basic pattern of coin-loss in N. Gaul is identified from the site-finds which, when compared with the pattern found elsewhere, reveals a shortage of coin in N. Gaul in 354-361 as a result of the German invasions. One answer to this shortage was to strike barbarous copies, the distribution of which is seen to correspond to the areas which had survived the invasions or where the scene of Julian's work of reconstruction. In addition a series of hoards, destruction levels and intensively occupied hill-top refuges helps to plot the course of the German invasions.

More general matters of coin-circulation are discussed. Various circulation-"pools" are identified and their relationship to one another analysed; coin supply as well as the reasons for and the speed of coin movement are studied. Movements of personnel or troops, as well as administrative links, are identified as the main factors in coin movement in N. Gaul.

Particular attention is paid to methods of analysis and to the reliability of the evidence from hoards and site-finds, especially the latter, and ways are determined of recognising distorted or unreliable finds.

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Abbreviations

Ancient sources are cited according to PLRE i.p.xif.

ANRW Aufstieg und Niedergang der Römischen Welt.
Arch.Belg. Archaeologica Belgica.
Arch.J. Archaeological Journal.
BAR British Archaeological Reports. Oxford.
BAR int.ser. " " " International Series.
BCEN Bulletin du Cercle d'Etudes Numismatiques.
BerRGK Bericht der Römisch-Germanischen Kommission.
BJb Bonner Jahrbücher.
BSFN Bulletin de la Societé Française de Numismatique.
Bull.Inst.Arch. Bulletin of the Institute of Archaeology. London.
CAAAH Cahiers Alsaciens d'Archéologie d'Art et d'Histoire.
CAHA Cahiers d'Archéologie et d'Histoire d'Alsace.
CIL Corpus Inscriptionum Latinarum.
FMRD Fundmünzen der Römischen Zeit in Deutschland.
FMRL " " " " im Großherzogtum Luxemburg.
FMRÖ " " " " in Österreich.
Germ. Germania.
JbFL Jahrbuch des Historischen Vereins für das Fürstentum Liechtenstein.
JMP Jaarboek voor Munt- en Penningkunde.
JNG Jahrbuch für Numismatik und Geldgeschichte.
JRS Journal of Roman Studies.
KJb Kölner Jahrbuch.
LRBC Late Roman Bronze Coinage. 1.P.Hill & J.Kent. 2.R.Carson & J.Kent.London.1960.
LRE The Later Roman Empire. A.Jones.1964.
Mitt.HVPf Mitteilungen des Historischen Vereins der Pfalz.
MZ Mainzer Zeitschrift.
NC Numismatic Chronicle.
NGL Der Niedergermanische Limes. Bogaers & Rüger.1974.
Num.Nachrbl. Numismatisches Nachrichtenblatt.

NZ Numismatische Zeitschrift.

PfälzH Pfälzer Heimat.

PfMus Pfälzisches Museum.

PLRE Prosopography of the Later Roman Empire. Jones, Martindale & Morris.1974.

PSAScot Proceedings of the Society of Antiquaries of Scotland

PSH Publications de la Section Historique de L'Institut (Royal) Grand-Ducal de Luxembourg.

PWRE Pauly-Wissowa, Real-Encyclopädie der Classischen Altertumswissenschaft.

RAE et CE Révue Archéologique de l'Est et du Centre de l'Est.

RBN Révue Belge de Numismatique.

RIC The Roman Imperial Coinage. ed.H.Mattingly & E.Sydenham.

RN Révue Numismatique.

RRSCALon Reports of the Research Committee of the Society of Antiquaries in London.

SFMA Studien zu Fundmünzen der Antike.ed.M.R.-Alföldi.

SM Schweizer Münzblätter.

SNR Schweizerische Numismatische Rundschau.

TZ Trierer Zeitschrift.

WAM Wiltshire Archaeological and Natural History Magazine.

WZ Westdeutsche Zeitschrift.

WZKorrbl. " " Korrespondenzblatt.

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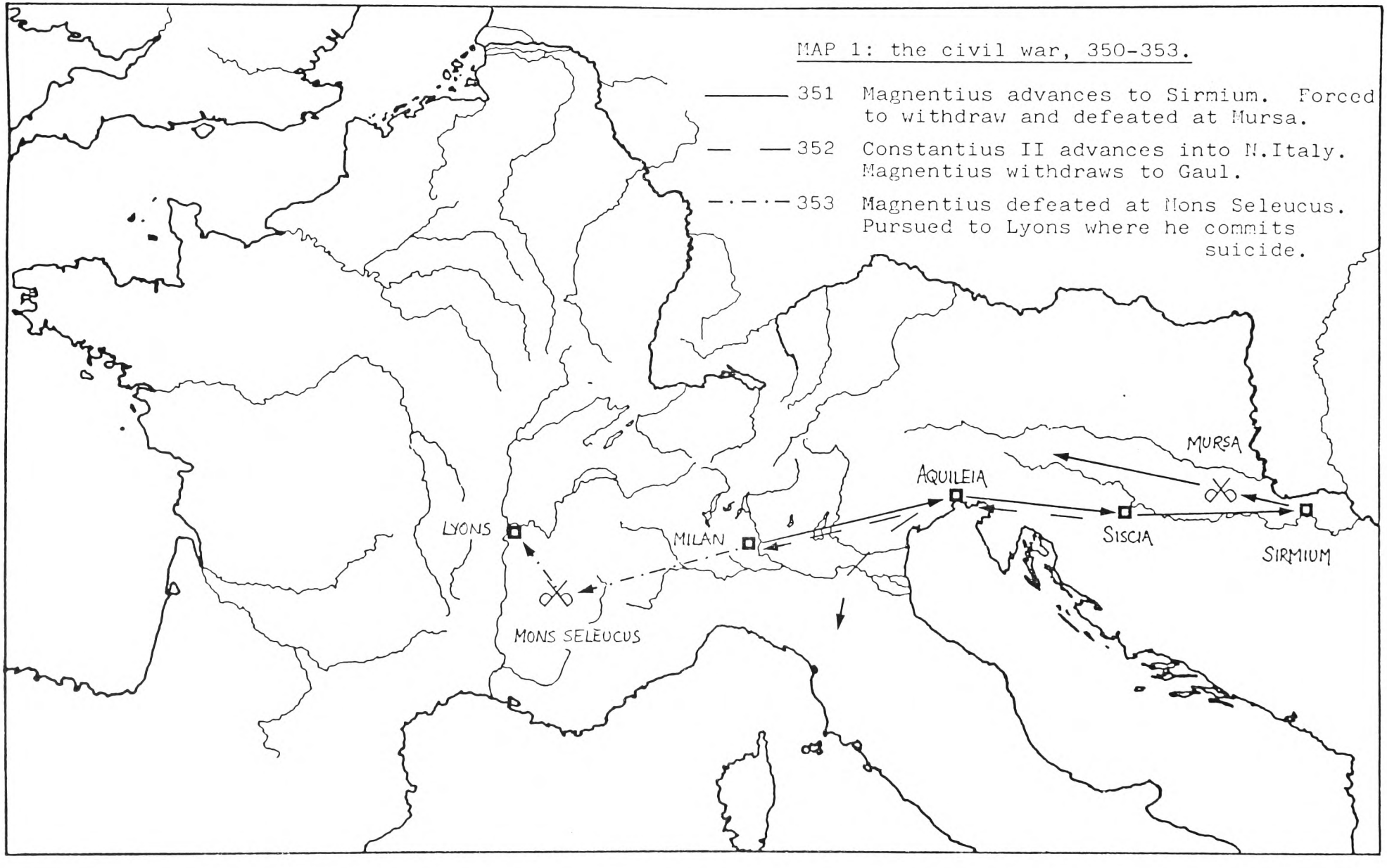
Finally I would like to remember the late Donald Strong, who played a large part in encouraging my youthful interest in the ancient world.

INTRODUCTION

1. Historical outline: the Rhineland, 350-361

On January 18th 350, while the Western Emperor Constans was absent on a hunting trip, various important members of his court were invited by the Comes Rei Privatae, Marcellinus, to a banquet at Autun in central Gaul. As the evening wore on and the wine began to take effect Flavius Magnus Magnentius, commander of the Palatine legions of the Joviani and Herculiani, was suddenly presented to the assembled guests in full Imperial insignia as their new Emperor.[1] Such was the unpopularity of Constans that the usurper was immediately recognised not only by those present at the banquet, but also by the army and populace, and Constans himself was assassinated some days later as he attempted to escape to safety.[2]

But while the palace coup which brought Magnentius to power was in the short term relatively bloodless,[3] the usurpation committed the resources of the Gallic provinces to a protracted and bloody struggle with long-lasting, and for N.Gaul at least, crippling effects. Like many other usurpers Magnentius had probably hoped to be recognised by the surviving official Emperor, Constantius II, the brother of Constans and Augustus in the Eastern provinces. Magnentius made several peace overtures to Constantius II in 350 in an attempt to be recognised, but Constantius II was determined to avenge his brother's murder and rejected all such moves.[4] On hearing the news of Constans' death he had immediately marched West and by December 25th 350 had neutralised Vetranio, the Magister Peditum in Illyricum, who had set himself up as Augustus in Constans' Balkan territories on March 1st 350, quite probably with the connivance of Constantius II in order to prevent the area coming under the control of Magnentius.[5] However bad weather prevented Constantius II from continuing his advance into Italy straightaway and so quickly eliminating Magnentius, and the stage was set for a bloody civil war which lasted through three campaigning seasons.[6]


MAP 1: the civil war, 350-353.
351 Magnentius advances to Sirmium. Forced to withdraw and defeated at Mursa.
352 Constantius II advances into N.Italy. Magnentius withdraws to Gaul.
353 Magnentius defeated at Mons Seleucus. Pursued to Lyons where he commits suicide.
MURSA
AQUILEIA
SISCIA
SIRMIUM
LYONS
MILAN
MONS SELEUCUS

The main events of the civil war took place along the axis S.France/N.Italy/N.Yugoslavia (Map 1).[7] Magnentius gathered his army in N.Italy before assuming the offensive in the summer of 351, advancing into Pannonia along the Save valley. This advance was checked at the Battle of Mursa, a decisive but Pyrrhic victory for Constantius II, who then advanced slowly but inexorably West, driving Magnentius out of N.Italy in late summer 352, and inflicting upon him a final defeat in the Cottian Alps in summer 353. Magnentius fled to Lyons where he committed suicide on August 10th 353, and his brother and Caesar, Decentius, followed suit eight days later.

Although N.Gaul was not the scene of the main fighting in 351-353, the area was nonetheless affected in several ways. Ammianus Marcellinus records that a certain Poemenius led a rebellion of the city of Trier against Decentius, an event which is dated, mainly on numismatic grounds, to the closing months of the civil war.[8] This event probably lies behind Zosimus' comment that before the final and decisive battle against Constantius II, Magnentius was worried about the loyalty of Gaul, some areas of which had revolted in support of Constantius II.[9]

However of much greater significance for N.Gaul was the fact that Magnentius drew the majority of his forces for the campaigns against Constantius II from the Rhine army, so weakening the defences of Gaul against any threat from across the frontier.[10] This then became more than just a temporary withdrawal of military resources when an estimated 24,000 of Magnentius' army of 36,000 perished at the Battle of Mursa. This was a loss from which the Western army took a very long time to recover.[11]

But the aspect of the civil war which had the longest-lasting effect upon N.Gaul was the decision taken by Constantius II to open a second front against Magnentius by encouraging the Germans to invade Gaul, and so prevent the usurper from concentrating all of his forces in the main theatre of war.[12] The literary sources give little indication of just when the German attacks started, although Zosimus seems to suggest that it was not until the closing

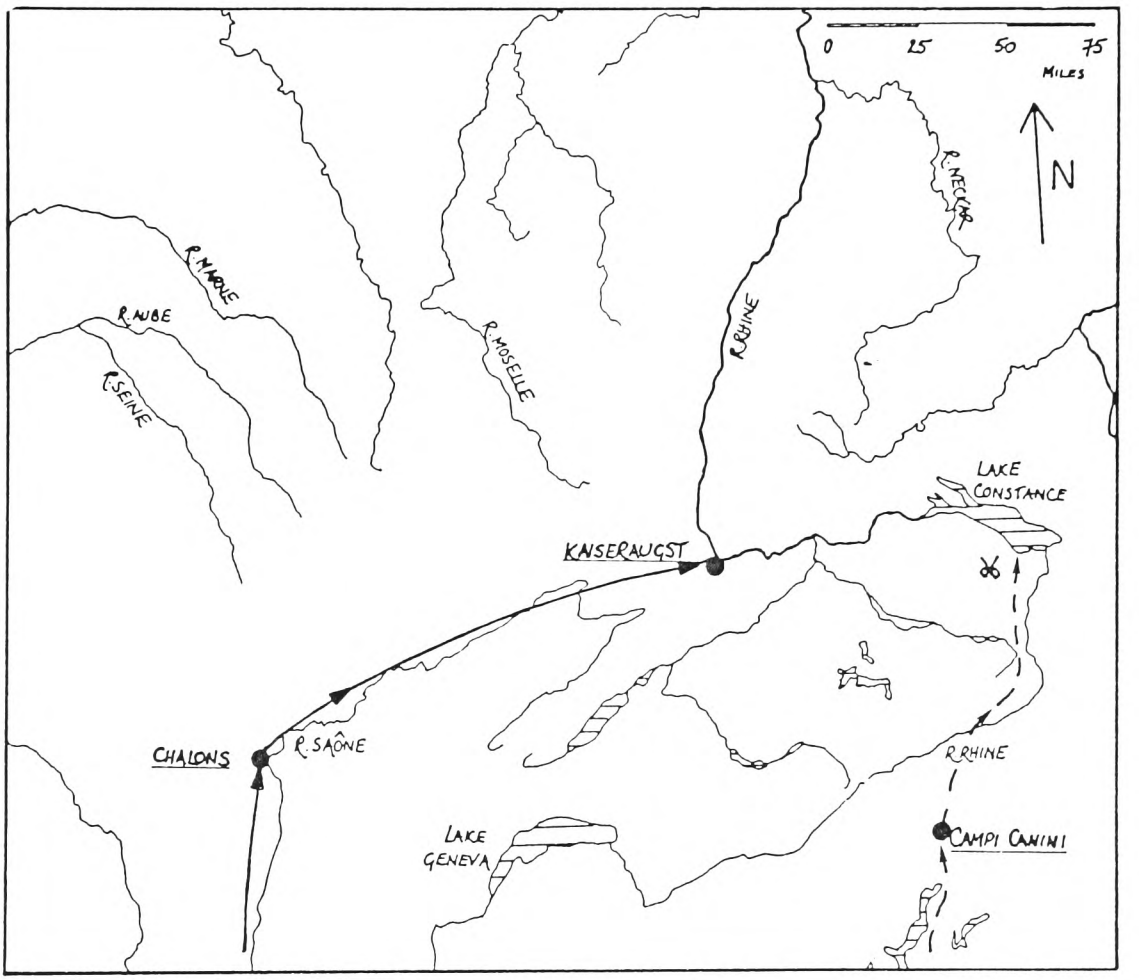
stages of the civil war.[13] But Magnentius was certainly aware of this potential at an early stage when in the winter of 350/351 he appointed his brother Decentius as Caesar in Gaul to forestall any moves by the Germans, as well as to protect his own northern flank while he himself took the field against Constantius II.[14]

There are perhaps some hints in the sources that the Germans were already posing a threat to Gaul even before they were encouraged by Constantius II. When Magnentius seized power in January 350 cavalry reinforcements had just arrived in Gaul from Illyricum; had Constans before his assassination perhaps planned some military undertaking which required these reinforcements?[15] Furthermore Julian describes Magnentius' army in the civil war of 350-353 as "collected to use against the barbarians, but actually used against us", although this may be no more than a generalisation about the proper use of any Roman army.[16]

But whenever these German attacks did actually begin, the damage they caused is clear. Libanius writes "...and sending (by Constantius II) letters to the barbarians he actually opened up Roman territory to them, for he permitted them to occupy as much territory as they could." His continuation reveals the helplessness of Gaul with its main army fighting elsewhere; "...and they swept in with absolutely none to stop them, for Magnentius had his army in Italy."[17] Ammianus supports this, recording a victory of the Alamannic king Chnodomarius over Decentius at some time and emphasising the lack of resistance met by the Germans "who for a long time overran Gaul without opposition."[18]

Constantius II may have originally encouraged the German attacks merely as a useful strategy in the civil war, but the final overthrow of Magnentius in 353 did not put an end to them, and German aggression continued. In 354 the position was serious enough for Constantius II to use it as an excuse for gradually undermining the position of his troublesome Caesar, Constantius Gallus; according to Ammianus Constantius II wrote to Gallus saying that the Empire should not be divided, but each should help it as much as

MAP 2. The Campaigns of Constantius II, 354-356.



354 ————

355 — — — — Constantius II remains with reserve force at Campi Canini, Barbatio advances to Lake Constance and defeats Alamanni.

356 Constantius II advances from Milan and crosses the Rhine into Alamannic territory. Further details are unknown, but presumably the route taken across the Alps from Milan was the same as in 355.

possible when it was in trouble, "doubtless referring to the destruction of Gaul" adds Ammianus.[19] Constantius II himself embarked on a series of campaigns, the aim of which was to secure the areas of Gaul and Raetia that were nearest to Italy, taking the field in 354, 355 and 356 (Map 2).[20]

However less is known about the situation further down the Rhine in N.Gaul. By the time that Silvanus was appointed Magister Peditum in Gaul, probably in late 353, the situation was already very bad, highlighting how severely Gaul had been suffering during the closing stages of the civil war.[21] No details of Silvanus' actions are known, although Julian claims that he bought rather than fought off the barbarians.[22] Ammianus, on the other hand, attributes some measure of success to him.[23]

However any stability created by Silvanus was undone when palace intrigues forced him to usurp the purple at Cologne in August 355.[24] Perhaps fortunately for Gaul he was lynched by his troops after only 28 days in power when Constantius II sent Ursicinus to plot against him. But although Gaul may have been spared another damaging civil war, the morale of the Rhine army can hardly benefitted, and with no really effective countermeasures being taken, the German raiding was continuing with impunity.[25] Indeed only a few months after the usurpation of Silvanus the city of Cologne fell to the Franks after a desperate siege.[26]

The situation called for decisive action but Constantius II felt unable to take the field in person in such remote areas because of both the political and military risks involved.[27] But on the other hand there was the danger that unless effective action was taken, Gaul might produce another usurper.[28] His answer was to appoint his young cousin Julian as Caesar in November 355, and to send him to Gaul.[29]

The sources provide a graphic description of the situation which awaited Julian. The German attacks had been continuing for several years, and had taken the form of more than just intermittent raiding. The Germans had occupied a great deal of Roman territory and sacked many

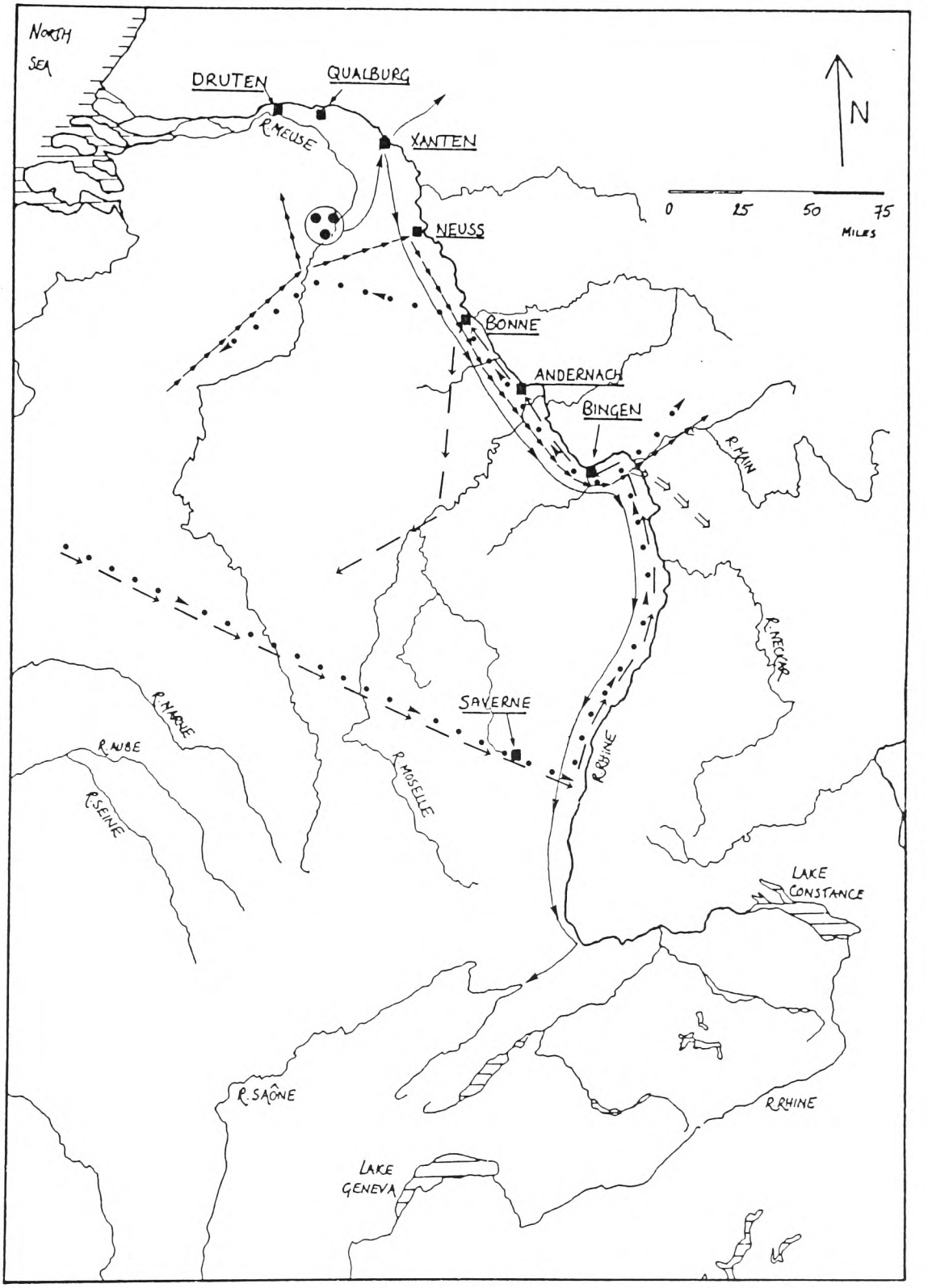
towns. Julian talks of a strip some 40 miles wide on the left bank of the Rhine being occupied, and another 120 miles being so ravaged that it was no longer inhabited; 45 cities had been destroyed, plus numerous forts and smaller posts, while other cities had been abandoned because of the proximity of the Germans.[30] Libanius confirms that the Germans had settled and were now cultivating Roman territory, whilst those cities that had escaped the destruction were forced to rely on agriculture within their own walls.[31] Zosimus talks of some 40 cities having been captured or sacked.[32] Other information merely colours rather than changes the picture; on his first campaign Julian learned that all of the major towns from Strasbourg to Mainz had fallen, and when he marched to retake Cologne he encountered only two places still in Roman hands: the "oppidum" of Rigomagus, near Koblenz, and a "turris" in the vicinity of Cologne.[33] The next year (winter 357/8) he had to deal with a band of 600 Franks who were plundering along the Meuse valley in an area "praesidiis vacua."[34]

Apart from having occupied a great deal of land the Germans were also raiding deep into the interior of Gaul. At the beginning of the campaigning season of 356 we find the Alamanni besieging Autun and then attacking Julian as he marched from Auxerre to Troyes, which was also living in fear of an impending attack.[35] The following winter the Alamanni even besieged Julian for one month in his winter quarters at Sens.[36] On a smaller scale, a band of Laeti managed to slip between the armies of Julian and Barbatio in 357, and penetrated as far south as Lyons.[37]

One last indication of the generally ravaged state of N.Gaul is provided by the repeated problems faced by Julian in supplying his troops, a theme which recurs throughout Ammianus' account of Julian's campaigns. The Rhineland was apparently incapable of supporting the army and supplies had to be brought in from elsewhere.[38] It was not until 359 that Julian managed to rectify this situation by regaining control of the Lower Rhine, building granaries, and organising grain shipments from Britain.[39]

However the appointment of Julian marked a watershed

MAP 3. The Campaigns of Julian, 356-360.



356 → — → Refortifies Saverne

357 • • • • ▸ Refortifies "munimentum Traiani" on the Main.

358 →→→→→ Rebuilds three forts along the Meuse.

359 ⇒ ⇒ ⇒ ⇒ BINGEN Seven civitates on Lower and Middle Rhine rebuilt to secure grain supply.

360 ——→——→ Campaign against Franks on L.Rhine and tour of inspection of frontier.

in the fortunes of Gaul. In a series of campaigns in which he proved himself a determined and competent commander he re-established control of the left bank of the Rhine and several times crossed that river on punitive expeditions into German territory. Heavy building activity is also recorded by Ammianus, but this seems to have been confined to repairing and restoring destroyed or deserted fortifications rather than building new ones (Map 3).[40]

Testimony to the success of Julian is provided by the fact that when in 361 he marched East to assert himself in his newly acquired role as Augustus against Constantius II, taking with him a large part of the Gallic field army, the battle-weary Germans did not take advantage of the situation and raid N.Gaul, although Constantius II tried to repeat his successful strategy of 350-353, and encouraged such raids.[41] In fact the Rhine frontier remained peaceful until January 365 when the Alamanni were provoked by a diplomatic affront from Valentinian I into crossing the Rhine once more, leading to a situation which ultimately required the presence of the emperor himself in Gaul.[42]

2. The nature of the numismatic evidence and its applications

Such then is the history of N.Gaul in 350-361, as far as it can be reconstructed from the ancient literary sources. But although these sources provide a detailed account of events after the nomination of Julian as Caesar, our knowledge of the years 350-353 remains sketchy; for example we know that the Germans invaded, but not when or where. This is due mainly to the fact that the books of Ammianus Marcellinus, our most important source, for the years 350-353 are missing, and Ammianus provides very little information about events in Gaul prior to the arrival of Julian. However a great deal of additional information is provided by a variety of archaeological, and above all numismatic, material. The primary objective of this thesis is to an-

alyse this numismatic evidence and put it into its historical context, so complementing our existing knowledge of events in the Rhineland during the usurpation of Magnentius and its aftermath.

The material studied falls into two classes. Firstly coin hoards, sealed complexes of coins which have been removed from circulation and then deposited together, normally deliberately.[43] The second class is composed of site-finds; although these coins share the same find-spot, they were not necessarily deposited together, nor form a single complex, but are the coins which were lost more or less casually during the occupation or use of a site.[44]

This material can be used in a variety of ways. The most obvious use of hoards is to localize disturbances which may have led to their burial; for example the German invasions to which the Rhineland was subjected in the 350s. When they are used carefully they can often provide dating and geographical evidence for invasions which are perhaps only passingly referred to in the ancient sources.

When site-finds are carefully interpreted they can indicate what coin was or was not reaching individual sites and thus add to existing knowledge drawn from other sources about the use or occupation of sites, and so of the area as a whole.

However the hoards and site-finds of the mid-fourth century from the Rhineland cannot be considered in isolation, but must also be put into a wider numismatic context. In the case of the hoards this means examining hoarding as more than just a reaction to German invasions, in order to see how other considerations, for example the monetary policy of the Imperial administration, also affected hoarding. Can we detect patterns in the composition and distribution of hoards which are the result of such considerations, and if so what implication does this have for the use of hoards as evidence for German invasions?

Coin hoards can also assist in the interpretation of site-finds, for example by identifying what coin was in circulation in the Rhineland in the 350s. This is important since although we generally know the date of striking

of site-find coins, we very rarely know the date of their loss or deposition, and so when they were in circulation, thus diminishing their use as dating evidence. But once again this will be successful only if the extent to which hoards do indeed reflect contemporary coin circulation is examined.

This study of hoarding against a more general background is the subject matter of Chapter 2. The hoard evidence is then put to practical use as a source of historical information in Chapter 3.

Similar considerations apply to the site-finds. It is insufficient to examine in isolation the coin of 350-361 found on sites, or even the coin which we suspect was in circulation on the sites in these years. It is important that the decade under consideration be seen in the context of a much longer period so that what was normal or abnormal about the 350s can be analysed. Furthermore the Rhineland sites must be compared with site-finds from elsewhere in the Roman world in order to ascertain to what extent phenomena observed along the Rhine are part of more widespread trends and developments. It is not until it has been established to what extent the Rhineland pattern is exceptional that the evidence of site-finds can be used to help reconstruct the history of the area.

There are essentially two ways in which the site-finds can be analysed. The first is purely quantitative; which issues are present on the sites, and which periods are well or poorly represented? This is the subject matter of Chapter 1, a quantitative study of the pattern of coin-loss on Rhineland sites in the fourth century. The second method is to analyse them in terms of mint-distribution. This is done in Chapter 5, where both the site-finds and the hoards are examined in order to determine from which mints the Rhineland drew its coin, and to see whether this remains constant a) geographically, and b) chronologically.

A very different category of material is formed by the barbarous imitations, copies of the official coinage which are so common in N.Gallic hoards and site-finds. The occurence of these coins, whose function and production is

still not fully understood, is examined in Chapter 4 from both a geographical and a chronological standpoint in order to supplement the historical evidence of the site-finds and hoards.

Although the analysis of the numismatic material serves primarily to help in the reconstruction of the history of the Rhineland in 350-361, the fact that the material must be examined and understood in a much wider context produces a great deal of more general information. This information is of two main sorts.

The first might be described as meta-numismatic, and concerns the ways in which coin-finds are analysed. For example are site-finds a true reflection of the coins originally lost, or even in circulation, on a site? How can we recognise whether finds (site-finds and hoards) have been manipulated? How can we compensate for such unreliability when analysing finds?

The other sort of information comes from the fact that the Rhineland coin-finds of the mid-fourth century are not considered in isolation, but are compared with further material from the same area from almost the entire fourth century, as well as material from other areas. This means that more general conclusions are also reached about coin use and circulation, not just in the Rhineland, but in the Roman world as a whole. For example is it possible to identify individual areas along the length of the Rhine within which the coin in circulation, as reflected in the site-finds and the hoards, is uniform or constant? What are these areas, what are the differences between them, and how do they relate to one another? Similarly, what factors are involved in the movement of coin? What coin moves from one area to another, in what quantities, when and why? Or again, how does the nature of a site affect the coins found there, if at all?

These, and similar questions, are examined in the relevant chapters in a secondary application of the material under study.

Finally it should be noted that only the evidence of the bronze (base billon) coinage is considered here. Al-

though finds of gold and silver would almost certainly provide interesting complementary evidence, it proved impractical to include them. Firstly because it was necessary to restrict the rapidly expanding mass of material gathered, and therefore also the scope of the thesis. Secondly because the mechanisms and laws governing the circulation, use and loss of precious metal coinage were very different from those apertaining to the bronze coinage, and therefore gold and silver probably require different treatment from bronze. While such studies would be of great interest, they are outside the sphere of this thesis.

FOOTNOTES

1. For more precise details of the usurpation see:
PWRE xiv,1,p.455ff.(Magnentius)
P.Bastien (1983) pp.7ff. & 240ff.
L.Laffranchi (1930)
PLRE i.p.532 (Magnentius) lists the most important sources.

The historical survey presented here is not intended to be exhaustively detailed or to introduce any new theses or opinions on the events of 350-361. It is meant rather the outline the subject matter of this thesis and to provide the historical framework within which the main evidence, which is primarily numismatic, can be examined. However where a more comprehensive understanding of events or a justification of a particular opininion is felt to be desirable, this will generally be presented in the main text in order to keep the introduction as concise as possible.

2. Zos.ii 42.4-5.

3. The only modern author to suggest anything other than a swift transition of power was Laffranchi (1930 p.170-171) who suggested that Magnentius assumed the purple in the autumn of 349 and only succeded in defeating Constans in January 350 after a civil war of several months. P.Bastien (1983 p.9ff.) has shown that Laffranchi misinterpreted the evidence on which he based his arguments, and has produced additional counterevidence. The conjecture of a long and protracted struggle between the usurper and the legitimate Emperor he finally replaced must be rejected. The primary literary sources provide no support for Laffranchi's theory; although Zon.xiii 6 reports that Magnentius purged the high command of Constans' supporters, there is absolutely no suggestion that it came to open hostilities between the two factions. Indeed Zosimus (note 2) expressly contradicts this.

4. For the joint embassy sent by Magnentius and Vetranio to Constantius II in 350 see Petr.Pat.fr.16 and Zon.xiii 7. Athanasius (apol.ad Const.9) also mentions meeting a delegation of bishops sent by Magnentius to discuss peace with Constantius II.

Evidence that Magnentius attempted to present himself as the legitimate successor of Constans and colleague of Constantius II is to be found on inscriptions and coins. On two inscriptions from N.Africa (CIL viii 22552 & 22558) the name of Constans was erased and replaced alongside that of Constantius II by Magnentius'. Magnentius also struck bronze coinage for Constantius II at the mints of Arles (RIC viii 140-9), Aquileia (RIC viii 147ff.) and Rome (RIC viii 174ff.) in the first few months of his reign.

Generally speaking the primary literary sources portray Constantius II as determined to avenge the assassination of his brother and to that end deliberately embarking on the civil war (Petr.Patr.fr.16, Soc.ii 26, Soz.iv 1, Oros.vii 10. Joh.Ant.fr.174). The only suggestion that Magnentius was planning any sort of offensive in 350 comes from the exaggerated rhetoric of Julian in his panegyric of Constantius II (Or.ii 55Dff.); however Julian had the best of reasons for distorting the facts.

5. For details of the usurpation of Vetranio see:
PWRE xvi,2.p.1838 (Vetranio).
PLRE i p.954 (Vetranio).

The date of his abdication is fixed by Chron.Min. I.237.350.3.

Philostorgius HE iii 22 reports that Constantina, the sister of Constantius II, encouraged Vetranio to seize power in the Balkans, and that Constantius II subsequently ratified this by sending Vetranio a diadem. Julian Or.I 26Cff. and II 76Cff. emphasizes that originally Vetranio was acting in the interests of Constantius II, although he later pursued a more independent line.

6. Aur.Vict. Caes.42.5.

7. The main events of the civil war are described, with references to the primary literary sources, in PWRE (see note 1).

8. Amm.Marc.xv 6.4
J.Kent (1959)
P.Bastien (1983) p.24 & 71.
K-J.Gilles (1985) p.63 & n.149.

9. Zos.ii 53.3

10. Jul.Or.i 34Cff. & ii 56Bff. Lib.Or.xvii1 33. Hoffmann (1969) ch.8 n.288 points out that Magnentius will have withdrawn elements of the mobile field army, but left the less capable limitanei intact. The limitanei could not however provide a secure defence for Gaul.

11. Zon.xiii 8 records the exact losses, but all the sources are in agreement about the lasting effect on Roman military resources. Reputedly 30,000 of Constantius II's force of 80,000 also perished.

12. Lib. Or.xviii 33. Zos.ii 53.

13. See note 12. On the other hand Zosimus' description of the events after the Battle of Mursa is very compressed, and the possibility that the invasions had started earlier is by no means excluded.

14. For the date of the elevation of Decentius see App.I.
It is clear from the sources (Aur.Vict. Caes.42.9, Eutrop.x 12, Oros.vii 29.13, Zos.ii 45 et.al.) that Decentius was appointed to protect Gaul, but only Aurelius Victor is more explicit; the appointment was necessary "cum externi motus suspectarentur." However this statement must be treated with a degree of caution. Aurelius may have coloured the picture a little in order to extend the parallels between the nomination of Decentius and that of Gallus, who was appointed Caesar in order to secure the

Eastern frontier against the Persian threat when Constantius II marched West to face Magnentius.

A number of modern historians (e.g. Schmidt 1970. p.249, O.Seeck 1910.4.p.104f., Barcelo 1981.p.24, and H.Wrede & H.Cahn 1984.p.405ff.) suggest that the German invasions began as early as 350. However the primary literary sources provide no definitive support for this supposition (see above p.4 and notes 15 & 16).

15. Zos.ii 42. Jullian (1924.vol.8.p.93 n.10) regards these Illyrian troops not as reinforcements but as new recruits for units already stationed in Gaul. However Hoffmann (1969 p.210 & n.17) sees no reason not to regard them as new units brought in from Illyricum to reinforce the Gallic army.

16. Or.i 34C.

17. Or.xviii 33-4.

18. xvi 12.5.

19. xiv 11.9.

20. Amm.Marc. xiv 10, xv 4 & xvi 12.16.

21. Amm.Marc. xv 5.2.
The exact date of the appointment of Silvanus is uncertain. Aur.Vict. Caes.42.15 implies that it was immediately after the Battle of Mursa, which is clearly too early. The main evidence is provided by C.Th.vii 1.2 & viii 7.3 which are addressed "ad Silvanum com(item) et magister militum/ equitum et peditum" and dated in the Codex to 27th May 359, which needs emending. O.Seeck (1919 pp.93 & 199) suggested 27th May 352, which is also too early if Silvanus is addressed as Magister Peditum in Gaul. The most plausible emendment is made by Jones ("The Career of Flavius Philippus".Historia 4.1955.p.229ff) who has suggested that the two rescripts be redated to November 3rd 353, which would

mean that Silvanus' appointment was part of Constantius II's reorganisation of the Gallic administration in the winter of 353/4.

22. Or.ii 98D. As a panegyric for Constantius II one would expect it to be hostile to Silvanus.

23. xv 5.4 Amm.Marc.xvi 2.4 also records Silvanus marching from Autun to Auxerre with 8,000 men, but the occasion and context of this journey are unknown.

24. See PWRE iiiA,1 p.125.

25. Lib.Or.xviii 36. Amm.Marc. xv 8.1.

26. Amm.Marc.xv 8.19.

27. Amm.Marc.xv 8.1.

28. Aur.Vict. Caes.42.17.

29. Amm.Marc.xv 8ff., Lib.Or.xviii 31, Zos.iii 2, Eutrop.x 14, Aur.Vict. Caes.42.17 & Epit.42.12, et.al.

30. Ep.ad Ath.279A.

31. Or.xviii 33ff.

32. iii 1.

33. Amm.Marc.xvi 3.1.

34. Amm.Marc.xvii 2.1.

35. Amm.Marc.xvi 2, Lib.Or.xviii 43-5.

36. Amm.Marc.xvi 4.

37. Amm.Marc.xvi 11.4.

38. In 359 Julian was held up by the late arrival of supplies from Aquitania in spring as he was preparing to attack the Franks (Amm.Marc.xvii 8. 1f.). He solved the problem by taking 20 days rations from the winter stores and baking it into hard tack for a quick campaign.

Julian was also forced to rely on supplies from wherever he could get them. For example later in the same campaign against the Franks, having stocked three newly garrisoned forts along the Meuse from campaign supplies, he hoped to make up the deficit from the harvest of the Chamavi after defeating them. When these harvests were late he had to deal with a mutiny (Amm.Marc.xvii 9.2-3). Similarly in 357, although during the previous winter one of his main priorities had been to organise supplies for the forthcoming campaign, when he rebuilt and provisioned the fort at Tres Tabernae he was forced to make use of the German crops gathered in the area (Amm.Marc.xvi 11.11). cf. also Amm. Marc.xvi 3.3 & xviii 2.3.

39. Amm.Marc. xviii 2.3ff., Lib.Or.xviii 83.
Clearly N.Gaul had always had to rely on imported grain, but the situation appears to have been particularly bad in the 350s.

40. For a detailed account of the campaigns of Julian in Gaul based on the literary sources (mainly the detailed reports of Ammianus Marcellinus along with Julian, Zosimus and Libanius) see PWRE x.1.p.32ff. Modern research has generally speaking only changed views on finer details rather than the overall strategy and the geography of the campaigns, which are well enough documented in the sources to be beyond dispute.

41. Julian Ep.ad Ath.286a & 287a, Lib.Or.xviii.107 & 113, Amm.Marc. xxi 3.4.
The only recorded German reaction to Constantius II's encouragement was an Alamannic raid into Switzerland in 361

which Julian was able to deal with before marching East to meet Constantius II (Amm.Marc. xxi 3.4). Otherwise the Rhine frontier seems to have remained peaceful.

42. Amm.Marc. xxvi 5.7, Zos.iv 9.1.

43. The hoard material studied includes hoards in the broadest sense of the word, not just classic hoards which had been collected, put into a pot and buried under a tree, but also other sealed deposits where the coins clearly belong together and were all deposited in the same context. For example the cash in somebody's purse, destruction levels, building rubble which had been filled into a well, and votive deposits. The exact nature of each hoard is described in Catalogue 2.

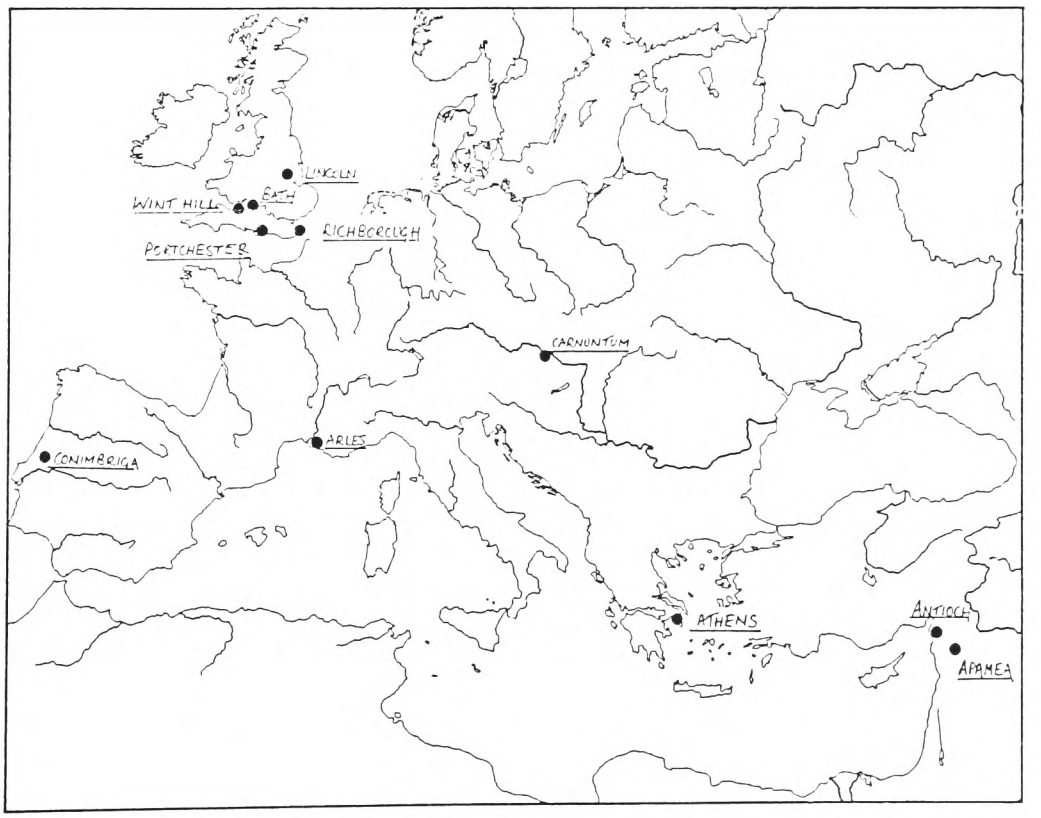
44. That is not to say that site-finds do not contain some small homogenous complexes. Indeed in some cases it is clear that some larger complexes, even hoards, have gone unrecognised; see e.g. Andernach (Flur Langetrog) Cat.1.

CHAPTER 1

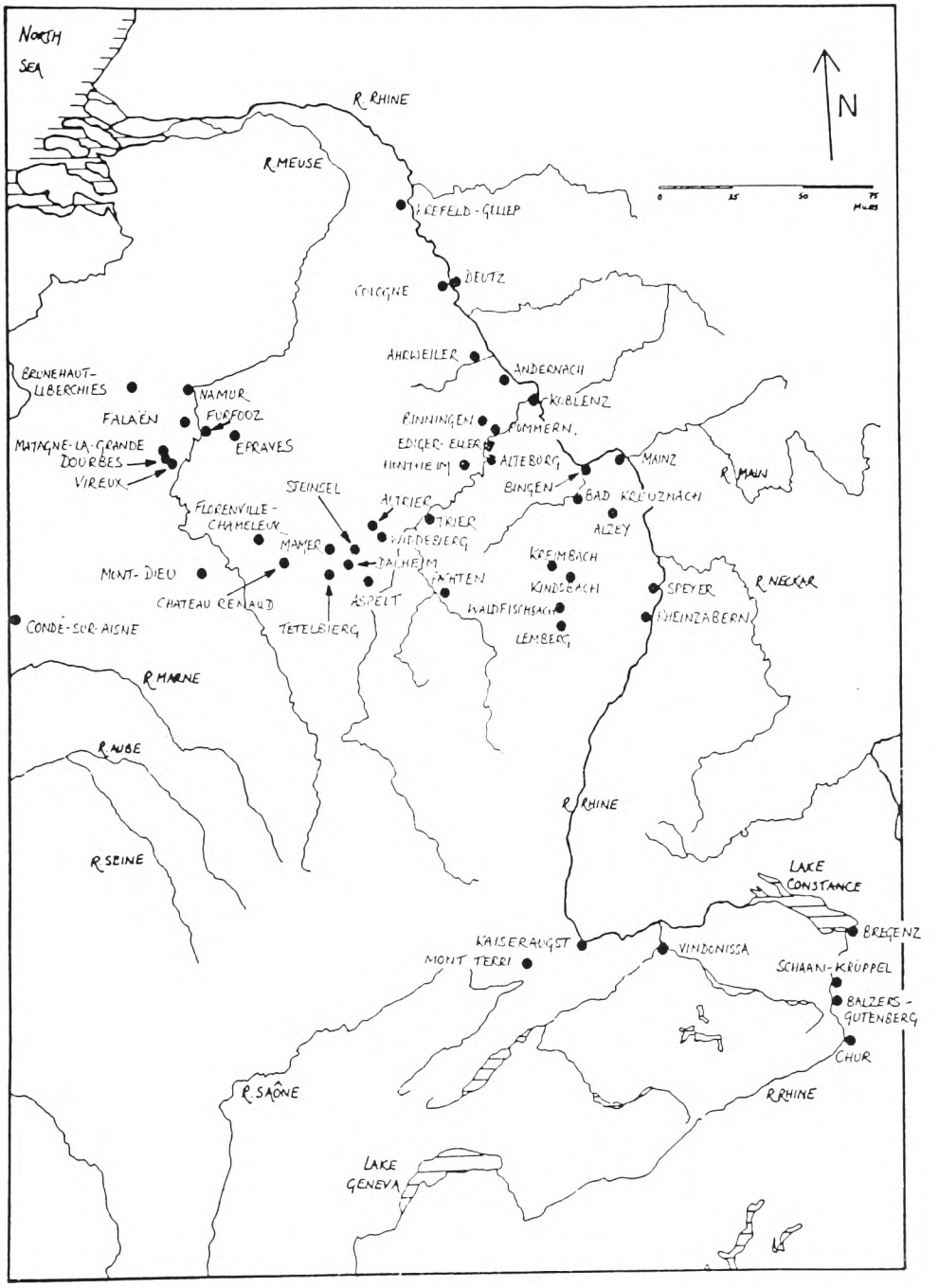
PATTERNS OF FOURTH-CENTURY COINAGE IN SITE-FINDS

1. Introduction

67 coin-series from sites of various natures were studied: 5 from Britain, 56 from an area roughly corresponding to the provinces of Germania I & II, Belgica, Maxima Sequanorum and Raetia I, as well as 6 from various other parts of the Empire: Arles, Conimbriga, Carnuntum, Athens, Apamea and Antioch-on-the-Orontes (Maps 4 & 5).



Map 4: the non-Rhineland sites studied.



Map 5: the Rhineland sites studied.

For the purpose of analysis the coin in the site-finds was divided into the periods outlined in the introduction to Catalogue 1 and the coin of 294-402 was then displayed in histograms according to the method outlined by A.Ravetz;[1]

$$\frac{\text{coins per period}}{\text{length of period}} \times \frac{1000}{\text{4th-cen. coins on site}}$$

this method is discussed in detail in the introduction to Catalogue 1.

What sort of information do these diagrams yield? It is perhaps sensible to begin with what they cannot tell us: they can provide no information about when coins were lost, or how long they remained in circulation. Thus the 354-361 column of a histogram, for example, is not a direct indication of the coin circulating on the site in those years; this information can only be deduced from a study of contemporary hoards, and not always then. At the very best the histograms suggest what coins were lost on a site (but unfortunately not in all cases, as will be demonstrated), and this information, if carefully analysed, can indicate what coin was or was not reaching individual sites.

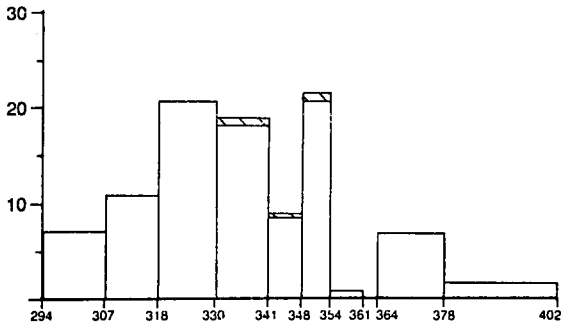
The aim of this chapter is to establish whether there is a typical pattern for the official coinage of 294-364 in site-finds along the Rhine, and to identify any variations and irregularities in it. This information will then be compared with finds from elsewhere in the Empire to see what, if anything, was different about the coin supplied to and lost in the Rhineland, and to what extent such differences can be explained. The barbarous copies will be dealt with in Chapter 4.

2. Problems in using finds for statistical analysis

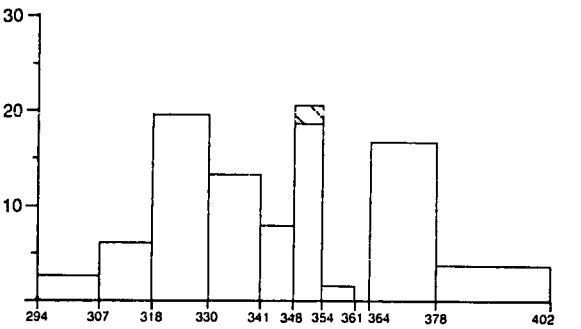
Before proceeding to analyse the finds it is first necessary to assess the suitability of certain coin-series for statistical analysis, and the extent to which these finds are representative samples of the coins actually lost on a given site. An excellent example of this problem is provided by two small groups of finds from the Middle Rhine:

a) Mainz "A" and Bingen.
b) Rheinzabern "A", Speyer and Pachten.

Group a)



Mainz "A" (371 coins)

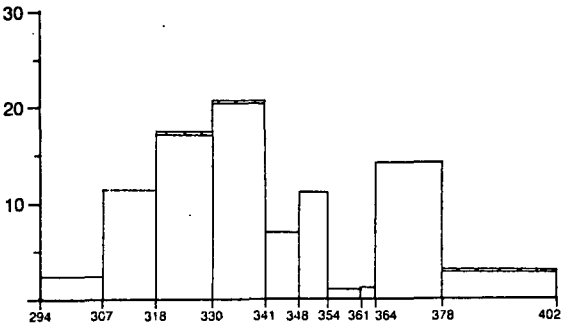


Bingen (89 coins)

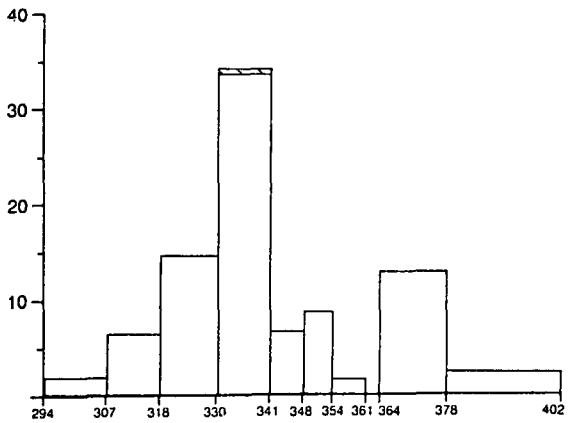
In these series the coin-index increases from 294-307 up to a peak in 318-330, it then drops in 330-341 and again in 341-348, before reaching another peak in 348-354. Coin of 354-364 is almost totally absent, but the Valentinianic period is well represented, followed by a drop to the end of the fourth century. In Mainz at least, it is certain that no hoard is present which might distort the pattern, and no such suggestion has been made for Bingen.

Group b)

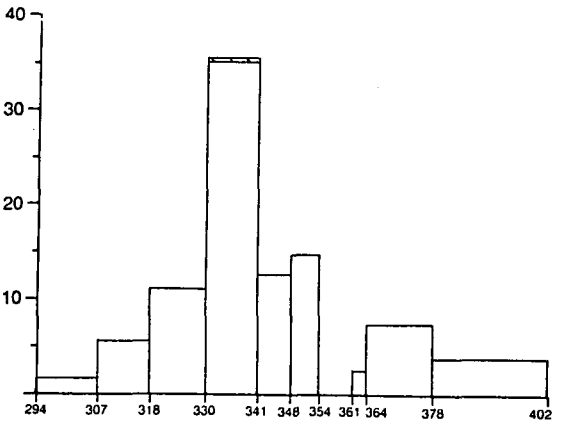
In this group the coin-index reaches its first peak in 330-341, and thereafter the picture is very much the same as for Group a), with the exception that the peak in 348-354 is no longer so marked.



Speyer (284 coins)



Pachten (170 coins)

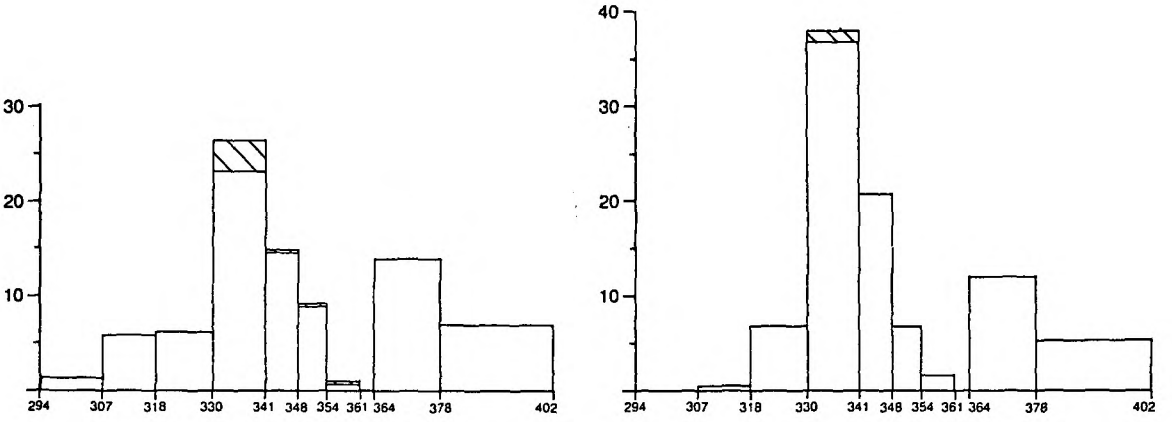


Rheinzabern "A" (257 coins)

The obvious conclusion is that we are dealing here with two separate regional phenomena (see Map 6), and that for some reason coin-loss was different in the two areas.

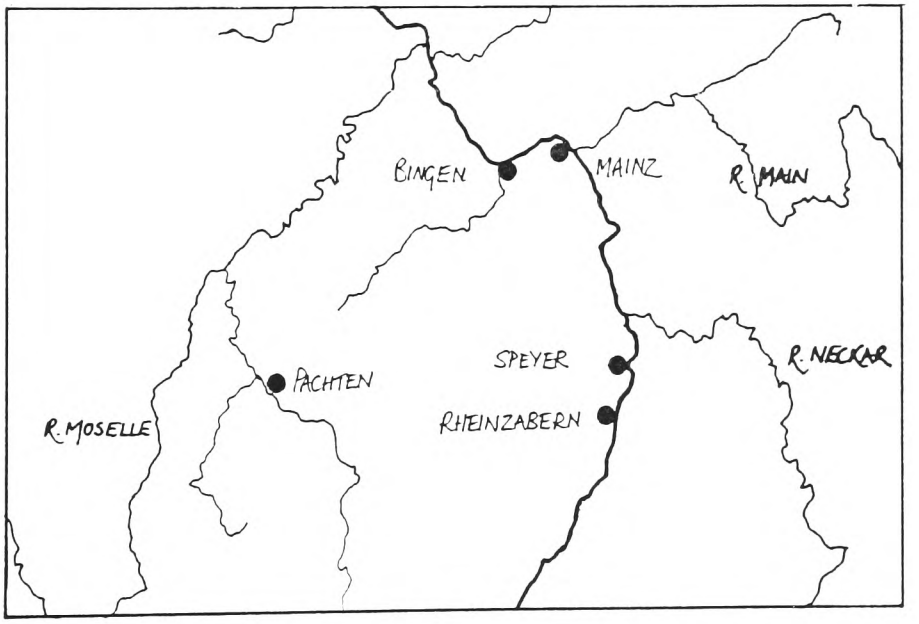
However it is possible to compare these two patterns with more recent coin-series from Rheinzabern and Mainz (Rheinzabern "B" and Mainz "B", henceforth referred to as the "B" series), and in both cases the pattern of the more recent "B" series is very close to what we shall presently see is normal for a Rhineland site, and very different from

the "A" series.



Mainz "B" (489 coins) Rheinzabern "B" (172 coins)

Map 6: some sites with distorted coin-series.



The reason for the discrepancy between the "A" and "B" series from Mainz and Rheinzabern becomes immediately clear when their origins are considered. Rheinzabern "B" is the product of well-controlled and methodical excavations, Mainz "B" that of private individuals who have collected absolutely everything, from mint-condition Neronian sestertii to fragmentary barbarous minimi. On the other hand the "A" series (Bingen, Mainz "A", Rheinzabern "A", Speyer and

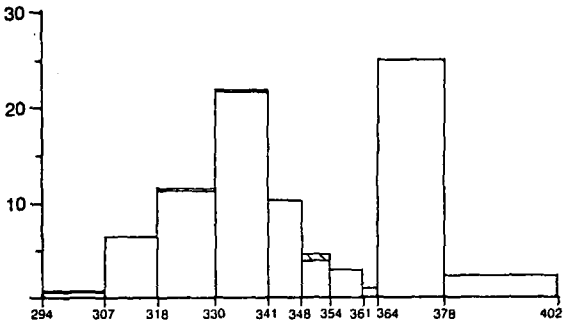
Pachten) came together under very different circumstances; either in the 19th and early-20th centuries, when excavations were not so thorough and small coins were often not found, or discarded if in bad condition, or else the series were collected by people who were more interested in "pretty things" than in keeping an accurate record of what was actually in the ground (or whose sources only supplied them with such material).[2] This kind of bias becomes much clearer when one considers just what sort of material is more or less common in the "A" series. For example the issues of 341-348 are extremely monotonous (in our finds nearly always 2-Victories), and the flans are small; not surprisingly these coins are rare in the older "A" series, but common in the "B" series. On the other hand the coinage of 294-330 and 348-354 had a much wider variety of types, as well as having appreciably larger flans, and it is precisely these issues which are more common in the older "A" than in the newer "B" series.[3] In Chapter 4 it will be shown that imitations are also appreciably rarer in the "A" series.

In other words the "A" series do not reveal regional peculiarities in coin-loss, nor therefore of coin circulation. Rather they are the result of selection (either conscious or the result of less than thorough excavation) in the formation of the coin-series at sites which, as will be seen, are otherwise normal.[4]

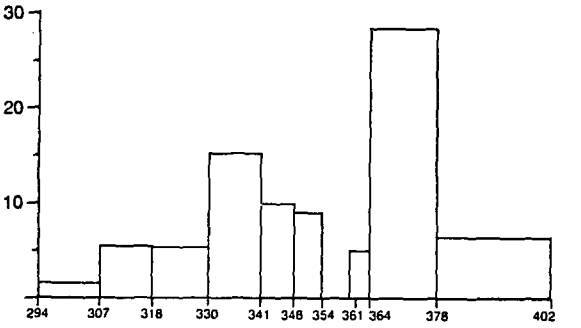
Two rather less extreme examples of this distortion are provided by Alzey and Bad Kreuznach. In both cases the "A" series consist of coins found in excavations before about 1960 (but mainly in the late-19th century/early-20th century) which can be checked against the finds from more recent excavations.

Again in both these cases, although the overall pattern remains the same in the "A" and "B" series, it is clear that the peaks in 330/341 are very much more marked in the "B" than in the "A" series, and that the same mechanisms are at work as with Mainz, Rheinzabern etc. above. The lack of Valentinianic coin in Bad Kreuznach only indirectly affects the Constantinian periods by making their

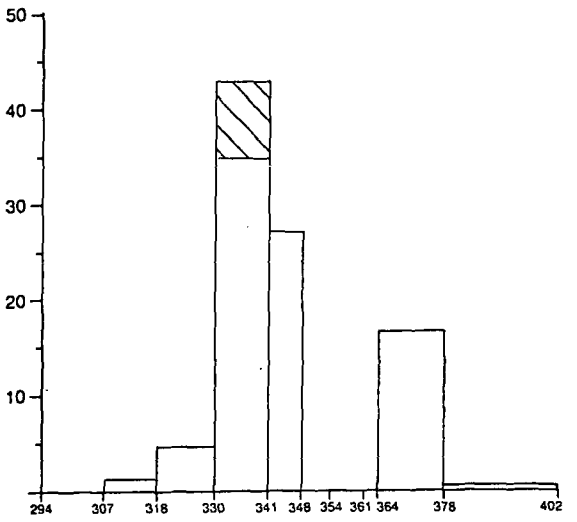
peaks seem higher. However the relationship of the Constantinian periods to each other remains the same.



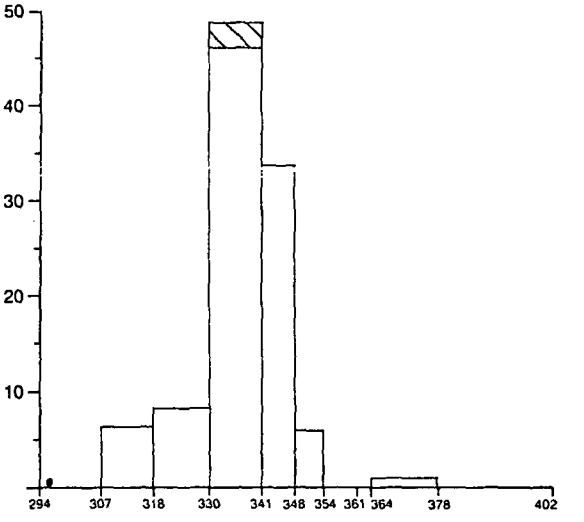
Alzey "A" (658 coins)



Kreuznach "A" (203 coins)



Alzey "B" (67 coins)



Kreuznach "B" (139 coins)

These examples illustrate the necessity of keeping in mind the recent history of sites when evaluating coin-finds. Not all series of stray finds are truly representative samples of the coins actually present on a site, and so not all series may be treated as having equal statistical validity. In addition it is important to remember that when a coin-find appears to be abnormal, the assumption cannot immediately be made that the cause of this abnormality lies in the history of the site in antiquity, since it may not be the pattern of coin-loss but the pattern of

coin-discovery that is abnormal.

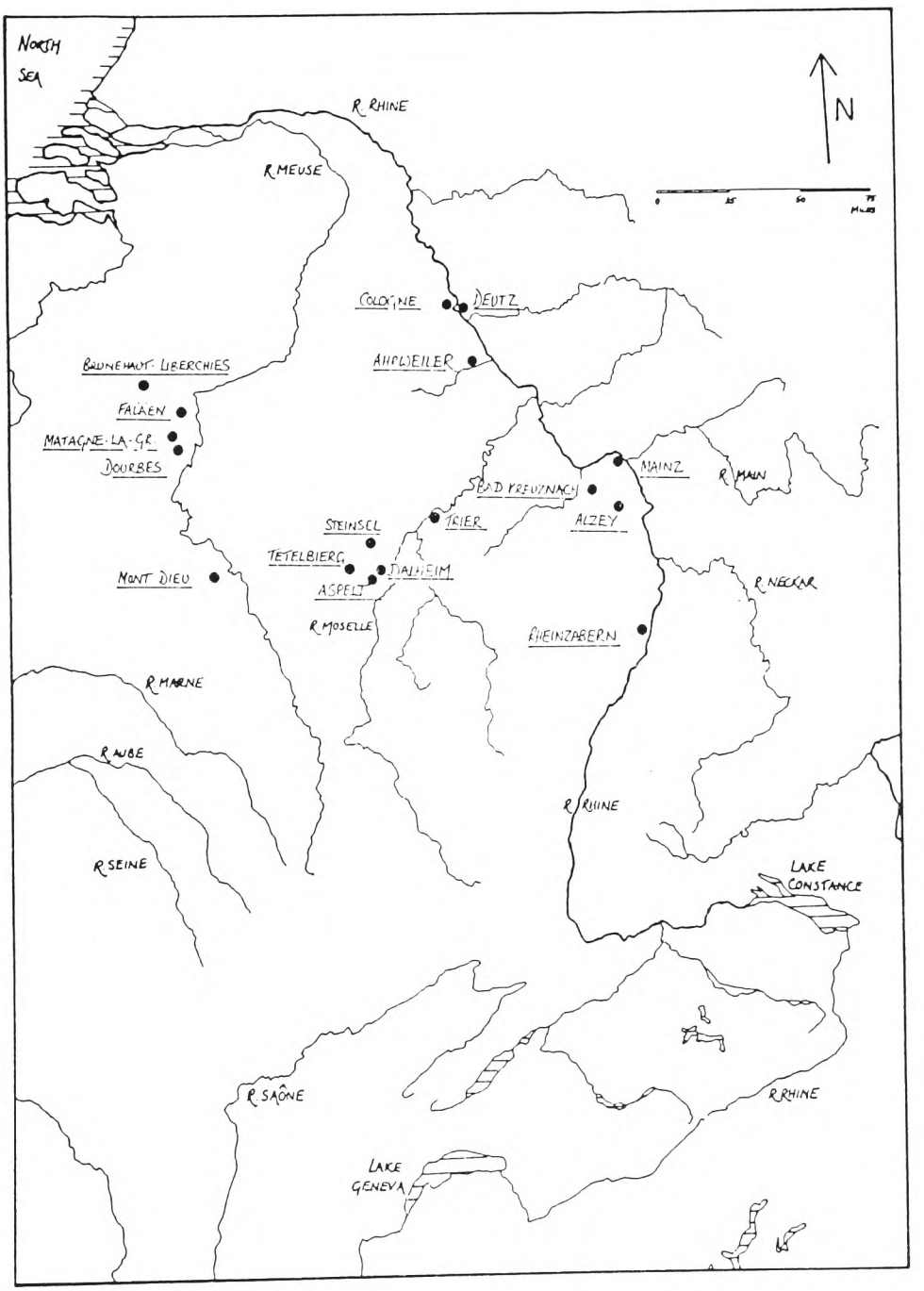
Therefore finds such as Mainz "A", Bingen, etc. are excluded from the analysis of patterns of fourth-century coinage in site-finds in this chapter. Where other site-finds appear to be distorted or abnormal, and are consequently excluded from the analysis, this will be indicated.

3. Analysis of the pattern of fourth-century coin in N.Gallic site-finds

The common pattern and minor variants

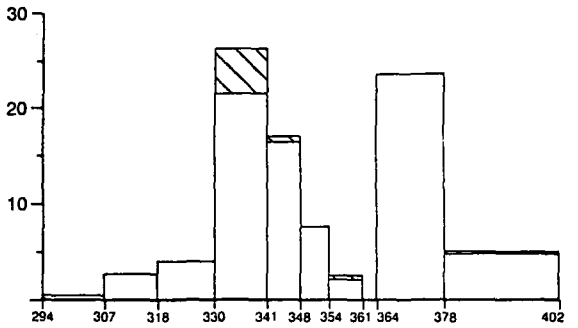
A general pattern can be identified common to the 4 British sites studied and the majority of the continental sites as far up the Rhine as Rheinzabern (see Map 7). These sites are:

Wint Hill	Matagne-la-Grande	Trier (Altbachtal)
Portchester	Mont-Dieu	Ahrweiler
Lincoln	Aspelt	Mainz "B"
Richborough	Steinsel	Alzey "A"
Dourbes	Dalheim "A"	Alzey "B"
Falaen	Tetelbierg	Bad Kreuznach "A"
Brunehaut-Liberchies	Cologne	Bad Kreuznach "B"
	Deutz	Rheinzabern "B"



MAP 7: sites with a 'normal' coin-index.

This typical pattern is illustrated here by Trier:



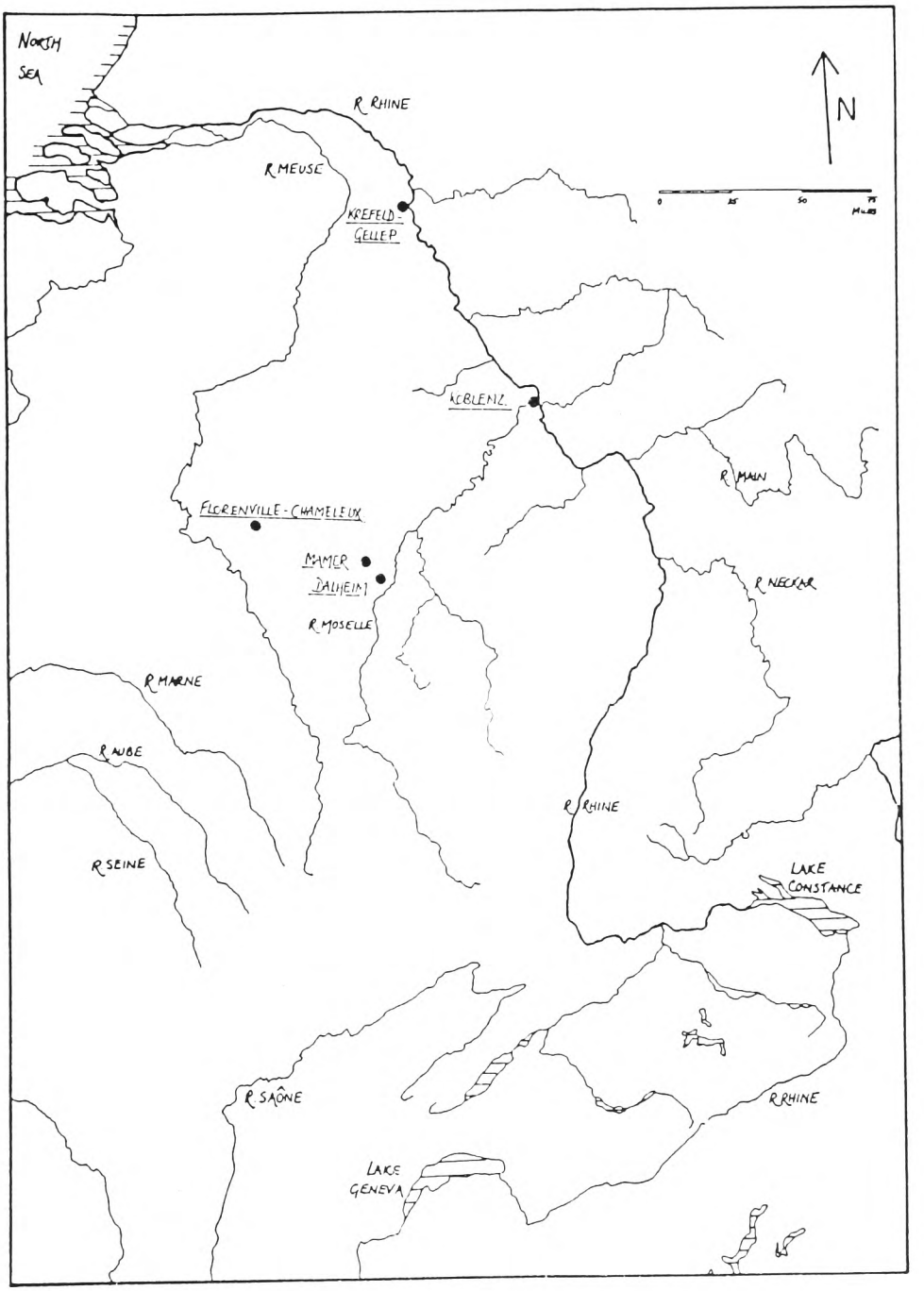
Trier (1582 coins)

The coin-index rises steadily from period to period, reaching a peak in 330-341: this is followed by a drop of varying degree in 341-348 and further drops in 348-354, 354-361 and normally 361-364 also, culminating in virtually a total absence of coins of this last period. On sites where later (i.e. Valentinianic or Theodosian) coin is present this is invariably more common than the coinage of the preceeding ten years, but the exact amount need not concern us here.[5]

Two groups of finds deviate slightly from this "normal" pattern.

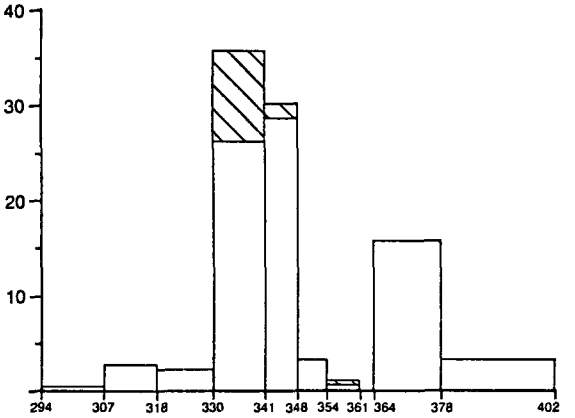
i) The first group of finds conforms to the norm, except that the coin-index is highest in 341-348 rather than 330-341 (see Map 8). The finds in this group are:

Krefeld-Gellep	Dalheim "B"
Koblenz	Dalheim (cellar)
Florenville	Mamer



MAP 8: sites with a peak in 341-348.

and are illustrated here by Krefeld-Gellep:

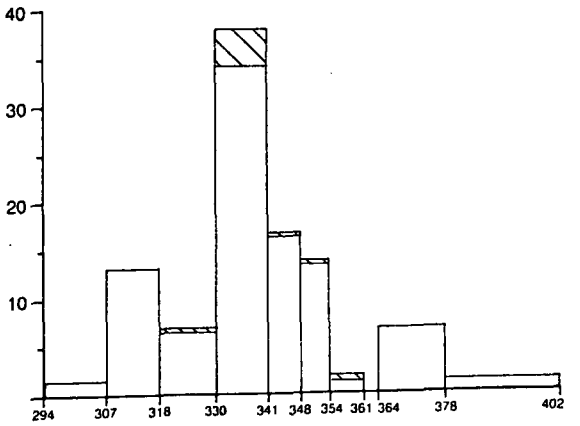


Krefeld (2891 coins)

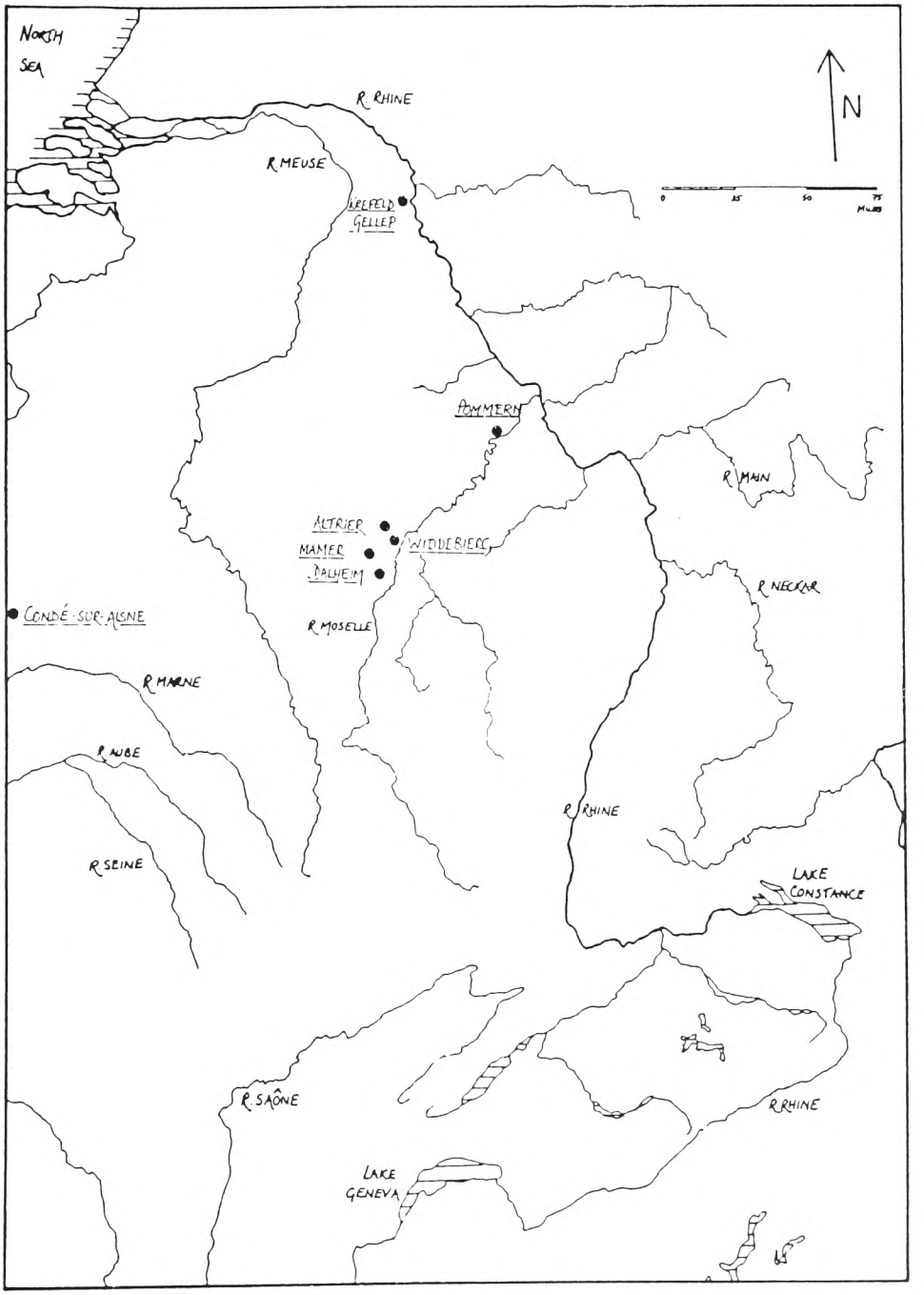
ii) In the second group of finds there is an earlier, small peak in 307-318. Finds belonging to this group are (see Map 9):

Altrier (see below p.43)
Conde-sur-Aisne (" " ")
Widdebierg
Pommern
Dalheim "B" (see group i)
Mamer " " "
Krefeld-Gellep " " "

of which Widdebierg is a typical example:



Widdebierg (469 coins)

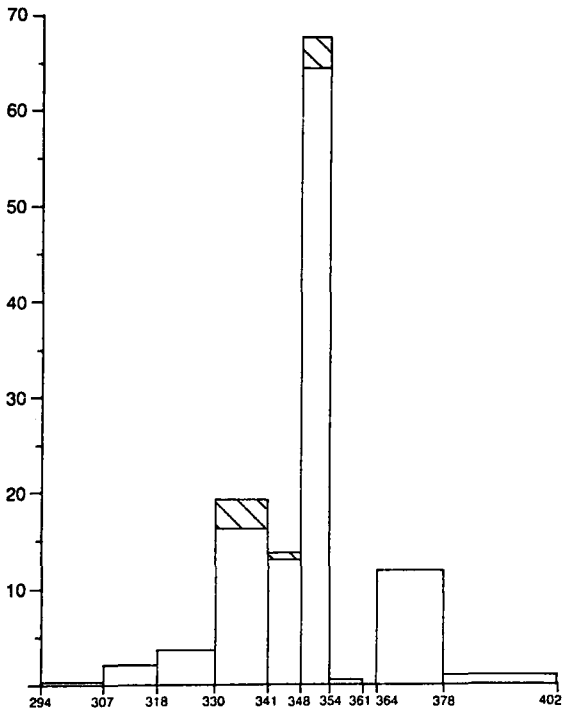


MAP 9: sites with a peak in 307-318.

It must however be emphasised that groups i) and ii) represent only small deviations from the usual pattern; they are in other respects "normal".

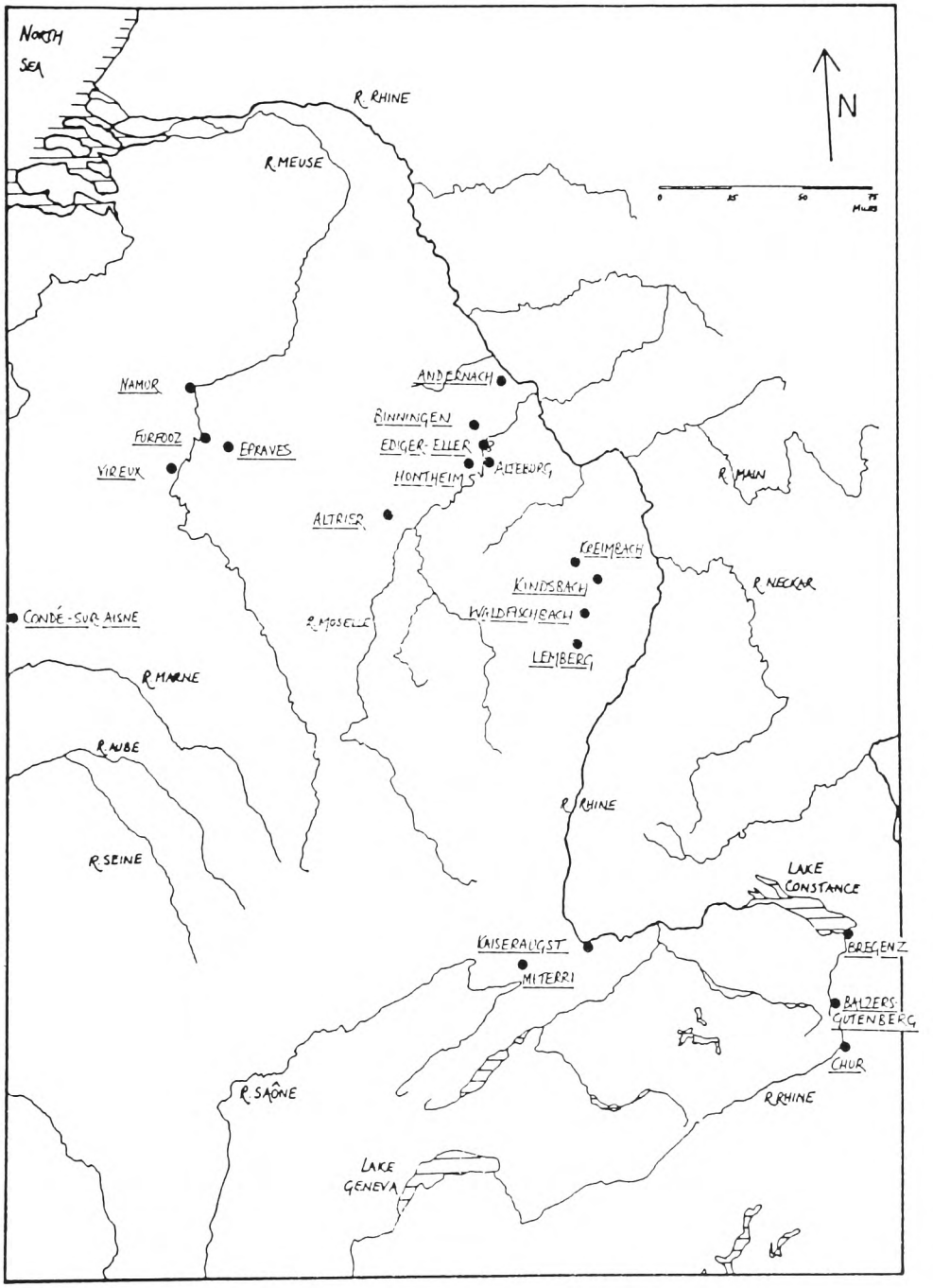
Major deviations from the normal pattern

A very different picture is presented by a third group of finds (see Map 10) where the coin of 348-354, instead of being rare, forms a peak, as for example at Andernach (Flur Langetrog), illustrated below;

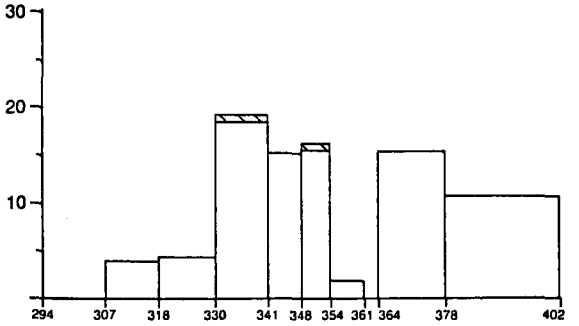


Andernach (205 coins)

This peak in the coin-index for 348-354 can often be the result of an unrecognised hoard distorting the pattern, as is apparently the case with Andernach, where at least 48 of the 72 coins of 348-354 in the find originate from one small area. This coin-series thus corresponds to a "normal" site-find modified by the addition of a hoard composed of 348-354 Aes2 (comparable hoards are Kopstukken, Bengel I, Villing, Strasbourg et.al. See Catalogue 2: hoards). The same probably applies to the coin-series from Ediger-Eller (see Cat.1).

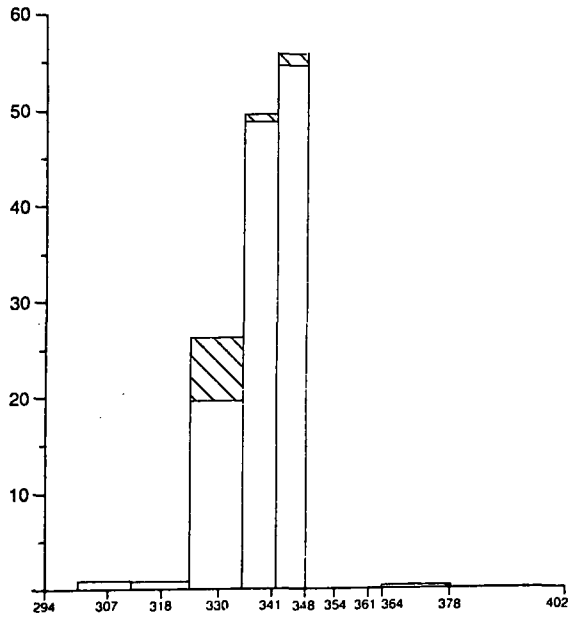


MAP 10: sites with a peak in 348-354.

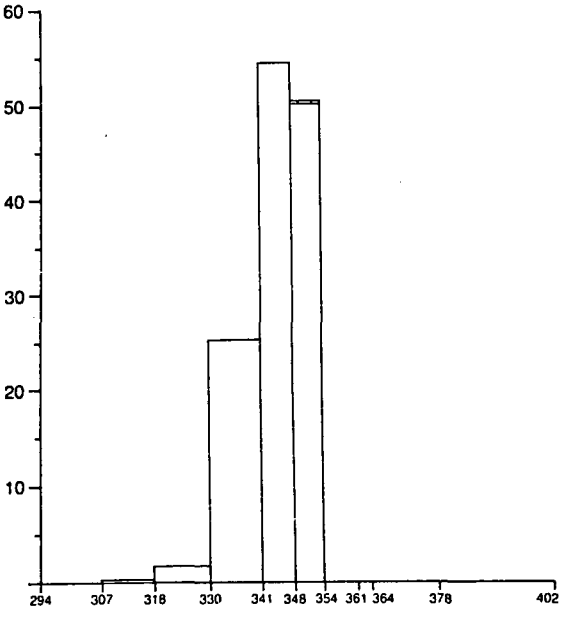


Ediger-Eller (235 coins)

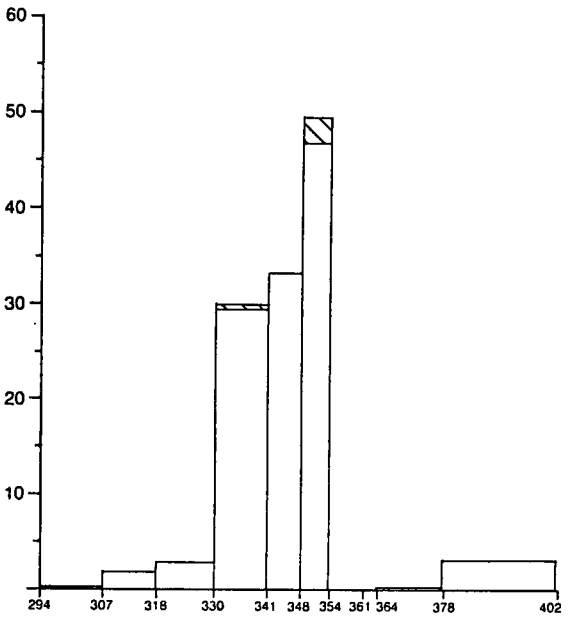
Certain other coin-series with a peak in 348-354 have also commonly been regarded as hoards, for example Mont Terri, Kindsbach, and Lemberg. These three sites belong to a series of hill-top refuges all of which show close similarities and have therefore been treated together here. They include Mont Terri in Switzerland, Kindsbach, Kreimbach, Lemberg and Waldfischbach in the Pfalz, and Alteburg, Binningen and Hontheim from along or near the Moselle (see Map 10 and the histograms below).



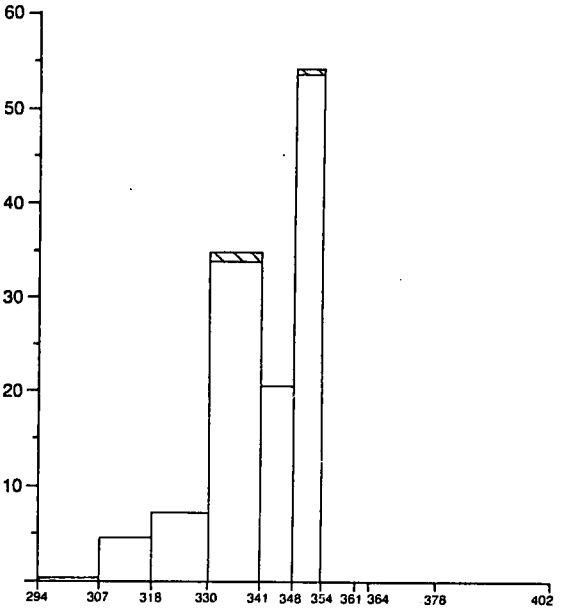
Mt Terri (Basle) (413 coins)



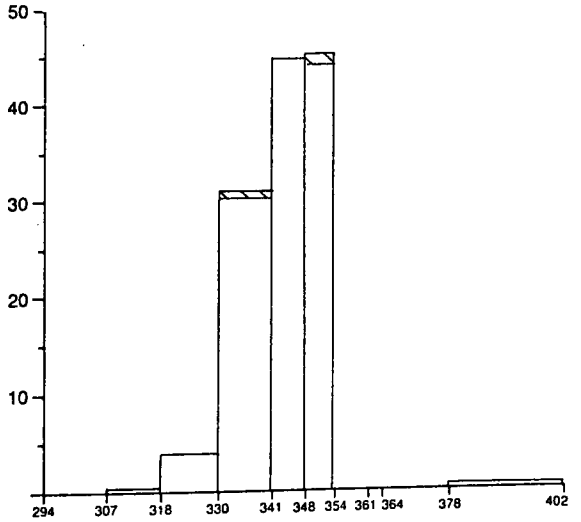
Mt Terri (Berne) (571 coins)



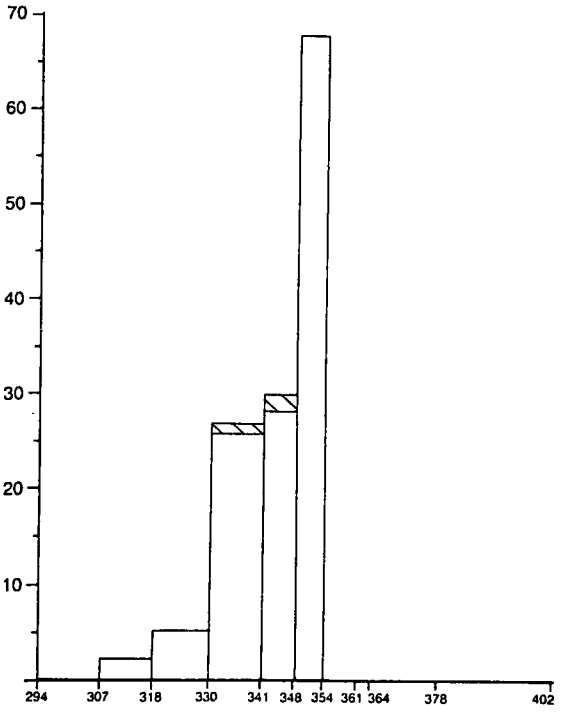
Kreimbach (391 coins)



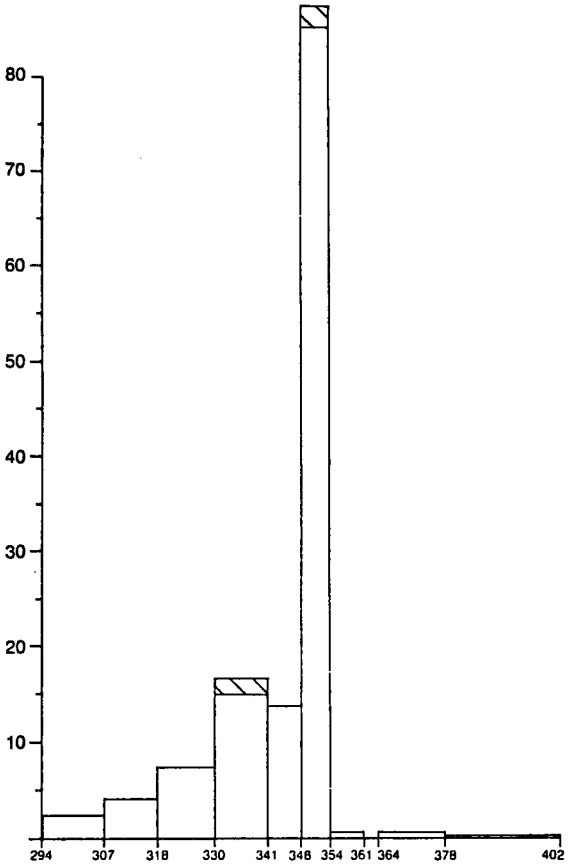
Waldfischbach (296 coins)



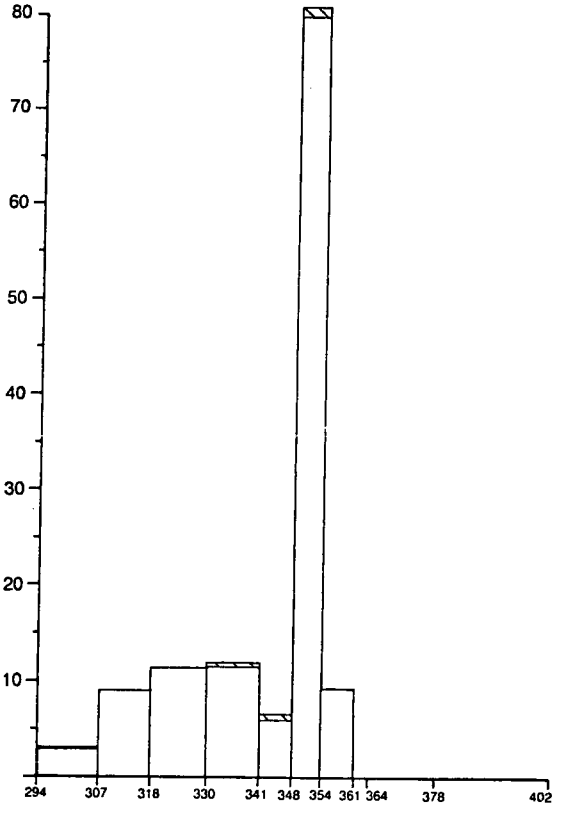
Lemberg (143 coins)



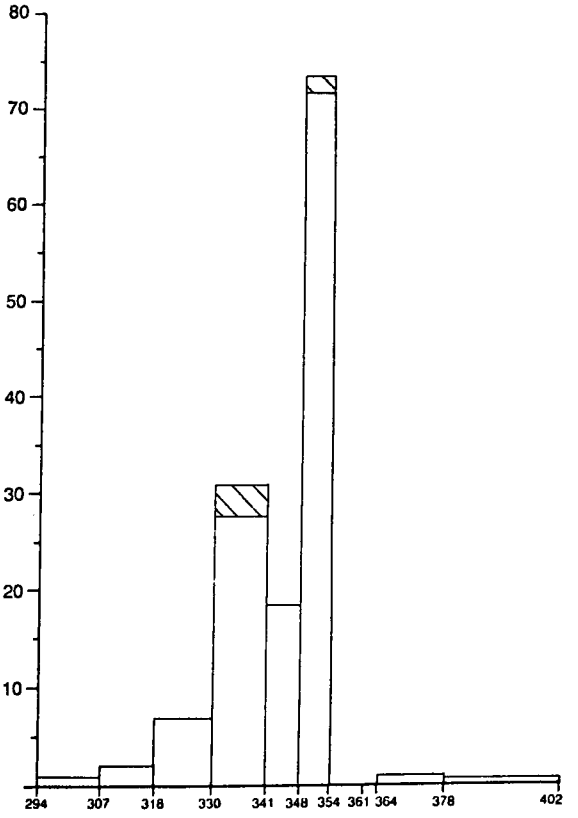
Kindsbach (81 coins)



Alteburg (433 coins)



Hontheim (759 coins)



Binningen (90 coins)

At all 8 sites the coin-series breaks off very suddenly at a time when new coin seems to have been reaching the sites in large quantities. Mont Terri ends with phase 5 Magnentian coinage, struck in 351/2, Lemberg, Waldfischbach and Kindsbach with phase 6, 352, Kreimbach with phase 7, 352/3. The three sites along the Moselle end a little later; Binningen ends with issues of 353/354, Alteburg and Hontheim with issues of 354/355.[6] In addition they all seem to have been abandoned, either temporarily or permanently, at this time.

At several of these sites it is clear from the nature of the finds that a single hoard cannot be responsible for the 348-354 peak. Kreimbach, Waldfischbach, Binningen, Hontheim and Alteburg have each produced several separate complexes of coin, found at different spots on different occasions, but which all have much the same composition. In addition recent excavations at Kreimbach and Kindsbach show that the coins of the mid-fourth century are scattered remarkably widely across the site.

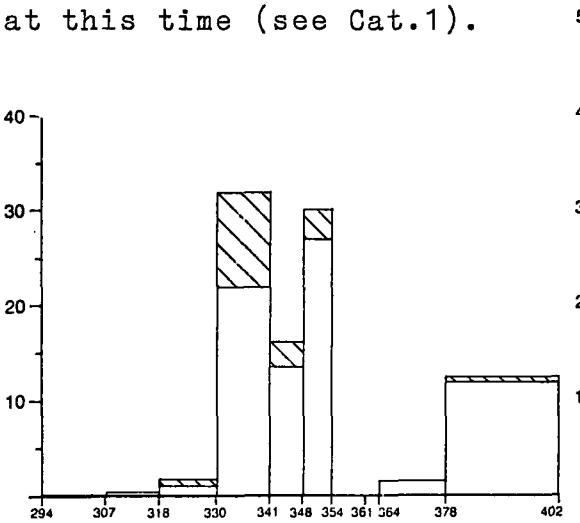
The reason for this peak in 348-354 seems to be twofold, and to lie in the nature of the sites and their role as hill-top refuges. Firstly, as large numbers of people sought safety here in the face of German invasions and raids, the sudden and more intense use of the sites led to an increase in the amount of coin available to be lost and so in turn produced an increase in the amount of coin actually lost. Secondly some sort of catastrophe seems to have overtaken all of these sites, resulting in a sudden break in the coin supply. At Binningen, Hontheim, Alteburg and Mont Terri the catastrophe manifests itself in the form of a destruction level in which the coins of 348-354 are generally found. The situation at the four sites in the Pfalz is less clear although Waldfischbach seems to have been destroyed at this time (see Cat.1). The catastrophes which overtook these sites were apparently an additional factor in the increased coin-loss.[7] Thus the finds represent the coinage on the site at the time of these catastrophes (as well of course as any coin that had been lost earlier). They may well contain a number of smaller scat-

tered hoards, and in effect behave like huge hoards themselves, only instead of involving just one complex and a pot, many complexes were withdrawn from circulation and deposited together.[8]

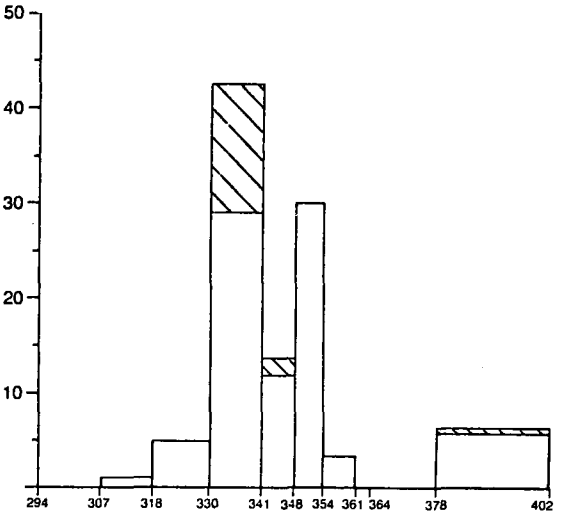
These coin-series have the further implication that the people who sought safety in these refuges took with them mainly fresh coin, perhaps not surprising when one considers the nature of the post-348 coinage. These Aes2 coins have a much higher intrinsic value than coin of 330-348 which must have made them more attractive to people trying to store their wealth, a fact which is also reflected in an ever-increasing dominance of post-348 Aes2 in hoards from 351 onwards (see Chapter 2). Furthermore when the quantities of coin involved on some sites is considered, it is clear that the post-348 coinage was already circulating in enormous amounts when people sought refuge on these hill-top sites; for example Hontheim has produced at least 2833 coins from the activities of private individuals with metal detectors, and there is no sign of a let-up.

This pattern at the hill-top sites is in contrast to that found at many vici, towns or forts which were also destroyed at this time (with the exception of Kaiseraugst, see below). For example both Alzey and Cologne have widespread destruction levels that can be dated to these years, but there is no corresponding peak in the coin-index for the issues struck immediately prior to the sack similar to that observed above at hill-top sites. One has the impression that before such exposed lowland settlements were sacked the population had already departed and sought safety elsewhere, taking with them their coin, and accordingly there is no sudden increase in coin-loss. Alzey was an unfortified vicus at this time, and therefore a vulnerable target. By the time Cologne was sacked in 355 the German raids and invasions had been going on for three years or more, and the majority of the population had quite likely sought refuge elsewhere.[9] This corresponds well with Julian's description of the situation in 355: "Then too there were certain cities deserted by their inhabitants, near which the barbarians were not yet encamped."[10]

Some of the other finds in this group also give indications of why they have such a high coin-index for 348-354. Eprave and Furfooz were both hill-top settlements, and Eprave has extensive signs of destruction in the mid-fourth century as well as a sudden break in the coin-series, while Furfooz suffered a long break in occupation at this time (see Cat.1).

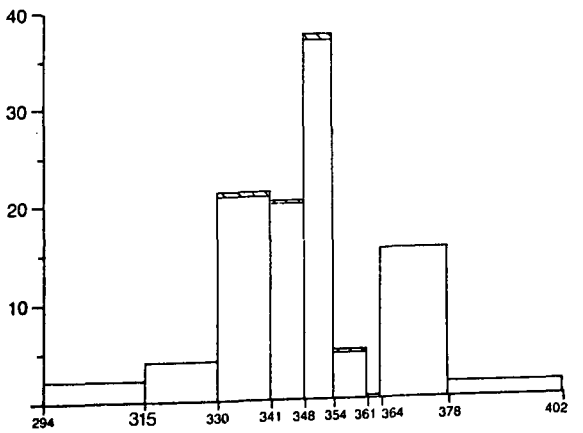


Eprave. (271coins)



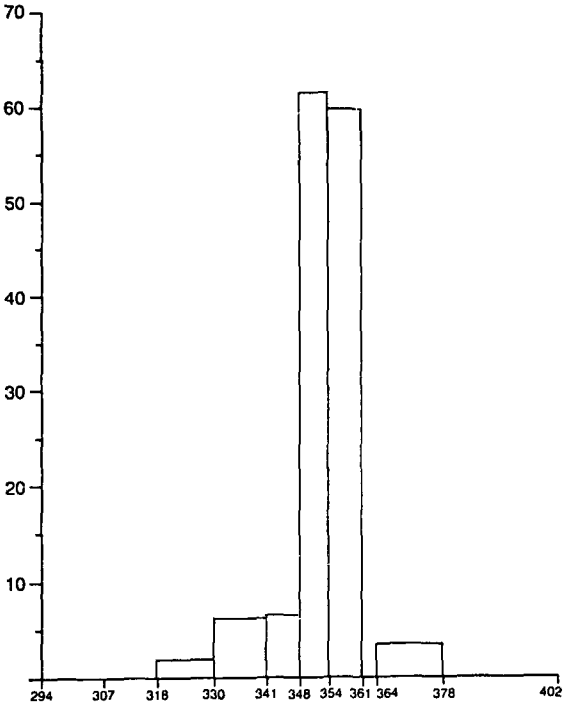
Furfooz (83 coins)

Kaiseraugst is a site of a different nature, a limes fort of some importance on the Rhine, but here too there is a destruction level, linked to three hoards of bronze coin with the same terminal date - Magnentius phase 5 - as well as a large hoard of silver plate, ingots and coin.[11] The coin-series and the presence of these hoards give the impression that the inhabitants and garrison of this lowland site had not sought refuge elsewhere before disaster overtook the fort.



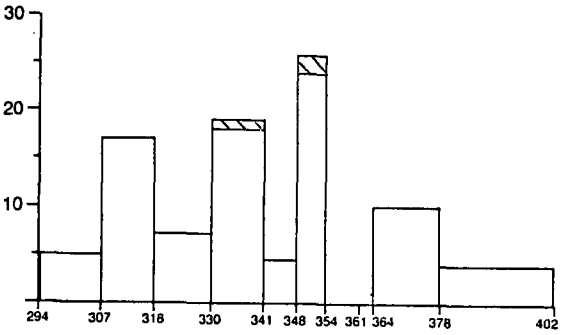
Kaiseraugst (1594 coins)

Balzers-Gutenberg seems to have acted as a refuge from c.350 to 365, and here an increased frequentation of the site probably led to the increased coin-loss.

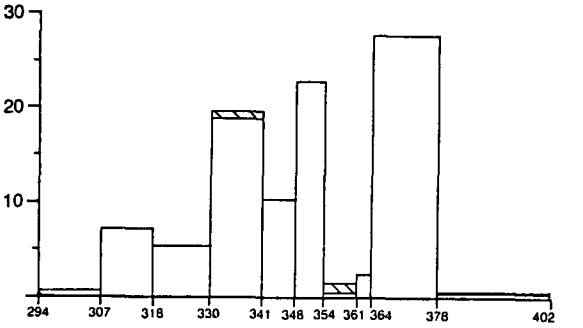


Balzers (40 coins)

There are good reasons for thinking that the high coin-index for 348-354 on some sites is the result of a distorted or unrepresentative coin-series of the type seen at Mainz and Rheinzabern (see above, p.24ff., "Problems in using site-finds for statistical analysis"). Condé-sur-Aisne and Altrier arouse suspicion because the level of barbarous copies is well below the regional average, and because the 2-Victories issues of 341-348 are extremely rare, both common characteristics of such unrepresentative coin-series. Furthermore neither of these series was assembled under well-authenticated or documented circumstances, but are the products of the activities of collectors (see Cat.1).

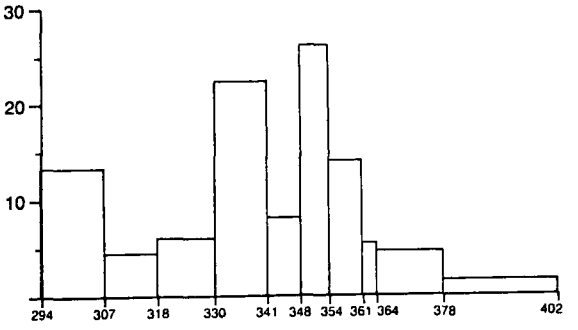


Altrier (89 coins)

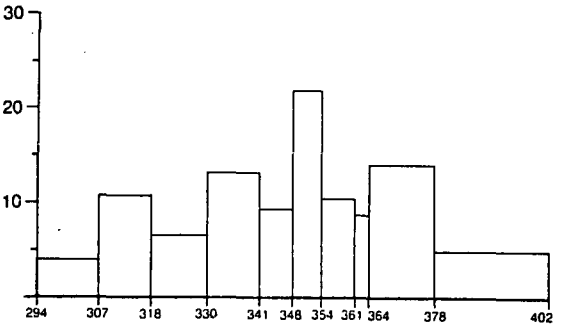


Condé-sur-Aisne (277 coins)

Similar considerations may also apply to Bregenz and Chur, both of which are composed mainly of chance and stray finds, rather than being the products of controlled excavations.

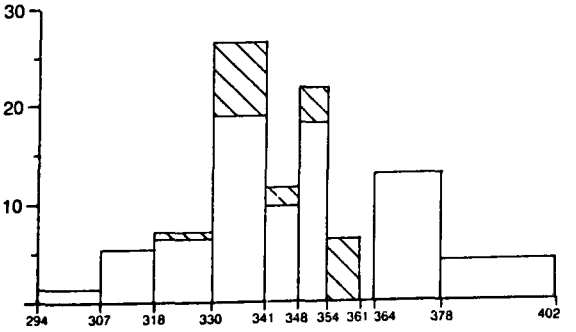


Chur (120 coins)

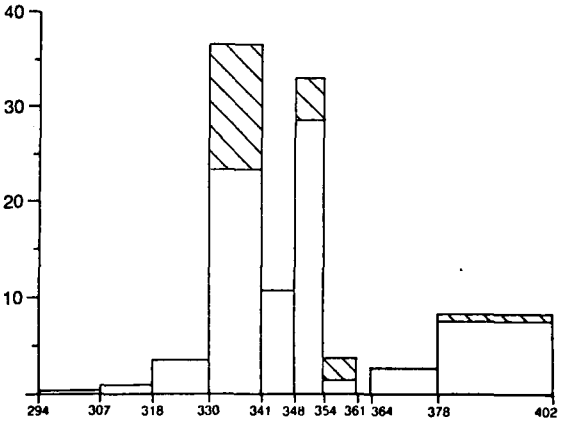


Bregenz (153 coins)

Only at Namur and Vireux are there no definite indications of what is responsible for the peak in the coin-index in 348-354.



Namur (511 coins)

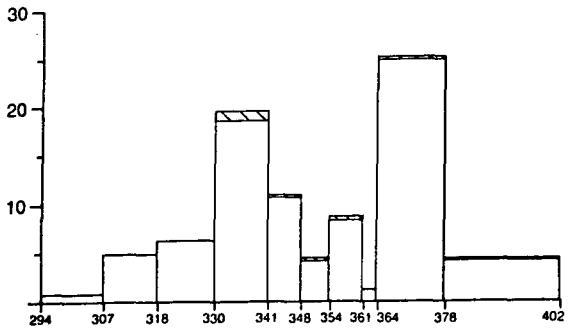


Vireux (186 coins)

Perhaps at Vireux it is linked to the site's nature as a hill-top fortification, like so many other sites with a peak in 348-354. The coins from Namur were retrieved from a river bed (as was the coin-series from Condé-sur-Aisne, see above), which are the sort of find-circumstances where the coin-series might be expected to be unrepresentative or distorted due to smaller coins not being recovered. But it is dangerous to dismiss a find as unrepresentative simply because of the find-circumstances; many coin-series which were recovered under much less well-controlled circumstances conform to the normal pattern and are clearly representative. In other words a find like Namur may be distorted, but it may equally be a genuine example of an unusual, but as yet unexplained, pattern of coin-loss.

4. The pattern of coinage from Switzerland

In finds from Switzerland there is an important variation from the Lower and Middle Rhine "norm". Whereas the coin-index for the official issues in the years 354-364 has provided the low-point in the fourth century, in Vindonissa and the Alpenrheintal sites the period 354-361 is always well represented, with the exception of Schaan-Krüppel where the coin-series breaks off in 354-358. Vindonissa illustrates this point particularly well, corresponding to the Lower and Middle Rhine "norm" in all periods except 354-361.



Vindonissa (1779 coins)

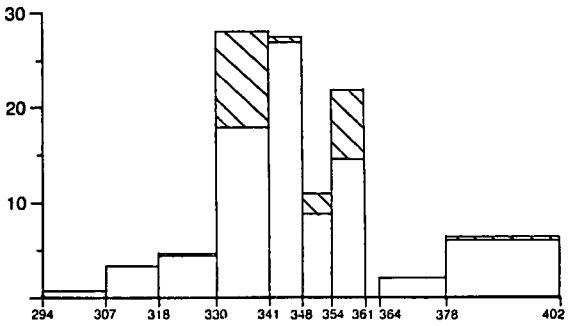
Kaiseraugst however is more closely related to the Lower and Middle Rhine than to the Swiss sites in this respect, and coin of 354-361 is relatively uncommon there (see histogram above, p.42).

5. A comparison of the patterns of coinage found in the Rhineland with those found elsewhere

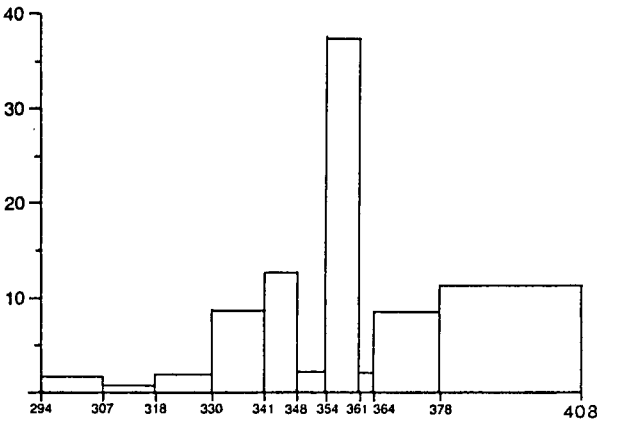
On the basis of the preceding analysis a general pattern of coin-loss can be identified for the years 294-364 along the length of the Rhine and in Britain, with the proviso that the coin-index for the official issues is higher in 354-361 on Swiss sites than in Britain or on the Lower and Middle Rhine.[12] Furthermore this pattern is found at sites of completely different types, temples and hill-top fortifications, vici and villas etc.

Nevertheless some groups of sites show to a greater or lesser extent deviations from this "norm". For example a minor deviation occurs in a series of finds from Luxembourg and along the Moselle which have a small peak in 307-318 for no apparent reason. More significant however is a group of coin-series with a peak in 348-354 which are found throughout the area studied. Although many of these sites are hill-top refuges, the phenomenon is also found at temples, vici etc., and there is normally an obvious explanation for this deviation from the normal pattern of coin-loss, e.g. an unrecognised hoard, increased frequentation of the site, a destruction level, or a biased sample.

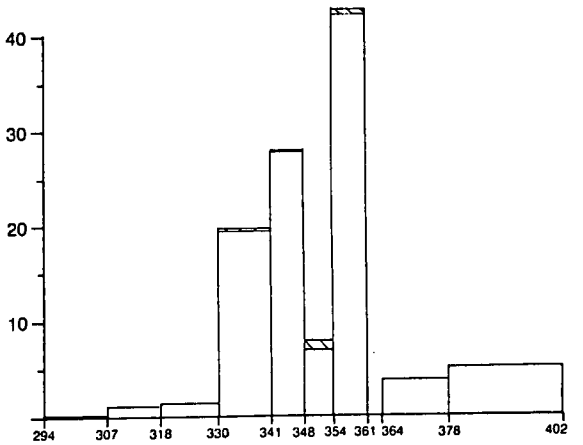
How does the pattern from the Rhineland compare with that found elsewhere? Six sites from outside the main area of study were chosen to provide a comparison: Arles, Conimbriga, Carnuntum, Athens, Apamea and Antioch-on-the-Orontes (see Map 4).



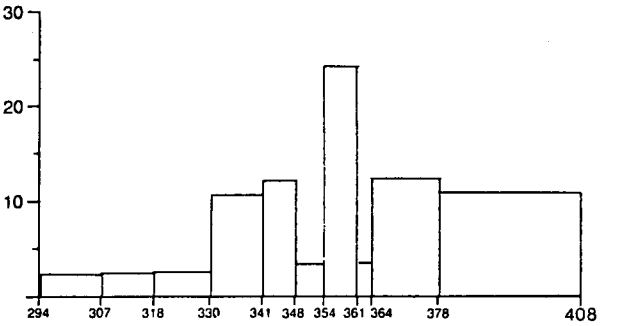
Arles (476 coins)



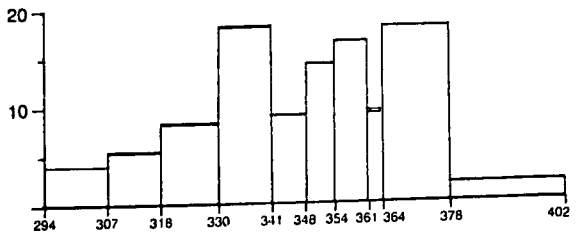
Athens (9997 coins)



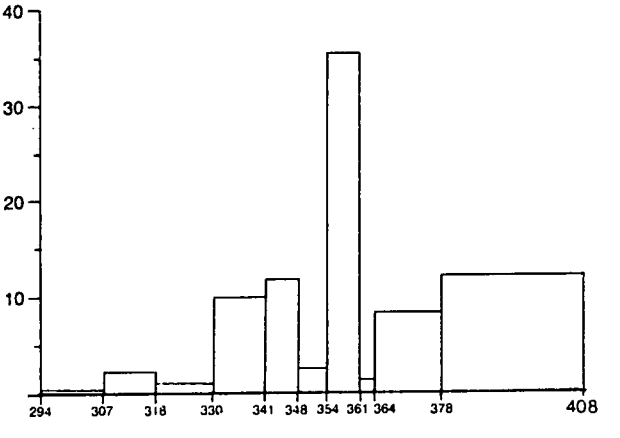
Conimbriga (2669 coins)



Antioch (6142 coins)



Carnuntum (3470 coins)



Apamea (822 coins)

Of course six coin-series from other areas of the Roman world are insufficient to provide more than a brief indication of coin-loss patterns there. Nevertheless certain features are common to nearly all of the six series, features which are all the more conspicuous because they contradict the normal pattern found along the Rhine.

With the exception of Carnuntum, which has a surprisingly high level of 348-354 coin, all have a Vindonissa-type pattern (see above p.45) for the period 294-364, but with an even higher level of 354-361 coin which varies from site to site.[13] In addition the coin-index for the official issues is higher for 341-348 than 330-341, again with the exception of Carnuntum, whereas along the Rhine the reverse was true.[14]

Thus it would seem that coin-circulation, as reflected in coin-loss, was of a remarkably unified nature in sites of totally different sorts and from different areas, and that the type of site and its history (except where some dramatic event, such as a destruction level is reflected in the coin-series) have a much smaller effect on coin-loss than is perhaps generally assumed.[15] This sort of analysis also shows the dangers of considering coin-series in isolation. To evaluate a coin-series it is important to be able to make comparisons with other series in order to see where the series studied deviates from the "normal" pattern.

What implications does this pattern of coin-loss have for the Rhineland? Apart from the individual exceptions within the Rhineland itself already discussed, the area diverges from the "global" pattern on two occasions.

a) Coinage of 341-348 is rarer along the Rhine, in Britain (and perhaps in Carnuntum) than elsewhere.[16]

b) The Rhineland from the N.Sea to Kaiseraugst, and Britain were practically starved of official coin of 354-361, whereas this coinage is common elsewhere.[17] On the other hand the scarcity of coin of 361-364 seems to be a normal phenomenon which occurs in other areas also.

Both points will be discussed in Chapter 4 in connection with the incidence of barbarous coins, and comment

here will be confined to a brief consideration of the years 354-361 along the Rhine.

Although this lack of official coinage is partly due to the almost complete closure of the mint of Trier in the years 355-364, as will be demonstrated in Chapter 3 this closure was very probably due to a drop in demand for coin from Trier.[18] A further indication that it was a crisis of demand rather than of supply which caused this reduction in the amount of new coin in circulation comes from the way in which the Rhineland reacted to the non-availability of new coin from Trier; if demand had remained high then it would be logical to expect the two nearest mints, Lyons and Arles, to have compensated for the drop in output of Trier, as indeed happened in the Valentinianic period (see Chapter 5). However this was not the case in the Rhineland in 354-361, in spite of the fact that Lyons and Arles were striking in large quantities; [19] the area was quite simply starved of coin from all mints (see Chapter 5), apparently as a result of a drop in demand.

This drop in demand must have been related to the totally ravaged state of the Rhineland at this time as a result of the German invasions. When Julian conducted his first campaign in 356, the German invasions of the previous 4 or 5 years had taken a terrible toll, and the population had either fled or been taken prisoner.[20] Fulford postulates that this devastation produced a decline in the Rhineland economy which meant "that insufficient surplus was being produced to enable the manufacture of commodities that might attract trade and money from...elsewhere."[21] In other words he sees the reduced coin-loss of the issues of 354-361 in purely economic terms. But although this may be partly true, other important factors were also involved. Not only did the civilian population flee the Rhineland, but it is also clear that the military presence had dropped dramatically, for we are repeatedly told of the small size of Julian's army.[22] Three factors can perhaps be identified which reduced the amount of coin entering circulation:

1) There were few people, soldier or civilian, left in

the area to receive new coin in the first place.

2) This depopulation had also led to a reduction in the amount of coin in circulation, and so available to be lost.

3) The mechanisms by which new coin was normally supplied to the areas, whatever they were, had broken down due to the disruption caused by the German invasions.

Whereas along the Rhine a combination of all three factors appears to have affected coin circulation, Britain and the S.Belgium/Ardennes region were largely unaffected by the events of 350-355 and only the third factor applied;[23] the turmoil in Gaul seems to have prevented issues of 354-361 reaching these areas in any numbers. A coin-hungry population was still there and how they reacted to the shortage of new coin will be studied in Chapter 4 when the barbarous coins are analysed.

In Switzerland the situation was different. Although this area too had been the target of Alamannic attacks, Constantius II took positive action as soon as he could to secure this strategically important area guarding the approaches to Italy.[24] In 354 he attempted to cross the Rhine at Kaiseraugst, and followed this up with further major campaigns in Switzerland in 355 and 356.[25] Switzerland does not seem to have suffered for so long or so severely as the Middle and Lower Rhine, and there was also a large campaigning army here - Barbatio had 25,000 men under his command in 357 <u>after</u> Constantius II had departed to deal with incursions along the Danube.[26] Correspondingly there is no shortage of new coin of 354-361, although the area does not seem to have yet recovered completely in the 350s and levels of new coin are still well down in comparison to other sites such as Conimbriga.

FOOTNOTES

1. 1964, p.206

2. See Catalogue 1: site-finds, for details of the individual sites.

3. cf.E.Nuber.SFMA.I.p.173, on the coins from Cologne: "The previous gap in the coin-series from A.D.383/408 could be filled by some 200 Aes 4 coins. The reason for the previous "absence" is certainly connected to the fact that these "worthless" coins quite simply weren't worth bothering about for finders and collectors."

4. The phenomena discussed here are essentially two of those discussed by Dr.H-C.Noeske (1979, p.157ff.). He differentiates between the mechanisms involved

a) up to the loss of a coin, and

b) subsequent to its loss.

In the series discussed here the a)-mechanisms in both the "A" and "B" series are the same; it is the b)-mechanisms that vary.

Noeske suggests four possible b)-mechanisms: (p.163, Diag.1.)

- use of the find area since Roman times.
- geography/geology of the area.
- the history of the investigation of the area.
- the methods used in such investigations.

The first two are identical for the "A" and "B" series, but the last two vary.

5. Where Valentinianic and Theodosian coinage is missing, or present in only small quantities on a site, the earlier (i.e. Constantinian) coinage will be, comparatively speaking, more common than on a site where Valentinianic and Theodosian coin is present in larger quantities; in other words the histogram-columns for the pre-364 periods will be correspondingly taller, so apparently increasing the

330-341 peak. However it is not the ratio between the representation of the Valentinianic/Theodosian coinage and the Constantinian coinage which is of immediate concern here, but the ratios between the different Constantinian periods. In other words it is the shape of the histogram in the Constantinian periods which is important - i.e. the relative and not the absolute height of the columns.

6. This sudden end is obscured in the histograms for Hontheim and Alteburg. They give the impression that the coin-series continue to 361. In fact all the coins of 354-361 from these two sites for which the mint-mark can be identified were struck in 354-355.

7. Another possibility is that the increased coin-loss was caused not by an increased amount of coin available to be lost, but by a smaller amount of coin staying in circulation longer and so having more time to be lost. This would involve the sites having been cut off from the supply of new coin and continuing in isolation with the coin already available. Two factors make this explanation unlikely:

1) This isolation would have to have lasted an extremely long time in order to produce the peaks at Binningen, Hontheim, and Alteburg, an improbable state of affairs for sites so close to an important highway such as the Moselle.

2) One of the more notable features of coin of 348-354 on such sites is that they are almost always unworn. They do not give the impression that they had remained in circulation for a long time.

In contrast the unusually high coin-index for 378-402 in site-finds such as Cologne and on some of the Belgian sites (qq.v.Cat.1) is probably the result of the coin of 378-402, and in particular the Aes4 issues struck after 383, remaining in circulation well into the fifth century, and so being lost in such large numbers. However the situation in Cologne in the early-fifth century was fundamentally very different to that on the Rhineland hill-top sites in the 350s; whereas the coin-supply to these hill-

top sites was interrupted in 352/355 at a time when coin was still reaching other Rhineland sites, no regular supply of new coin seems to have reached N.Gaul after c.402 and any need for bronze coin had to be met by what was already available, hence the extended circulation and increased loss-rate of issues of 378-402.

8. Recent excavations at Kindsbach by Dr Bernhard of the Landesdenkmalamt, Speyer, seem to confirm the probability that the coin-series includes a number of scattered hoards.

9. For the date of the capture of Cologne see Amm.Marc. xv.8.19.

10. Ep.ad Ath.279a.

11. For the bronze hoards see, Catalogue 2: hoards, Kaiseraugst I-III. M.Peter, Römermuseum Augst, informs me that there are probably other hoards of the same date which are unpublished.

For the silver hoard see Cahn & Kaufmann-Heinimann (1984). However H.Cahn and H.Wrede (1984), doubt whether the silver hoard belongs to this destruction level, but suggest that it was buried in 350/351 when the owner(s) marched East with Magnentius, only to perish at the Battle of Mursa, the hoard remaining unrecovered because of their deaths and not due to the Alamannic attack.

12. This pattern is the same as that found by A.Ravetz (1964) for the period 294-364 at almost all British sites; the deviations which she noted concern the Valentinianic & Theodosian periods.

13. At Athens and Antioch, due to the method of identifying and cataloguing the material in the original publications, a certain amount of coin tabled as 354-358 should probably be assigned to 348-354 (see Cat.1).

14. It is possible that Carnuntum is a distorted coin-series of the type discussed above p.24ff., such as Mainz "A", Rheinzabern "A" etc., since the majority of the coin-series was assembled in undocumented circumstances in the 19th and early 2oth centuries.

The other 5 coin-series (Arles, Conimbriga, Athens, Antioch and Apamea) all come from well-documented excavations, and the points where Carnuntum does not conform to the remarkably consistent picture of the 5 other series are precisely the points where a distorted coin-series of this kind would be expected to diverge: the 2-Victories issues of 341-348 are relatively rare, and the Aes2 issues of 348-354 relatively common.

15. One important aspect of this pattern of coin-loss is that it follows the basic rule of thumb: the smaller the coins and the lower their intrinsic value, the more frequent they are as site-finds. This reflects three important factors governing coin-loss (cf. also H-C.Noeske 1979. p.157ff.):

i) an application of Gresham's law: large and intrinsically valuable coins do not stay long enough in circulation to be lost in large numbers.

ii) large coins are not so easily lost; their greater intrinsic value would have encouraged efforts to look for them when dropped, and their large size means they will have been more easily found.

iii) the larger the coins and the higher their intrinsic value, then the fewer the number of coins that the administration will have been able to strike from a given quantity of metal, and so put into circulation.

This also means that, rather perversely the coin-series such as Mainz "A" and Rheinzabern "A" which were rejected above (p.24ff.) as unreliable evidence for the coins <u>lost</u> on a site will actually be more reliable evidence for the coin that <u>circulated</u> on a site, since they will reverse this bias against the larger coins in point ii).

16. See note 14 for the possibility that the site-finds from Carnuntum are distorted and that the actual level of 341-348 coinage is much higher.

17. A.Ravetz (1964) passim, esp.221, has more detailed information on the shortage of this coin reaching Britain. J-P.Callu & J-P.Garnier (1977) p.289f. briefly analyse the levels of this coin in various parts of Gaul and Britain, reaching a similar conclusion.

18. On the closure of Trier see: K-J.Gilles in Trier - Kaiserresidenz und Bischofssitz (Catalogue of the exhibition in the Rheinisches Landesmuseum Trier).Mainz.1984. p.56.

The only issue of bronze coinage from Trier recorded by RIC.viii for the years 356-364 is a small uncertain issue of Spes Reipublice, RIC.361. The existence of this issue is now confirmed by several of the coin-series studied here (see Chapter 5, Mint-distribution, 358-361). The issue was however very small.

19. G.Depeyrot (1982.ii) p.73.

20. See Introduction p.6f. Julian, Ep. ad.Ath.280.C, claims to have recovered 20,000 Romans who had been taken prisoner by the Germans (cf. Amm. Marc.xvii.10,7-8, who also recounts the episode).

21. 1978.p.76.

22. e.g. Amm.Marc.xvi.12,2. When he defeated the Alamanni at Strasbourg in 357, he was operating with only 13,000 men. See also Lib.Or.xvii.49 & Aur.Vict.Epit.42,13. See also Hoffmann (1969) p.203ff.

23. See Chapter 4, p.112 that S.Belgium and the Ardennes were largely unaffected. The only problems reported from Britain resulted from the brutally repressive measures taken against supporters of Magnentius by Paulus, a nota-

rius of Constantius II, in 353-354 (Amm.Marc.xiv.5,6). Later, in 360, Lupicinus was dispatched to Britain by Julian to deal with raiding by the Picts and Scots (Amm.xx.1,2-3).

24. For the Alamannic invasions in Switzerland see Chapter 3, p.84f. and note 4.

25. Amm.Marc.xiv.10.6, xv.4 & xvi.12.16.

26. Amm.Marc.xvi.11,2.

CHAPTER 2.

HOARDING PATTERNS

1. Introduction

In the Introduction (p.10) it was suggested that if hoards are to be used as evidence for disruptions such as German invasions, then hoarding must be examined as a wider phenomenon than simply a reaction to these disruptions. It is important to ascertain what other factors are involved in the deposition of hoards, for example the financial and monetary policies of the Imperial administration, before analysing how German invasions are reflected in hoarding patterns.

Furthermore before the dating evidence provided by hoards can be considered, it is necessary to know whether or not the terminal coin of a hoard is likely to provide a reasonably secure date for the deposition of the hoard, which in turn requires an analysis of the composition of hoards to see whether the choice of terminal coin has been influenced by considerations other than just the date of deposition. Are there hoards, for example, which are probably appreciably later than their terminal coin suggests?

Finally a study of hoards can also give an indication of what coin was circulating at a given time. This is particularly important for the period 354-364 in N.Gaul, where such an analysis should indicate how the coin shortage in the area, which is apparent from site-finds, was combatted, a factor that will also be important when the barbarous copies are analysed.

It is with such points in mind that hoarding patterns in the Rhineland in 350-364 are analysed here. The analysis itself is not intended to be exhaustive, but is confined mainly to matters which are of relevance elsewhere in this thesis.

103 hoards were studied from an area approximately

corresponding to the dioceses of Britannia, Galliae, Septem Provinciae as well as the provinces of Raetia I & II.

The finds studied are hoards in the broadest sense of the word, not just classic hoards which had been collected, put into a pot and then buried under a tree, but also other sealed deposits where the coins clearly belong together and were all deposited in the same context. For example Chamoson represents the money in somebody's purse when he died, Trier was contained in the destruction level of a cellar which had been devastated by a fire, Cologne V was found together with building rubble and destruction material with which a well had been filled in, while Hemel Hempstead and Mackwiller are votive deposits which break off abruptly. In all these cases the coins clearly form a single homogenous group which had then been sealed and removed from circulation.

Detailed information on all finds, including tables of their contents and other relevant information, can be found in Catalogue 2.

The analysis of the material has been split into four periods according to the terminal coin of the hoard:

- 350-354: (From the accession of Magnentius to the reduction of the Falling Horseman coinage to Aes3)
- 354-358: (reduced Falling Horseman issues)
- 358-361: (the Spes Reipublice issues)
- 361-364: (Julian's reform to Valentinian's accession)

2. 350-354: (Map 11)

The hoards of these years generally fall into one of two categories:[1]

i) those composed mainly of Aes3

ii) those composed mainly of Aes2

Group i) Aes3 hoards.[2]

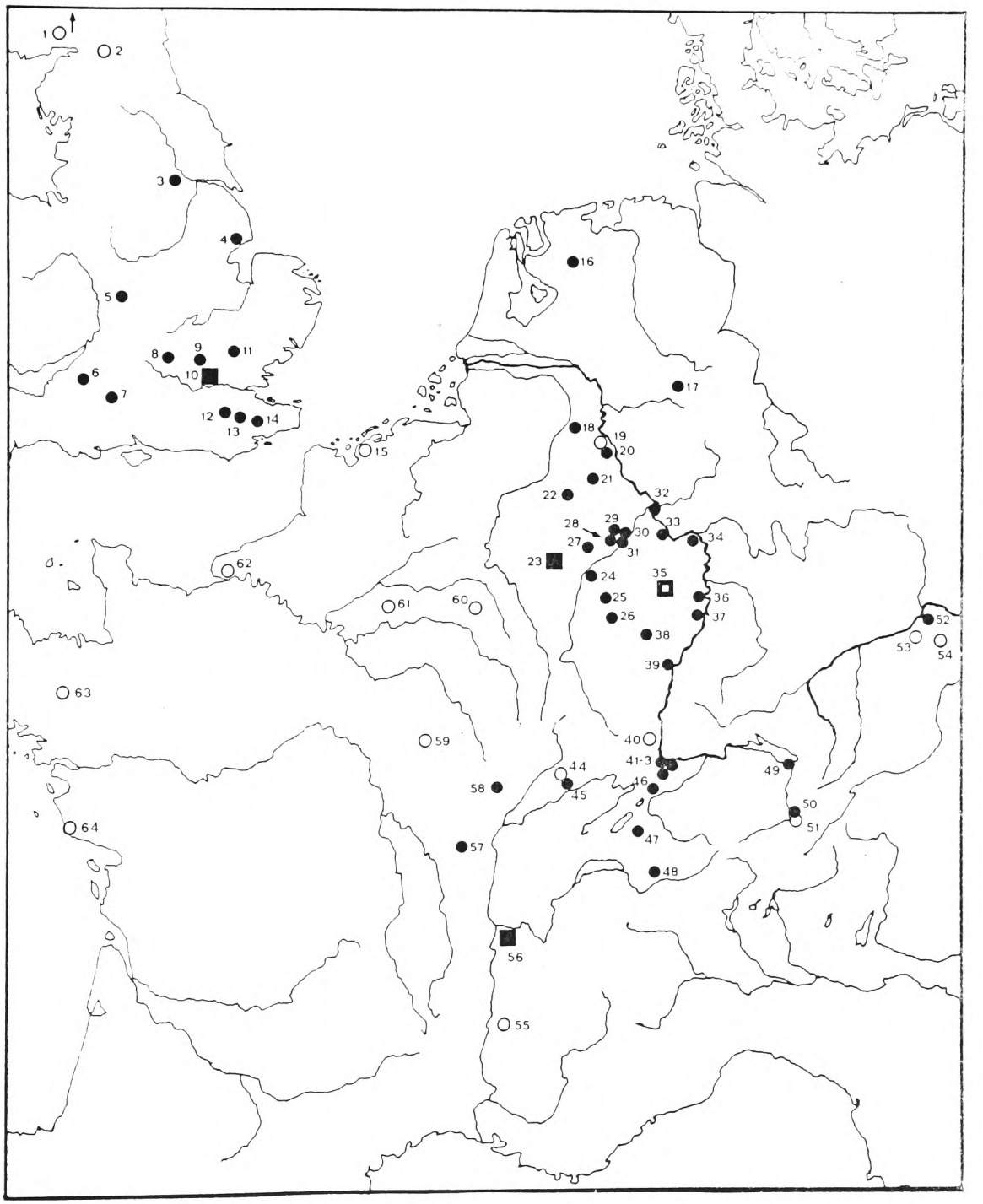
	pre-294	294-3o7	3o7-318	318-33o	33o-341	341-348	348 Ae2L	Ae2S	35o Ae3	35o ph.1	35o ph.2	35o ph.3	351 ph.4	351 ph.5	354 ph.6	354 ph.7	Poem	FH
Coleshill			3	-	642	1o73	289	23	1	-	236	133	8	27	5	19	-	8
Hanham	1	-	-	5 (1)	23	155	- (1)	-	3	-	1	1	1					
Hemel Hempstead	3 (7)	-	4	4 (1)	73 (3o)	15	1	-	5	-	-	-	-	- (1)	-	1		
Metternich	(1)			9	157o (6o1)	2662 (196)	15	3	8	2	22	2						
Bengel II	3	-	9	34	95 (7)	1o1	2 (1)	2	4	-	-	-	-	4 2	1	-	3	
Reil	1	-	1	1 (2)	153 (33)	234 (15)	2 (2)	3	3	-	-	2	-	21	7	11	12	
Perscheid	1 (3)	1	9	4	129 (9)	89 (5)	1	1	2	-	2	-	1					
Mackwiller	4	-	13	35	134 (4)	1o5 (2)	23	9	56	1 (1)	3	1	1					
Lingenfeld					14	1o	3 (2)	-	14	-	1							
Rheinzabern II	1	-	2	4	2o6 (3o)	321 (11)	-	13	2	- (1)	1	-	-	1				
Kaiseraugst I			35		78	2o	9						1					
Welschdörfli II				3	34	9	-	-	1	-	-	-	-	1				
Regensburg VII					1o	11	-	-	-	-	-	-	-	1				
Schleidweiler				1	49	52	1o											

The Eining and Kallnach hoards probably also belong to this group, but the exact details of their contents are unknown.

These finds are composed mainly of Aes3 issues of 330-348, and can be subdivided into two groups. In Hanham, Bengel, Reil, Metternich, Rheinzabern II & III, Kaiseraugst I, and Regensburg VII issues of 341-348 are more common than those of 330-341. This is reversed in the other finds, which include two votive-deposits, Hemel Hempstead and Mackwiller, as well as the Welschdörfli II find where it is not clear what sort of hoard is involved, nor exactly which coins in the complex actually belong to the hoard (see Cat 2).

In hoards of this group coin struck after the Fel. Temp. reform of 348 is normally rare, and when present in significant numbers it either tends to be of the Aes3 denomination (e.g. Lingenfeld and Mackwiller), or the composition of the hoard shows a definite break at 348 (e.g. Reil).

MAP 11: hoards of 350-354.



● Location certain ■ Location uncertain

Open circles and squares indicate hoards for which details are incomplete, the terminal coin is unknown, or only a small part of the find was recovered.

Key to Map 11:

1 Balgreggan
2 Heddon
3 Skellow
4 Byard's Leap
5 Coleshill
6 Hanham
7 Easterton
8 Woodeaton
9 Wycombe
10 Berkshire
11 Hemel Hempstead
12 Croydon
13 Cobham Park
14 Boxley Warren
15 Damme
16 Kopstukken
17 Soest
18 Herkenbosch
19 Cologne I
20 Cologne II
21 Metternich
22 Theux
23 Luxembourg
24 Trier
25 Baldringen
26 Villing
27 Schleidweiler
28 Bengel I
29 Bengel II
30 Reil
31 Traben-Trarbach
32 Koblenz
33 Perscheid
34 Mainz-Mombach
35 Pfalz
36 Lingenfeld
37 Rheinzabern II
38 Mackwiller
39 Strasbourg
40 Rumersheim
41 Kaiseraugst I
42 Kaiseraugst II
43 Kaiseraugst III
44 Baumotte
45 Bretigney
46 Bassecourt
47 Kallnach
48 Chamoson
49 Fussach
50 Pizokel
51 Welschdörfli II
52 Regensburg VII
53 Eining
54 Frauensattling
55 Chavannes
56 Lyons area
57 Auxy
58 La Nove
59 Bussy-en-Othe
60 Sillery
61 Mareuil
62 Oisel
63 St.Meen-le-Grand
64 Olonne

Group ii) Aes2 hoards:

In these hoards the Aes3 issues of 330-348, as well as the Aes3 denomination of 348-350 are normally absent; the bulk of the find consists of the Aes2 issues of 348-354 and when earlier coin is present it tends to be Aes2 struck before 330, although sometimes the issues of 330-335 are also included.

	pre-294	294-307	307-318	318-330	330-341	341-348	348-350 Ae2L	348-350 Ae2S	348-350 Ae3	350 ph.1	350 ph.2	350 ph.3	351-354 ph.4	351-354 ph.5	351-354 ph.6	351-354 ph.7	Poem	FH
Berkshire	2	-	-	-	4	-	3 (1)	6	-	1	4 (1)	2						
Byard's Leap							15 (1)	2	-	1	6	2						
Wycombe						(1)	26 (13)	-	1	3	12 (8)	13	⊢ 4 (4) ⊣		2			
Skellow							3	-	-	-	2	3	4	6	-	1		
Cobham Park			1	-	-	-	4o2	-	2	16	24o	114	9	34	1	16	-	1
Croydon							1961	1	-	1o3 ⊢ 2 ⊣	3o9	314	-	1	-	1	2	48
Easterton							2o	36	4	-	16	7	-	-	-	-	-	1
Herkenbosch					1	-	-	-	-	-	-	3	1	4	1	13		
Kopstukken							2	2	-	-	9	6	4	21	2			
Cologne II	16	2	21o	25	11	-	96	63	-	2 ⊢ 1 ⊣	35	44	⊢ 6o1 ⊣			1628	27	1+
Soest			4	1	9	1	-	-	-	-	-	-	2					
Bassecourt	4	-	1	2	-	-	24 (1o)	1	-	2	13 (4)	33 (2)	3	3				
Maul	2	-	2	12	3	-	- (1)	4 (3)	-		1			1				
Auxy														x	x	x		
Pizokel							1	19	-	-	4	2	-	16				
Fussach							9	5	1	- ⊢ 3 ⊣	1	-	-	1	-	1	-	33
Villing							1	35 (2)	-	-	-	-	4	31				

An important subset of this group is provided by hoards which contain almost exclusively coins of one reverse type:

	348-350 Ae2L	348-350 Ae2S	348-350 Ae3	350 ph.1	350 ph.2	350 ph.3	351-354 ph.4	351-354 ph.5	351-354 ph.6	351-354 ph.7	Poem	FH
Theux							1	11				
Luxembourg										113	5	
Bengel I	2	-	-	-	-	-	1o	26	17			
Baldringen										4o	78	
Mainz-Mombach										25	4	
Lyons area				1			⊢ 1983 ⊣ ⊢ (237) ⊣		137			
Kaiseraugst II			1	-	1	-	7	151				
Bretigney						9o						
La Nove							1	⊢ 27 ⊣				
Woodeaton							x	x	x			

Whereas group i) hoards were already common even before 348 and are met with throughout the entire period 348-354, the earliest group ii) hoards, Byard's Leap and Berkshire, have terminal coins of phase 3 of the Magnentian coinage, i.e. mid/late 350, and most are of phase 5, i.e. mid 351 to mid 352, or later.

A contrast to these two groups is provided by Chamoson which is not a hoard in the strict sense of the word, since it is not composed of coin deliberately withdrawn from circulation, but was the cash being carried by someone in his purse when he died (See Cat.2 for further details). That is not to say however that the complex could not contain some coins which had been saved up.

	pre-294	294-3o7	3o7-318	318-33o	33o-341	341-348	348-350 Ae2L	348-350 Ae2S	348-350 Ae3	350 ph.1	350 ph.2	350 ph.3	351-354 ph.4	351-354 ph.5	351-354 ph.6	351-354 ph.7	351-354 Poem	351-354 FH
Chamoson	1	-	-	2	4	8	4	1	1	3	6 (1)	15	9	9o (1)				

The fact that this "cash" hoard shows no break in composition in 348, but mixes Aes2 and Aes3 freely, suggests that the discrimination between the two sizes of coin so apparent in the hoards is the result of a deliberate attitude on the part of the hoarders, who chose to collect either Aes2 or Aes3. The coins actually in circulation from which the hoarders selected were of mixed denominations. A similar situation was observed by H.Schubert in Egypt, who notes that throughout the fourth century Egyptian hoarders did not generally mix coin of varying sizes.[3] J-P.Callu has also pointed out that in multiple hoards it was common for coins of one particular size or denomination to be kept in a separate container.[4] Such a discrimination between denominations seems to have been a common feature of fourth-century hoarding.

Clearly although the Fel.Temp. reform of 348 had an important effect upon the composition of hoards, it was not itself the reason for their deposition; in other words the fact that the hoards discriminate between the mainly pre-348 Aes3 and the post-348 Aes2 is not an indication of an

official withdrawal of pre-348 coin from circulation which led people to either deposit their now worthless pre-348 coin, or to hoard only post-reform coin. Chamoson makes it clear that this Aes3 was still in circulation in 352.

Furthermore the real distinction between group i) and group ii) hoards is not simply between theoretically demonetised pre-348 coin and current post-reform coin, but between Aes3, which could be both pre- or post-348 (cf. Lingenfeld and Mackwiller, above), and Aes2 which was almost entirely post-348.

As dating evidence group i) hoards are probably less reliable than group ii) since they often have only a very thin "tail" of post-Fel.Temp. reform coins. For example Regensburg VII has a gap from 348 to the terminal coin of 352; if this single later coin had not been included, or if the find had been composed just before the issue of the terminal coin, then the hoard would be appreciably later than the new terminal coin of 341-8 would imply.[5] Group ii) finds on the other hand generally have a rather more close-packed composition, with fewer gaps and a more abrupt end, and it is easier to accept that the date of deposition is closer to the date of the terminal coin than is the case with some group i) hoards.[6]

A few finds do not fit this pattern of either Aes2 or Aes3. J-P.Callu records hoards which reveal an unusual affinity for the Aes3 issues of 348-350.[7] Particular examples of this are:

	307-318	318-330	330-341	341-348	348 - 350 Ae2L	Ae2S	Ae3	350 ph.1	ph.2	ph.3	351 - 354 ph.4	ph.5	ph.6	ph.7	Poem	FH
Boxley Warren	1	-	2	1	4	3	50	-	2	3	2	3	3			
Strasbourg				1	11	1	54	-	5	16	1	11	1			
					(1)							(3)				

Although these two hoards show a preference for coin struck after the Fel.Temp. reform of 348, their owners did not differentiate between Aes2 and Aes3. The 348-350 Aes3 element in Strasbourg also includes 21 coins from Siscia, an incidence unparalleled in other N.Gallic finds, and a fact which serves to highlight its unusual composition.

Of the remaining finds, Traben-Trarbach belongs to a type of find not otherwise met with in this period, that is hoards composed almost entirely of barbarous minimi, and is not a genuine hoard but a destruction level (See Cat.2).[8]

	307-318	318-330	330-341	341-348	348 Ae2L	348 - 350 Ae2S	348 - 350 Aes3	350 ph.1	350 ph.2	350 ph.3	351 - 353 ph.4	351 - 353 ph.5	351 - 353 ph.6	351 - 353 ph.7	Poem
Traben-Trarbach	1	-	1	3	-	1	1	-	1	1	1	3	-	20	38
		(1)	(345+)(1)									2			

With Cologne I and Koblenz it is not clear precisely which of the coins listed actually belong to the finds (see Cat.2), and therefore the real composition of the hoards is unclear.

	pre-294	294-307	307-318	318-330	330-341	341-348	348 Ae2L	348 - 350 Ae2S	348 - 350 Aes3	350 ph.1	350 ph.2	350 ph.3	351 - 353 ph.4	351 - 353 ph.5	351 - 353 ph.6	351 - 353 ph.7	Poem
Cologne I		2	-	12	3	4	3	-	-	-	3	4	-	-	-	7	
Koblenz	4	6	8	2	2	-	1	3	-	-	3	-	1	1	-	1	1
		1											1				

The effect upon hoarding patterns of the Salus-reform, 352/3.

Although the Salus issues are frequently hoarded in isolation this does not seem to be a direct result of the reform of the coinage in late 352 which led to the introduction of this type, but rather to follow in the tradition of hoards with a concentration of just one reverse type (see above, p.62 under group ii, for such hoards). This tendency had already become well established with the 2-Victories issues (phases 4-6) of 351-2. In fact the Salus reform seems to have had no impact on hoarding patterns, being found in hoards of all types; those composed of just one reverse type, those composed of mainly pre-348 Aes3, and those in which Aes2 of 348-354 predominates.[9]

3. 354-358. (Map 12)[10]

The reduction of the Falling Horseman issues to Aes3 in 354/5 is generally not reflected in a break in the composition of hoards in the way that the introduction of the Aes2 coinage in 348 had been (see above), when hoards had either concentrated on or avoided the new coinage.

Thus for example only two hoards are known which contain only, or nearly only, coin struck after the reduction in 354/5:

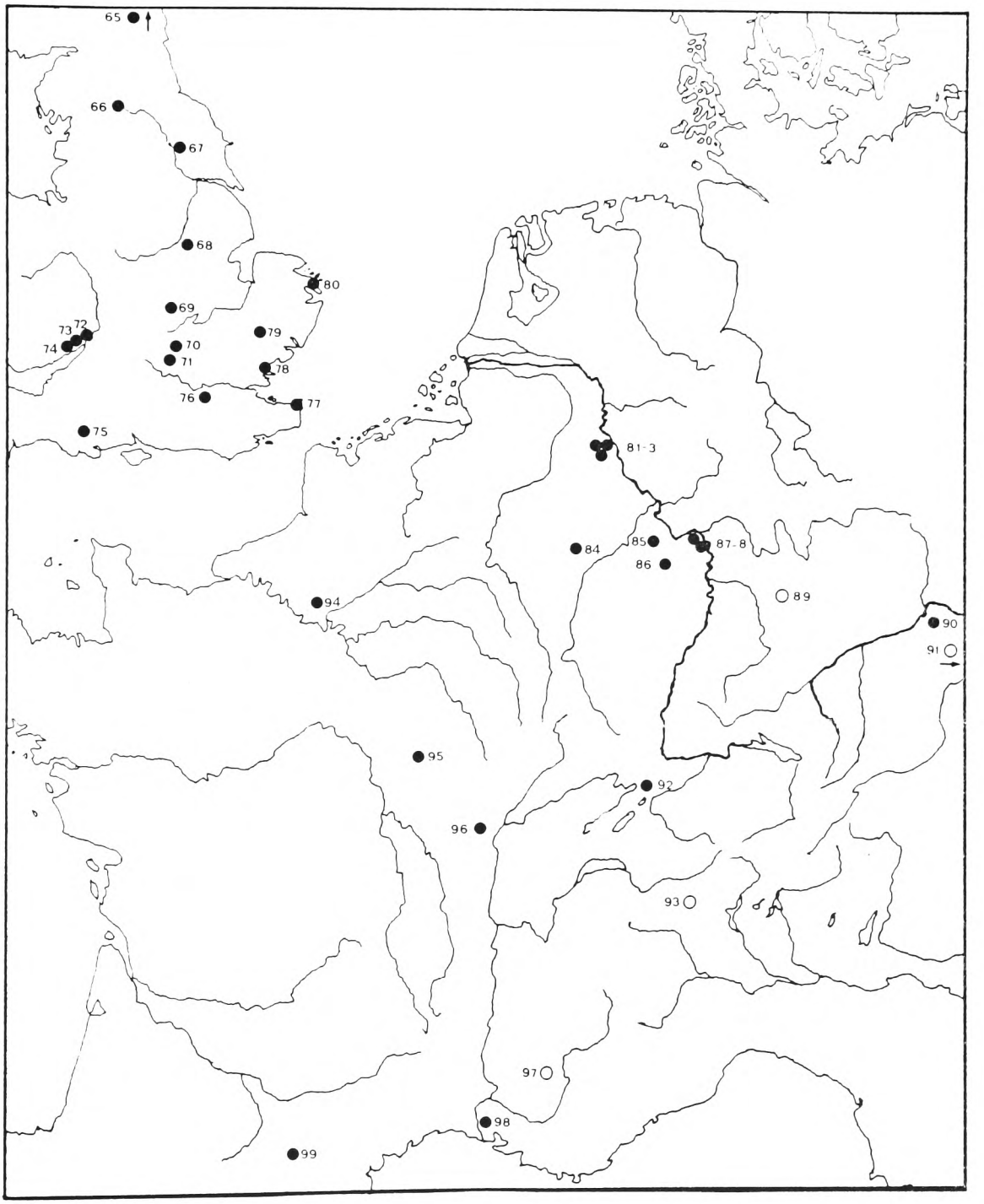
	330-341	341-348	348-354 Aes2	348-354 Aes3	354-358
Poundbury	1	-	-	-	51
Arles					29

In the case of Arles this is partly explained by the nature of the find; it seems to be some sort of payment composed of coin which had only just left the mint (see Cat.2), although no such explanation is apparent for Poundbury.

In fact most hoards with large numbers of pre-reduction Aes2 of 348-354 show no signs of avoiding the later Aes3 issues, for example:

	pre-294	294-307	307-318	318-330	330-341	341-348	348-354 Aes2	348-354 Aes3	354-358
Freckenham			⊢—3—⊣		6	-	277 (73)	-	88 (100)
Fontaines-Salées	2	1	2	1	16	5	61 (72)	-	14
Marscherwald	7 (5)	-	42	122 (1)	35 (2)	3	427 (14)	2	221 (7)
Besthorpe				6	276 (5)	119 (3)	356 (107)	-	220 (246)
Heslington	2	-	3	7 (1)	155 (22)	135 (3)	335 (429)	14	624 (1587)
Oldcroft	2	-	3	5	144	47	300 (297)	17 (2)	1095 (1218)
Lydney Park I	3	-	-	3	8 (4)	10	15 (7)	5	16 (45)

MAP 12: hoards of 354-358.



Open circles indicate hoards for which details are incomplete, the terminal coin is unknown, or only a small part of the find was recovered.

Key to Map 12:

65 Covesea
66 Chesterholm
67 Heslington
68 Besthorpe
69 Duston
70 Fenny Stratford
71 Shakenoak
72 Oldcroft
73 Lydney Park I
74 Lydney Park II
75 Poundbury
76 Wokingham
77 Richborough
78 Colchester
79 Freckenham
80 Caister-by-Yarmouth
81 Cologne III
82 Cologne IV
83 Cologne V
84 Marscherwald
85 Simmern
86 Bockenau
87 Mainz II
88 Mainz III
89 Michelfeld-Blindheim
90 Regensburg VIII
91 Hengesberg
92 Undevelier
93 Theodule Pass
94 Epiais Rhus
95 Fontaines Salees
96 Collonges
97 Chateau Arnoux
98 Arles
99 L'Estrade

and the only two finds which have a break at 354 are:

	pre-294	294-307	307-318	318-330	330-341	341-348	348-354 Aes2	348-354 Aes3	354-358
Bockenau			1	10	19 (1)	10	40	2	1
Regensburg VIII	1	-	-	1	62	28	42 (1)	-	1

However in the case of Bockenau this is to be explained by the early terminal coin, which was minted in the months immediately after the reduction; the new coins had not yet been struck long enough to appear in any numbers in the hoard. At Regensburg the terminal coin can not be so well dated.[11]

Since most hoards show no break after the reduction of 354/5, the discrimination between Aes2 and Aes3 apparent in hoards of 350-354 is no longer so marked, and both sizes are happily mixed. This point is well illustrated by Besthorpe, Heslington, Oldcroft, Lydney Park, Bockenau, and Regensburg VIII (see tables above); they contain large quantities of Aes3 issues of 330-348 and so would have been expected to omit post-348 Aes2 according to the hoarding pattern we saw in 350-354, but this is not the case.

Smaller hoards, such as Collonge and Epiais Rhus, also continue steadily from c.330 through to 354-358 without a break.

	pre-294	294-307	307-318	318-330	330-341	341-348	348-354 Aes2	348-354 Aes3	354-358
Collonge		⊢——3——⊣		5	15	2	14	7	3
Epiais Rhus	1	-	-	1	10	4	6	2	5

Thus it is clear that although after 354 hoards are no longer composed overwhelmingly of Aes2 issues of 348-354, they nevertheless continued to play an important part in hoards throughout the period 354-358; in the Freckenham hoard they could even dominate.

This is in contrast to the statement of J-P.Callu that the Aes2 coinage was demonetised in 354 as a result of C.Th.ix.23,1 and immediately disappeared from circulation, "having furnished the bulk of the bronze coinage for about

four years."[12] Certainly the Aes2 coinage rarely dominates hoards after 354, but this has a lot to do with the attitudes of hoarders; the "Aes2 only" or "mainly Aes2" hoard of 350-354 disappears and hoarders no longer differentiate between Aes2 and Aes3 so strongly, leading to an increased role for Aes3 in hoards. But the same factor also reduced the number of "Aes3 only" hoards after 354, so that in this respect there was an <u>increase</u> in the role of Aes2 in 354-358. It is generally clear that the Aes2 issues remained in circulation rather longer than Callu suggests, and the hoards provide no evidence for a supposed demonetisation in 354.

Certainly in some finds we still meet a concentration of pre-348 Aes3, and the Aes2 coins of 348-354 are rare, for example:

	pre-294	294-3o7	3o7-318	318-33o	33o-341	341-348	348-354 Aes2	348-354 Aes3	354-358
L'Estrade	1	-	-	1o	213 (7)	174 (2)	- (1)	2	4
Cologne III	(1)			1	26 ⊢1⊣ (1)	1o	-	1	1
Cologne IV					19	11	1	1	2
Cologne V					11 ⊢1⊣ (1)	4	- (1)	2	- (2)
Shakenoak				2	9	2	-	1	1

But these finds are no proof of a demonetisation of the Aes2 issues of 348-354 in 354, since they merely continue a hoarding pattern already seen in 350-354 when the Aes2 was still being struck and hoarded. These finds have the same composition as group i) hoards of 350-354.[13]

Alongside the issues of 348-354, the Aes3 of 330-348 still continues to be hoarded in large quantities in all types of hoards of this period, but the 2-Victories issues of 341-348, which had dominated in many earlier hoards (see p.59), now enjoyed a much more restricted role.

One remarkable phenomenon in this period is the sudden reappearance in hoards of pre-330 coin sometimes in quite large numbers, for example:[14]

	pre-294	294-307	307-318	318-330	330-341	341-348	348 - Aes2	354 Aes3	354-358
Marscherwald	7	-	42	122 (1)	35 (2)	3	412 (14)	2	221 (7)
Mainz III	1	-	5	2	3	-	-	-	11
Simmern	34 (19)	4	7	471 (4)	34 (3)	13 (1)	2	1	3
Bockenau			1	10	19 (1)	10	40	2	1

In the previous period a similar element was often present in Aes2-oriented hoards, as noted above, but normally in smaller quantities. However it is perhaps significant that the only 350-354 hoard where this element is large is Cologne II, which was buried in 353 or later. It would seem that Aes2 coins of 348-354 somehow enticed earlier Aes2 coinage back into circulation, or at least "reactivated" older hoards which were than added to, but that this happened towards the end of the period 348-354, around 353. The phenomenon appears to be confined to the Continent.

Finally mention must be made of the unique situation in Britain, where imitations play an exceptional role in many finds. These finds are quite varied in composition, but generally concentrate on either 330-341 or 354-358 coins, both official pieces and imitations, and rarely include 341-354 issues, paralleling the reduced importance of the 2-Victories issues of 341-348 in all hoards of this period (see above p.70).

	pre-294	294-307	307-318	318-330	330-341	341-348	348 - Aes2	354 Aes3	354-358
Caister-by-Yarmouth					6 (24)	-	-	-	- (1)
Covesea					4 (5)	2	2 (1)	-	1 (28)
Fenny Stratford					28 (3)	2	-	-	1 (125)
Richborough	4 (11)	-	-	1	7 (71)	8 (4)	2	-	- (137)
Lydney Park II					⊢(7)⊣		-	-	(282)

4. 358-361. (Map 13)

Four hoards from the area studied supposedly have Spes Reipublice as their terminal coin: Rheinzabern II & III, Mainz IV and Cologne VI.[15] Yet the picture presented by all four is probably in some way distorted (See Cat.2 on the individual hoards for more precise details).

The Rheinzabern hoards are probably earlier, while Mainz IV has a composition which seems absolutely impossible for a mid-fourth century hoard, as well as unauthenticated find-circumstances. In the case of Cologne VI, it is possible that the terminal date of the hoard is 353, and that the Spes Reipublice piece is a later intrusion from the levelling and rebuilding work in Cologne after the sack in 355.[16]

Therefore no useful conclusions can be drawn based on the evidence of these finds, and it is not possible to ascertain for example at what point the Aes2 issues of 348-354 ceased to play such an important role in hoards, or how long the issues of 330-348 remained in circulation.

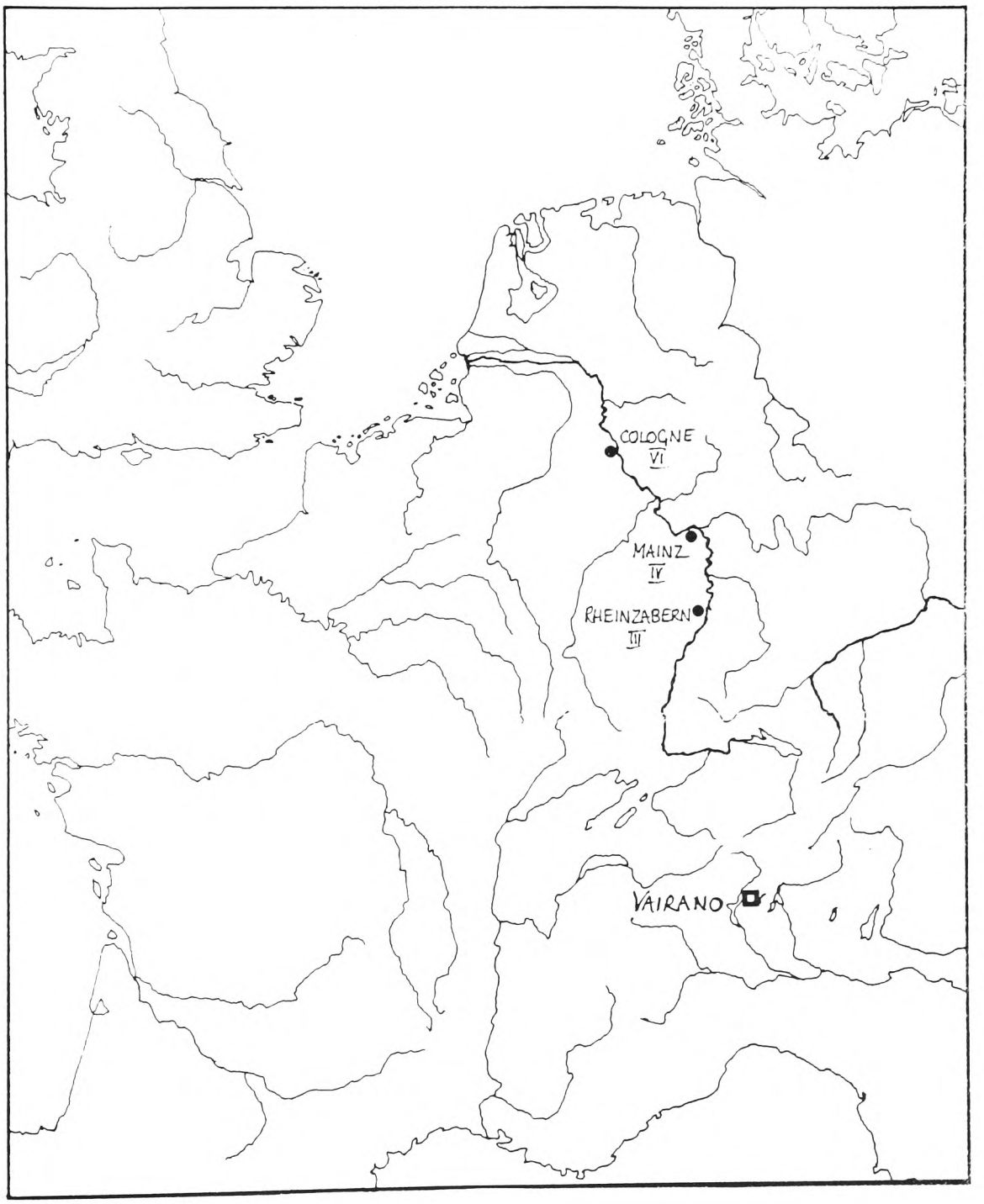
5. 361-364. (Map 13)

The only hoard from the area studied is

	330-341	341-348	348-354	354-358	358-361	361-364
Vairano	2	3	-	37	8	4 (11)

Not only have the Aes2 issues of 348-354 completely disappeared by this time, but also the earlier issues of 330-348 have become significantly less important, and have been replaced by the Aes3 Falling Horseman issues.

MAP 13: hoards of 358-364.



● Terminal coin 358-361.

◘ Terminal coin 361-364.

6. Conclusions

No evidence could be found for political bias in the composition of hoards during the period studied. There is no sign that coin of Constans or Constantius II was avoided under Magnentius, nor that Magnentian coin was shunned after his overthrow. Although at first sight some hoards might seem to contradict this assertion, close scrutiny reveals that in fact the finds discriminate between different types of coin (e.g. Aes2 and Aes3) rather than the coin of particular Emperors.

Similarly there is no evidence that any part of the coinage was demonetised during the period studied. Certainly some hoards avoid particular sizes or denominations of coin, but that is the result of a phenomenon which is common in fourth-century hoards; hoarders often concentrated on just one size of coin and neglected another size which was clearly still in circulation. The fact that a certain coinage is absent from a group of hoards is not necessarily proof that it had been demonetised or withdrawn from circulation, it is more probably the result of selection on the part of hoarders.

This is particularly important for an interpretation of C.Th.ix.23.1, which it is often assumed refers to a demonetisation of the Aes2 issues of 348-354.[17] However the hoards provide no supporting evidence for such an assumption.[18]

FOOTNOTES.

1. cf. Kent, RIC.viii.p.81 and tables.
G.Depeyrot, (1982).p.162.
J-P.Callu, (1980).p.100.

2. The periods into which the hoards are divided and the abbreviations are explained more fully in the introduction to Catalogue 1.

348-350: Ae2L, Ae2S, Aes3 represent the three denominations struck in these years.

ph.1-7: the divisions of the Magnentian coin set out by P.Bastien.

Poem: the Salus issues struck for Constantius II in Trier, in effect a subgroup of ph.7.

FH: Falling Horseman issues struck for Constantius II and Gallus; Eastern and Balkan mints 351-354; Italy 352-354; Gaul 353-354.

The numbers in brackets are the totals for the barbarous copies, without brackets for the official coins.

3. 1984 passim, esp.p.140.

4. 1979 5ff.

5. Particular attention should be drawn to earlier hoards from 348-350 which are of the same type as the group i) hoards of 350-354; these contain exclusively Aes3, drawing mainly on the issues of 330-348, and with only a small tail of post-348 Aes3: e.g Niederingelheim:-

330-341	230 coins
341-348	275 coins
348-350 Aes3	36 coins

The exclusion of Aes2 is not due to its unavailability (the 348-350 Aes2 is more plentiful in site-finds than the Aes3

of the same period), but is the conscious choice of the hoarder. Furthermore Magnentian Aes3 is extremely rare, so that it is possible that the ● hoarder who was withdrawing coin from circulation after 350, but who deliberately excluded Aes2, would not have any coins struck after 348-350 to choose from, and therefore hoards like Niederingelheim could be much later than the terminal coin indicates.

The only Aes3 struck in 350-351 by Magnentius were the very rare RIC.viii.Aqu.164-6 & 177-8. Small issues were struck in Trier, RIC.316A-317, and perhaps in Lyons also, RIC.125,143-144B, in 351-352.

6. Similar difficulties are also apparent in dating some late third-century hoards; cf. R.Bland, NC.1979.p.61ff. "The 1973 Beachy Head treasure trove of third-century antoniniani."

7. 1980.n.48. "There is a fifth group of hoards which complements this picture in which the Aes3 pieces minted after the reform of 348 form a significant part." He records two other finds of this type not dealt with here: Damery, France, terminal date 348-350; and Vranic, Croatia, terminal date 350.

8. J-P.Callu and J-P.Garnier (1977) have a detailed list of other finds of this type.

9. J.Kent, RIC.viii.p.81, states that Salus coin is never found in hoards of the Group i) Aes3 type. However recent finds such as Reil and Bengel II, as well as the Hemel Hempstead votive deposit, correct this. Salus coins are not excluded from this type of hoard.

10. The results presented here, as well as for the following period, are often in stark contrast to those reached by J-P.Callu (1980 p.100-2). This is because much of the evidence relied on by Callu is of a very doubtful nature. Several of his dates for hoards are incorrect or uncertain, and some of the information provided by other hoards cannot

be regarded as dependable evidence. For example:

Theodule - has been disturbed since Roman times, and any attempt to reconstruct the original hoard (if indeed the coins ever formed a hoard) is pure speculation.
Michelfeld - there is no indication as to the completeness, or indeed the actual nature (hoard or stray-finds) of the complex.
Mainz II - contains no coins for Constans, although he struck much more heavily for himself than for his brother Constantius II in 340-350, which makes its composition suspect.
Niederingelheim - is earlier, see note 14.
Rheinzabern II (Callu Rheinzabern I) - has probably been tampered with, and is certainly earlier than Callu believes.
Rheinzabern III (Callu Rheinzabern II) - has definitely been tampered with, and the terminal date is very uncertain.
Mainz IV - has an unparalleled composition which arouses great suspicion. The origin and find-circumstances are also unauthenticated.
Silchester V - is probably earlier; see Boon, NC.1960. pp.248-9.

(For more exact details of each find, see Cat.2)

11. Bockenau: The terminal coin was struck in Siscia for Constantius Gallus, who was executed in late 354.
Regensburg VIII: FMRD.i.3086.117: identified as LRBC 1228, was struck for Constantius II after the elevation of Julian in November 355. However this mint mark - ΓSISΣ - had been in use since before the death of Gallus, (LRBC 1222), and the earlier and later coins are not distinguishable.
Kellner (FMRD see Cat2.) notes that the Siscia coins of 351-354 were in almost mint-condition, which might suggest that the hoard was composed soon after the reduction in 354.

12. 1980 p.100f.

13. Hands, Broadribb and Walker (see Cat.2) write of Shakenoak "The very recent issues of Magnentius, as well as the Aes2 'Fel Temp' types, seem to have been deliberately rejected."

14. Bockenau is however incomplete. Mainz II might perhaps be added to the list, but a large part of the find is missing, see above note 10 & Cat.2.

15. J-P.Callu (1980) also includes Niedéringelheim (FMRD.iv.1093) under the hoards of 358-361. Presumably this is based on the identification of coin no. 489 by P.Franke in FMRD as

Constantius II cf.C.188 barb.

From his use of cf.C.188, as well as from his footenote in FMRD, it is clear that Franke only wishes to assert that the coin in question is an imitation which resembles C.188 - i.e. the Spes Reipublice type - in some respects, not that the coin actually is a copy of a Spes piece. He clearly dates the coin to 337/41, leaving the 36 Fel.Temp. pieces of 348-350 as the terminal coins.

16. See Chapter 3 p.90 & Cat.2.

17. As J-P.Callu, see above p.69f. & note 12, and Depeyrot (1982).p.107f.
Hendy (1985).p.291ff. has produced a new explanation of C.Th.ix.23.1 which does not require the assumption that the coin of 348-354 was demonetised. He has reinterpreted the relevant phrase "(pecunias) quas more solito maiorinas vel centenionales appellant vel ceteras quas vetitas esse cognoscunt", and concluded that it does not imply that the maiorinae and centenionales had been demonetised at the time of the edict, but were in fact still current.

18. Some authors (e.g.Pearce.1939) have suggested that the overstruck Falling Horseman copies which are found so frequently in Britain are related to the supposed demonetisation of 354; copies were overstruck on demonetised official coins in order to revalidate them. However the evidence of several British hoards, Hanham, Heslington, Lydney Park I and Oldcroft, as well as the Bath site-finds, indicates that overstriking was not limited to Falling Horseman copies; overstruck Magnentian copies are not uncommon, and the Heslington and Hanham hoards even have overstruck copies of Fel.Temp.(Galley) pieces of 348-350. Clearly the outburst of overstriking in Britain was not the result of a demonetisation in 354, since the phenomenon had already started earlier and involves overtypes which would theoretically have been demonetised by C.Th.ix.23.1.

CHAPTER 3

HOARDS AND COIN SUPPLY AS EVIDENCE FOR THE GERMAN INVASIONS OF 351-355

In Chapter 1 the pattern of coin-loss in N.Gaul was analysed, and the effect of the German invasions could be seen to be reflected in two phenomena:

1) The almost complete disruption of the supply of official coin to N.Gaul from 354 to 361.

2) A series of sites, mainly hill-top refuges, where the catastrophic events of c.352-355 are reflected in an extremely high coin-index peak for 348-354 (contrary to the normal pattern) followed by an abrupt break in the coin-series.

However a much more detailed aspect of the numismatic evidence will now be evaluated, and hoards, destruction-levels and site-finds used to trace and date the course of the German invasions.

The link between hoarding activity and barbarian invasions has long been recognised, and numerous attempts have been made to localise and date individual invasions from the geographical and temporal incidence of groups of hoards. However a certain amount of caution must be employed in this exercise since the deposition of all hoards cannot be attributed to hostile circumstances; non-recovery by the burier may have a more peaceful reason, such as his death or the official demonetisation of the coin in the hoards. In an assessment of this problem R.Reece writes "If coin hoards are to be an indicator of unrest then it must be shown

a) that in the surrounding areas at the same time there is an absence of similar hoards

b) that in the same area at different times, but when similar coins were in circulation, there is an absence of similar hoards."[1]

In answer to point a), Map 11 shows quite clearly that

hoards of 350-354 are concentrated mainly in Switzerland, W.Germany and Luxembourg, but are considerably rarer in central, southern and western Gaul.

Point b) can also be satisfied; in 378-388 the coinage was similar to that of 350-354, an Aes2 denomination having been introduced after a period of Aes3 issues. However G.Depeyrot records only 5 hoards from Belgium, Luxembourg, the German and French Rhineland, and Switzerland for the ten years from 378 to 388, an enormous contrast to the 34 known from 350 to 354.[2]

In addition we must satisfy ourselves that the distribution of hoards in 350-354 is not due to varying levels of modern research in different regions; for example that the lack of hoards in France is not simply due to less intensive archaeological activity, or fewer of the hoards found there actually being published. To achieve this it must be shown that hoards of other periods have been found in areas where they are missing in the mid-fourth century. This is the case in northwest and central Gaul, which have produced numerous hoards from the late-third century.[3]

Furthermore when clear chronological and geographical groupings of hoards can be recognised, many of which are found in destruction-contexts, and in addition independent (for example literary) evidence for barbarian raids or invasions exists, then it is reasonable to assume that a connection exists between the hoarding activity and the invasions. Such is indeed the case with hoards of c.350-361 in the Rhineland.

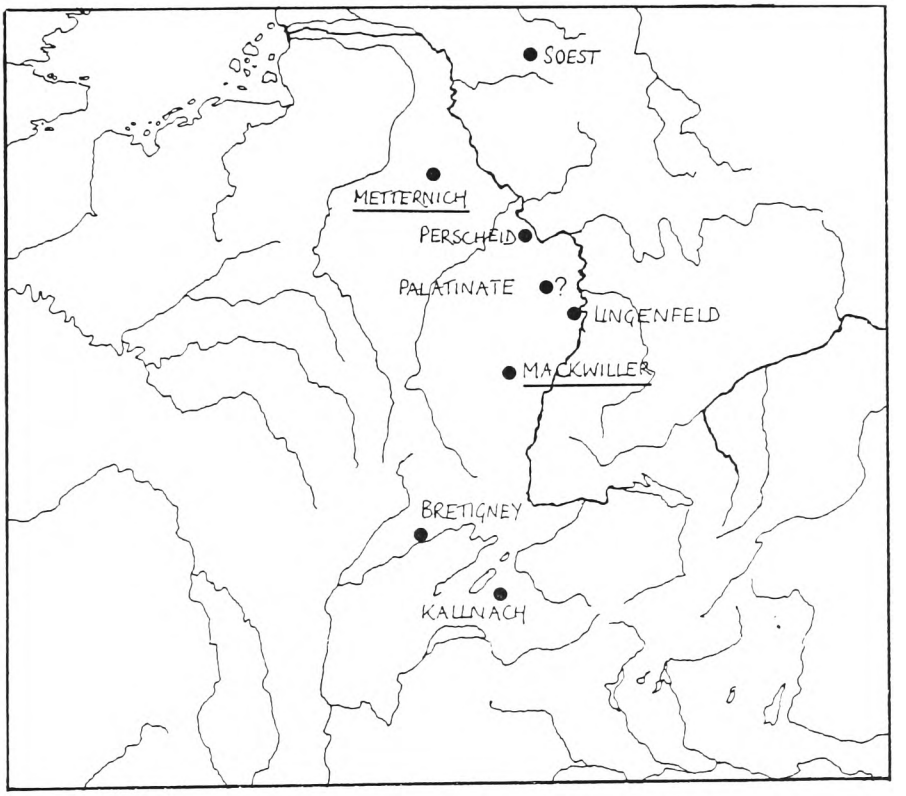
The main evidence for the Germanic invasions in the mid-fourth century and the associated hoarding patterns have already been presented in a series of studies in the last 40 years.[4] The material presented here primarily confirms the results of these studies, but is also intended to enable the main episodes to be viewed in connection with one another, thus providing a picture of the overall development of the situation in 350-355.

Maps 14-19 show the distribution in various periods between 350 and 355 of site-finds which break off suddenly

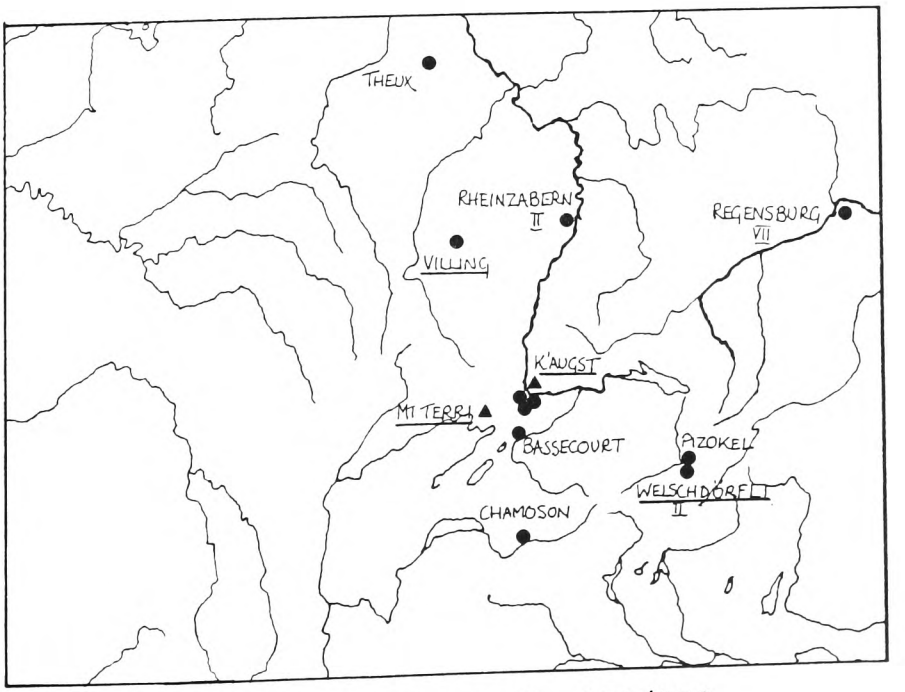
Maps 14-19: hoards and site-finds which break off suddenly.

Key: ● hoard ▲ site-find

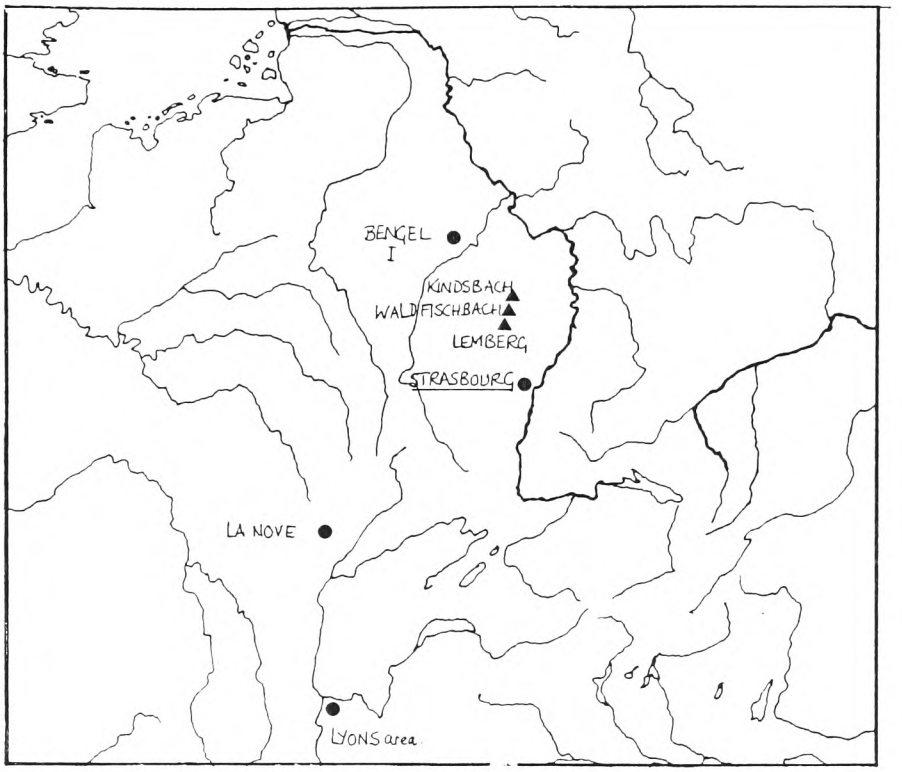
A destruction context is indicated by underlining.



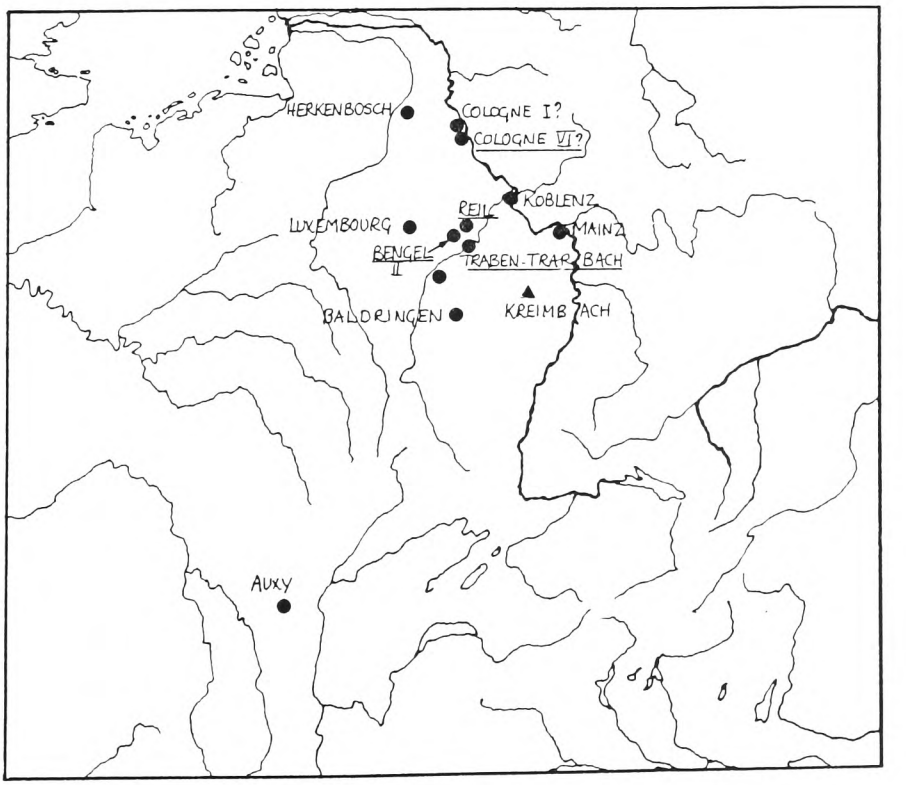
Map 14: terminal coin ph.1-4, 350/351.



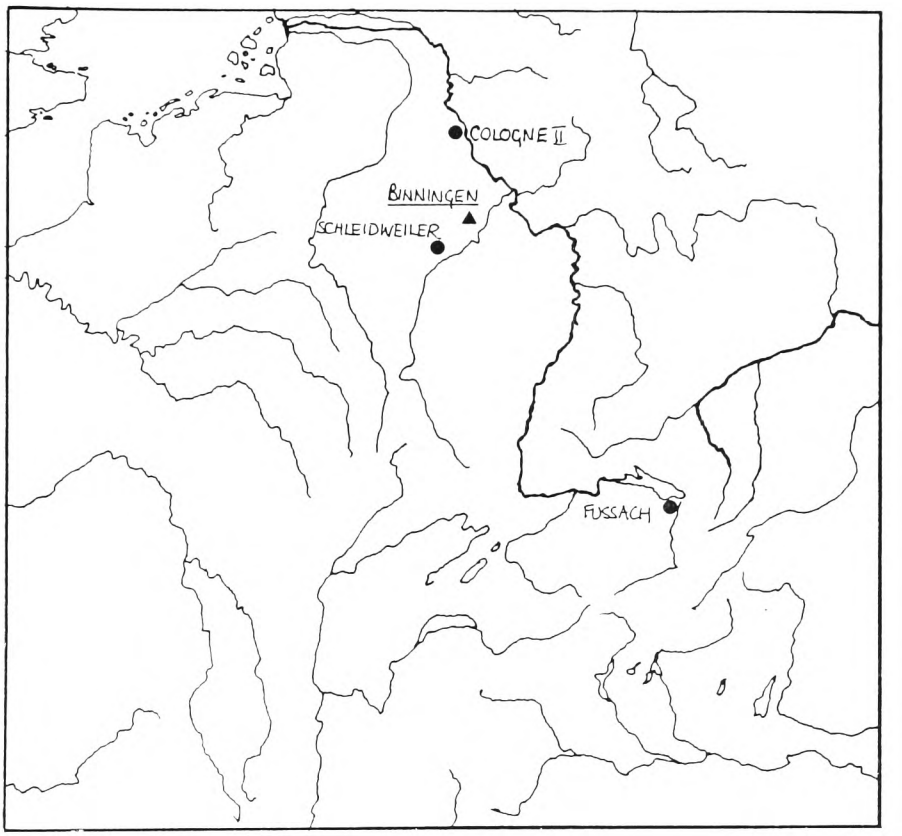
Map 15: terminal coin ph.5, 351/352.



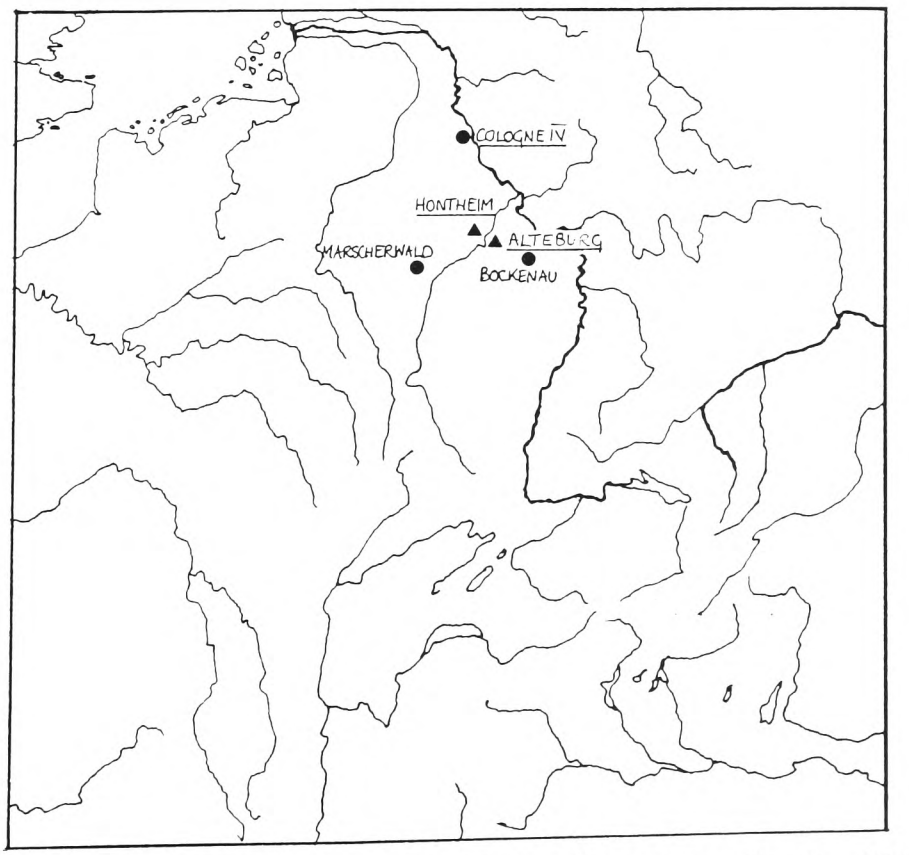
Map 16: terminal coin ph.6, 352.



Map 17: terminal coin ph.7/Poem, 352/3.



Map 18: terminal coin Falling Horseman Aes2, 353/354.



Map 19: terminal coin Falling Horseman Aes3, 354/355.

at a time when coin is extremely common on the site (i.e. site-finds which simply "peter out" in the period are not included), and of hoards. Where a hoard or a site-find has a destruction context this is also indicated.

No pattern can be recognised among hoards with a terminal coin struck earlier than phase 5 of the Magnentian coinage (before early/mid 351), which are found scattered throughout the Rhineland (Map 14). The majority of these hoards are of a type which was seen in the analysis of hoarding patterns in Chapter 2 to be sometimes considerably later than the terminal coin suggests.[5] Thus the pre-ph.5 hoards provide no definite evidence for large-scale German attacks in 350 or early 351, although the possibility cannot be excluded that one or the other of the hoards is indeed related to such German activities.

An obvious geographical development becomes apparent in later finds. Hoards and site-finds with a terminal coin of phase 5 (Map 15) are most common in Switzerland, but finds from the next phase show a movement towards the Middle Rhine, into the area between Strasbourg and the Moselle (Map 16). The change of geographical emphasis is complete in hoards ending with the Salus (ph.7 and Poemenius) issues (Map 17), where the main concentration is in the area between Belgium and Mainz, and this pattern continues to operate until the arrival of Julian in Gaul in 355 (Maps 18 & 19).

Thus the evidence suggests that although isolated raiding may have started in 350/early 351, the first large-scale German attacks began in Switzerland in 351/2, and spread steadily downstream along the Rhine, the Middle Rhine being badly affected in 352, and the area between Cologne and Mainz coming under pressure in 352/3 and continuing to suffer until at least 355.[6]

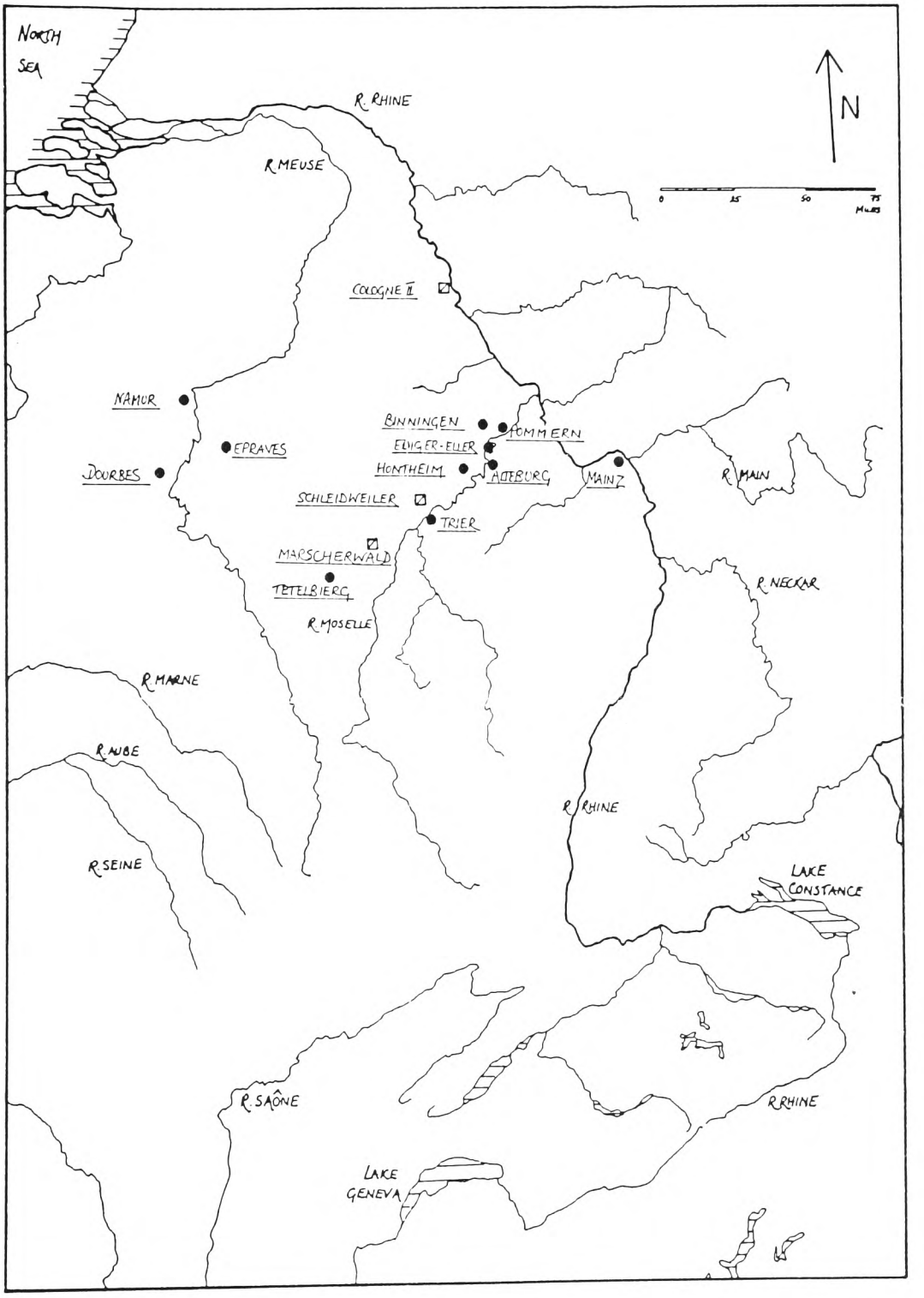
There are probably two reasons for the invasions beginning in Switzerland. Firstly the Alamanni on the Upper Rhine were nearest to Constantius II and so were possibly in better contact with him. Secondly Switzerland was strategically an extremely sensitive area for Magnentius; not only did its loss sever communications from the Upper Rhine

to the Upper Danube, but it also threatened the north flank of Magnentius' army which was in N.Italy in 351/2.[7] These same considerations seem to have operated in 360/1, when Constantius II tried to play the German card against Julian; it was once again the Alamanni opposite Switzerland who were mobilised.[8]

But the possible influence upon hoarding patterns of the civil war between Constantius II and Magnentius should not be overlooked. In particular the deposition of the Lyons area and La Nove (ph.6), and the Auxy (ph.7) hoards in Southern France may be connected with the final chapter of the civil war, after Magnentius had lost control of N.Italy and been forced back into Gaul.[9] Some of the Salus-issue (ph.7 and Poemenius) hoards along the Moselle may also be linked to the revolt of Poemenius.[10]

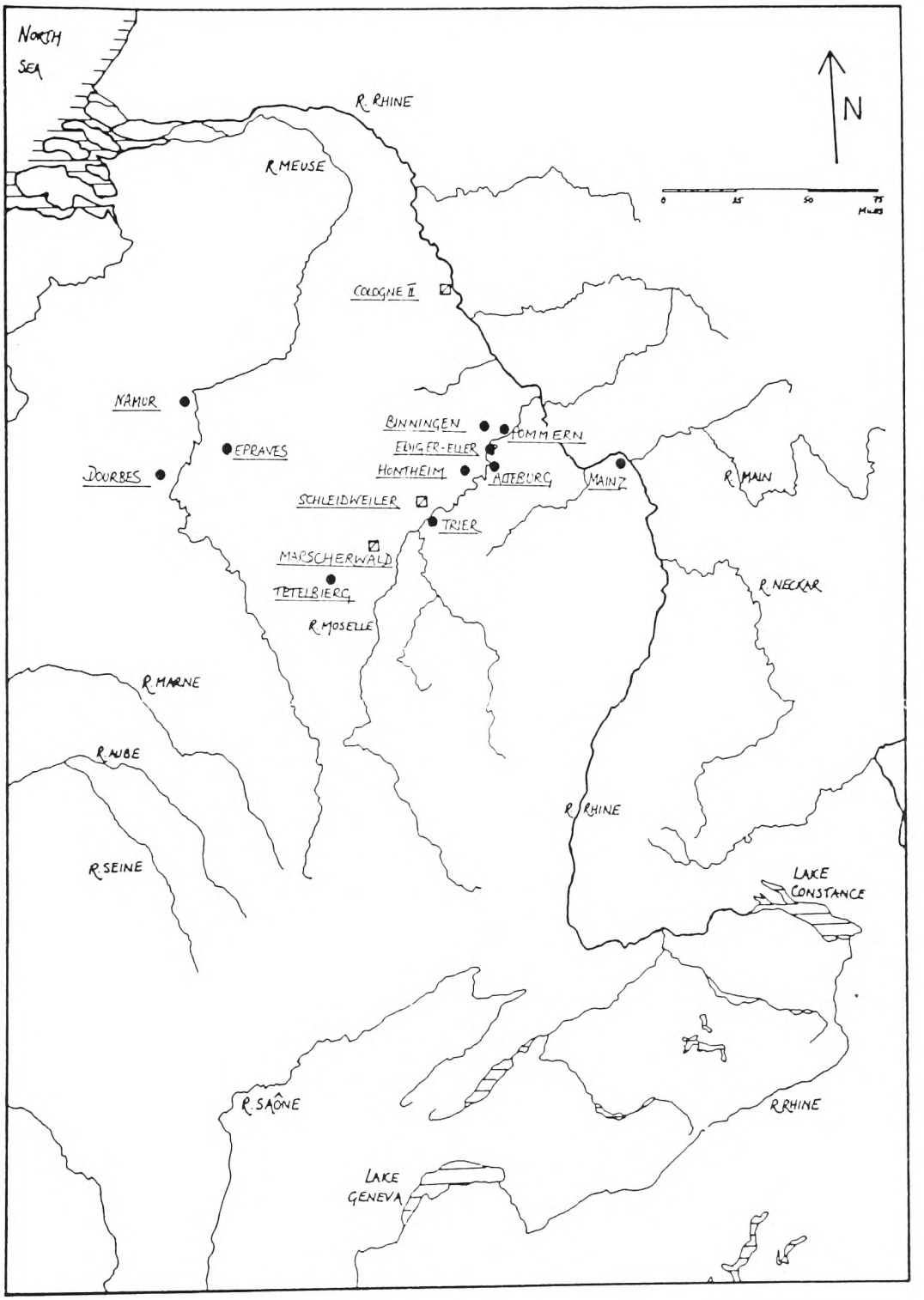
A pattern similar to that produced by the hoards is evident when the distribution in the site-finds of individual issues of 352-355 is considered (Maps 20-22). The 2-Victories issues from Trier (ph.4-6, 351/2) occur on almost all sites, but thereafter the area reached by new coin, and in particular coin from the mint of Trier, decreases. The Salus-issues of 352/3 seldom reach further upstream along the Rhine than Mainz and the area reached by the Aes2 and Aes3 Falling Horseman issues is even more restricted.[11] Finds along the Rhine itself become fewer and the coinage is found mainly in the areas behind the Rhine along the Moselle and in Belgium.

This restricted distribution is not the result of a drop in output by the mint of Trier. G.Depeyrot suggests that although the output of Trier fell immediately after the final defeat of Magnentius, it then rose before the mint closed (354/5) to above the level of 350-353.[12] In fact this shrinkage of the area supplied by Trier corresponds well with the development of the German invasions suggested by the hoards; the Pfalz was an early victim, receiving almost no fresh coin from 352 onwards , and repeated attacks along the Middle/Lower Rhine between Cologne and Mainz from 353 onwards led to Trier coin reaching an increasingly limited area.



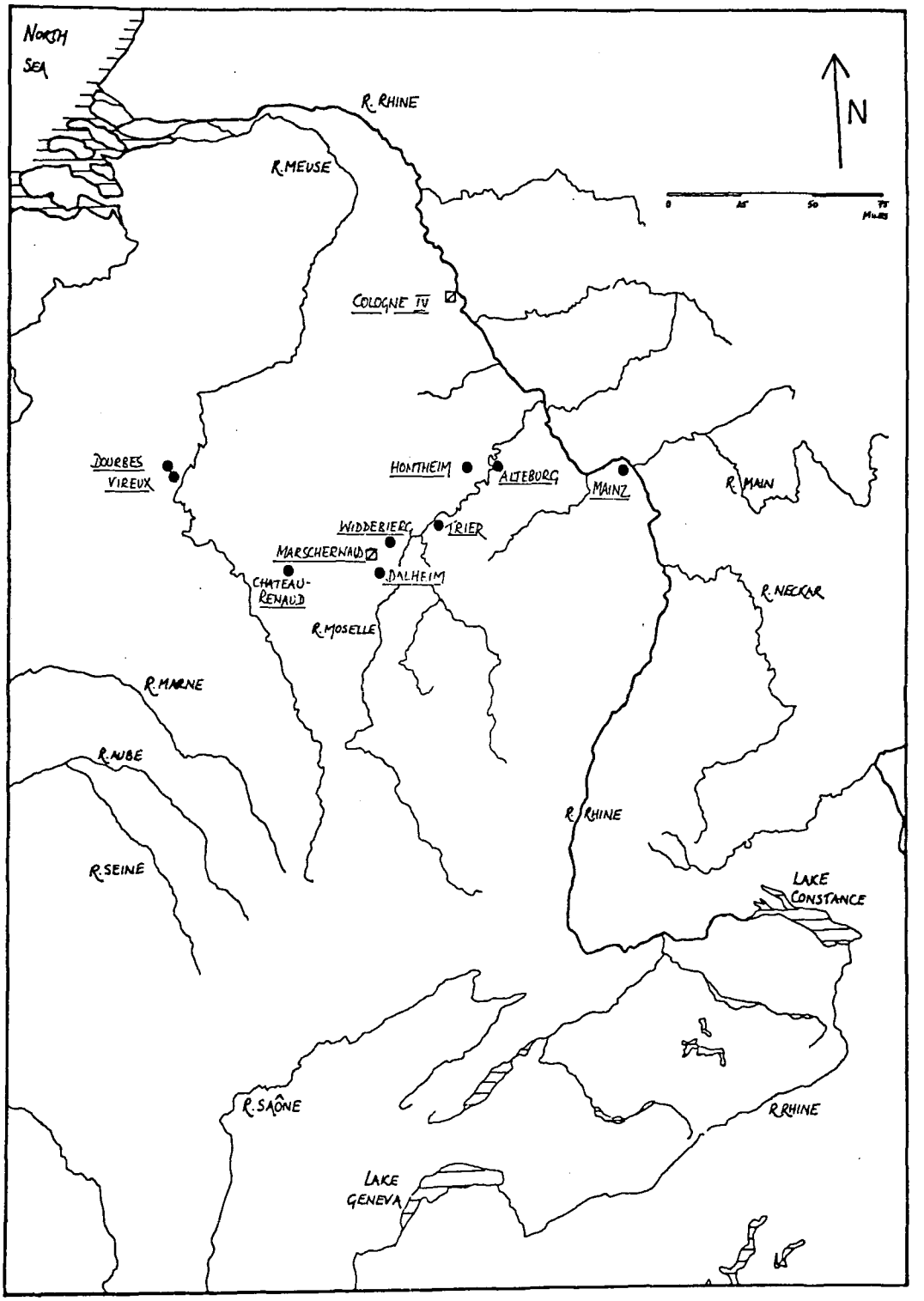
Map 20: The distribution of the Salus issues of 352-353 in site-finds.

- ● coins from the mint of Trier.
- o coins from other/unidentified mint.



Map 21: the distribution of Aes2 Falling Horseman issues from Trier, 353-354.

⊠ hoard. ● site-find.



Map 22: the distribution of Aes3 Falling Horseman issues from Trier, 354-355.

⊠ hoard. ● site-find.

This may well have been one of the contributing factors which led to the closure of the mint of Trier in 355. The area supplied by Trier was reduced after c.351 in two ways; firstly Britain and Switzerland, areas which had relied heavily on Trier coin, were forced by the disruption of the German invasions to draw coin from other mints.[13] Secondly, as large areas of the Rhineland fell to the Germans, or were evacuated by their inhabitants as Julian so vividly describes, so the need for new coin there vanished.[14] Thus the main areas which Trier had supplied were either drawing their coin from other sources, or had a much reduced requirement for fresh coin. In addition the breakdown in coin-movement evident in the Rhineland in 352-355 (see below, chapter 5 p.142ff.) probably reduced the ability of coin from Trier to move into those areas where it was still required. Possibly these factors also worked in reverse and restricted the flow of taxes and metal back to the mint, conceivably another factor in the mint closure.[15]

However this analysis of the distribution of individual issues in site-finds is limited by the distribution of the sites studied (see Map 2). In particular attention should be drawn to the Lower Rhine below Krefeld-Gellep, where no site-finds of sufficient size to merit analysis are available. Yet it seems probable that another aspect of the effect of the Gemanic invasions has yet to be documented here. The coin-series at Xanten breaks off with the 2-Victories Magnentius ph.6 issues, and the site seems to have been abandoned.[16] In Belgium, Eprave shows a complete break at the end of the Magnentian period and Furfooz was apparently also abandoned for a while (see Cat.1). However at present these are isolated examples, and there is no evidence of widespread disturbances or disruption in Belgium.[17]

Finally mention must be made of Cologne, which is central to any study of hoarding patterns and barbarian invasions since it provides not only six hoards but also one of the few fixed points in the chronology of the invasions. We know from literary sources that Cologne fell to

the Franks in the final months of 355.[18]

Three of the hoards from Cologne fit well with this date:-

Cologne III: the terminal coin is not more closely dated than 354-358.

Cologne IV: the terminal coin was struck 354/5.

Cologne V: the terminal coins are barbarous copies of issues of 354-358.

However the other three Cologne hoards reveal a different picture. Cologne II can be dated with certainty to the months after the death of Magnentius in August 353, since the hoard is extremely large and breaks off suddenly; later issues such as the Aes3 Falling Horseman present in the much smaller Cologne III, IV & V hoards are missing. Cologne I is altogether more difficult, since we do not know exactly which coins belong to it (see Cat.2), however the latest possible terminal coin is Magnentius ph.7. Cologne VI includes a coin which is very unlikely to have been struck before 358 (Spes Reipublice) and so apparently post-dates the sack of 355.[19] However the find has an otherwise unparalleled composition with a break from 354 to 358, years which are represented by either official or barbarous coins in Cologne III, IV & V.[20] The pre-354 part of Cologne VI in fact corresponds very closely to the Reil hoard of 353, although Reil contains more pre-348 Aes3:

	pre-294	294-3o7	3o7-318	318-33o	33o-341	341-348	348 - 35o Ae2L	Ae2S	Ae3	35o ph.1	ph.2	ph.3	351 - 354 ph.4	ph.5	ph.6	ph.7	Poem	FH
Reil	1	-	1	1	153 (38)	234 1(15) (15)	2 (2)	3	3	-	-	2	-	21	6	11	12	-
Cologne VI			1	6	37	27	1	1	6	-	1	1	1	5	3	12	3	-
							8						5					

Given its unusual composition and the fact that Cologne VI was neither recovered in controlled archaeological excavations, nor were the exact positions of the coins recorded (see Cat.2), it is possible that the Spes Reipublice coin is a stray; it may have come not from the destruction level in which the other coins were found, but from a later period, perhaps from the levelling and rebuilding work which followed the sack of 355. If this is

the case, and it seems a reasonable if speculative supposition, then the hoard ended with the Salus issues of 352-353, which would explain its otherwise unusual composition.

So apart from Cologne III, IV & V, which seem to be related to the sack in 355, there are probably three other hoards from the city with terminal coins of 353-354. The usurpation of Silvanus in summer 355 is probably too late to explain this group of unrecovered hoards. Are they perhaps evidence for an earlier attack on Cologne by the Franks which is not explicitly mentioned in our literary records? However for the present this remains a matter of conjecture.

FOOTNOTES

1. 1981b p.89

2. 1982 p.248

3. For example Ziegler (1983), map opposite p.180.

4. The most important of these studies are:
for the Swiss hoards:
H.Cahn (1943) p.104-113.
M.Martin (1977).
B.Overbeck, Alpenrheintal.I.p.212ff.
For Alsace, but also with a general review of the evidence:
J.Schwartz (1957) pp.33-49.
For the Pfalz:
H.Bernhard (1981) pp.5ff.
For the Moselle valley:
K-J.Gilles (1980/1) p.317ff.
" (1985) passim, esp. p.62ff.
for Cologne:
W.Binsfeld (1962/3) p.89ff.
More generally:
P.Bastien, (1964) p.139ff.

5. Group i) hoards of 350-354, see p.59.
In addition it is not clear whether the Palatinate hoard is complete (see Cat.2), and since it is also composed entirely of imitations it could be later than the ph.3 copy terminal coin suggests.

6. This corresponds closely to the results reached by K-J.Gilles (1985 p.63f). He notes that whereas the coin-series of the hill-top settlements in the Pfalz end in 352/3, those in the Eifel and Hunsrück (the hills immediately N.W. and S.E. of the Lower Moselle) generally end in 353/5, and any which end earlier tend to be small coin-series of little statistical value.

Gilles divides the German invasions into two main episodes; 352/3 during the civil war between Constantius II and Magnentius, and late 355 during the aftermath of the usurpation of Silvanus at Cologne. He suggests that the majority of the Eifel and Hunsrück hill-top settlements fell victim to the second episode, which would imply that they survived the first wave of attacks in 353 which laid waste sites in the Moselle and neighbouring valleys (e.g. the hoards of Bengel I & II, Reil and Traben-Trarbach).

Only two finds along the Moselle have terminal coins struck between 352/3 and 355 and are large enough to be statistically useful: the site-finds from Binningen and the Schleidweiler hoard. But at Binningen the coin-series is relatively small (see Cat.2), and the site may well have been destroyed later than the terminal coin suggests. Similarly Schleidweiler is a hoard of the type which "peters out" rather than ending suddenly, and could be later than the terminal coin suggests (see Chapter 2, p.59, group i hoards of 350-354). If both these finds are later than 352/4, then they would support Gilles' view that the German invasions are to be divided into two episodes, and also confirm Ammianus Marcellinus' statement (see Introduction p.6 and n.21) that Silvanus enjoyed some success in restoring the situation along the Rhine in 353-355.

7. This break in communications with the Upper Danube seems to be reflected in the finds of Magnentian coin from the area. In the volumes of FMRD covering the Upper Danube area, FMRD i.1,2,3,5 & 6, coins of ph.7 are extremely rare in the site-finds; one coin each from Augsburg and Epfach are recorded, but these could of course have reached the area after the end of the civil war in 353. Coins of ph.6 are a little more common, but still rare in comparison with earlier phases; two are recorded from Augsburg, perhaps one from Epfach, and two from Bürgle (FMRD Nachträge Schwaben, forthcoming).

The latest Magnentian coins in the Regensburg VII & VIIIhoards are from ph.5, and the only two in the Regensburg site-finds are from ph.2 and ph.5.

8. See Introduction, p.9.

9. cf. Bastien (1964).p.140.

10. cf. K-J.Gilles (1980/1) p.336 & n.21. and 1985 p.63 & n.149.

For details of the revolt of Poemenius see Introduction p.3 and n.8.

K-J.Gilles (1980/1.p.336 & n.21) has also suggested that several finds in N.Gaul are related to events in 350 when Magnentius seized power. However the evidence is extremely difficult to interpret due to the nature of the finds. Three hoards which Gilles quotes, Lösnich, Ittel and Niederingelheim, are of a type which could be considerably later than the terminal coin (348-350 in all three) suggests (See Chapter 2: Hoarding Patterns, n.5). Furthermore the literary tradition suggests that the palace coup which brought Magnentius to power was relatively bloodless, and there is no evidence for any disturbances to which these hoards might be attributed (see Introduction p.1).

A similar hoard/disturbance level has been attributed to Alamannic invasions in Switzerland in c.350 (B.Overbeck Alpenrheintal I.p.213 and K-J. Gilles, 1980/1.n.21). However here too the evidence is difficult to interpret exactly. The Welschdörfli I hoard is of the same type as Lösnich et al. (see above), and the site-finds which end c.350 are generally too small to be statistically reliable. For example the Wittnauer Horn has only 28 coins of 294-350, ending with one Aes3 piece of 348-350. But the example of Alzey shows that this is far too few to be used as valid dating evidence; Alzey "B" (q.v.Cat.2) has 50 coins of 294-348, but then a gap from 348 to 364, whereas we know from Alzey "A" (see Cat 1) that issues of these years have been found on the site.

11. For a more detailed analysis of the distribution of the Magnentian issues in Rheinhessen, the Pfalz and Saarland see Bernhard (1981) p. 61ff. Recent finds have added

only two ph.7 coins to his list: one from Rheinzabern (See Cat.1 Rheinzabern "B") and one from Saarbrücken (9.Bericht der staatlichen Denkmalpflege. 1962.(Saarland).p.12ff.). In addition the ph.7 coin from Kreimbach recorded by Bernhard is in mint condition and not worn - cf. Bernhard note 84a -. The Salus issues are therefore somewhat commoner in this area than earlier evidence had suggested.

12. 1982.Pl.73.2.

13. See Ch.5 p.143 & p.154ff. The opening of the mint of Amiens was another factor which led to Britain changing its source of coin.

14. See Introduction p.6f.

15. It is unlikely that the small size of Julian's army, a point commented upon by several sources (see p.4 and n.21), was a direct cause of the closure of the mint at Trier, since there is no evidence that the Gallic army was any smaller when Julian arrived in Gaul in 355/6 than it had been under Silvanus (see Hoffmann 1969 p.202ff.). On the other hand the fact that the army was already small may have been an additional reason for not keeping Trier open once the other factors had taken effect.

16. C.Rüger, "Die spätrömische Befestigung in der Colonia Ulpia Traiana". BJb.179.1979.p.499ff.
Details of the Magnentian coins from Xanten are as follows:

ph.3 - 3, ph.4 - 1, ph.5 - 4, ph.6 - 1.

17. For the relatively peaceful situation in Belgium see Ch.4 p.112f.

18. Amm.Marc.xv.8,19

19. W.Binsfeld, op.cit. Cat 2 (Cologne VI), speculates that this coin was in fact struck in the few months between

the elevation of Julian and the sack of Cologne in 355. However modern research indicates that the Spes Reipublice type was not introduced until 357 or 358 at the earliest (see Introduction to Catalogue 1).

20. See Chapter 2 for the usual composition of hoards of this period.

CHAPTER 4

THE BARBAROUS IMITATIONS

1. Introduction

The exact role and nature of the barbarous imitations, as well as their date, are still hotly debated, and so the primary objective of this chapter is to establish when and where such imitations occur in an effort to understand the reasons for their manufacture. Are they semi-official, or totally clandestine? Are they an indication of a thriving, coin-hungry economy, or of a depressed and devastated economy where normal coin-circulation has collapsed?

The answers to these questions should then also indicate the part played by imitations in the coin-circulation in the Rhineland in the mid-fourth century, and so complement the picture of the area in 350-364 already provided by the evidence of the supply of official coinage to sites, and the study of hoards and destruction levels.

2. Problems

Any study of the incidence of barbarous coins is hampered by two main considerations:

a) The identification of barbarous imitations is an extremely subjective matter; what appears to one eye to be an imitation may appear to another to be official, and vice versa. Accordingly the number of imitations reported in even apparently very similar finds can vary greatly. In addition the publication and study of ever-increasing amounts of material in recent years has led to a redefinition in certain cases of the boundaries between what is official and what is a copy.[1]

b) Since imitations are normally smaller than the types that they copy, and can be of very poor fabric, they are

precisely the sort of coins which are often missing in coin-finds originating from unthorough or old investigations of the sort discussed in Chapter 1 (p.24ff.). This can be clearly seen in the site-finds from Alzey, Bad Kreuznach and Rheinzabern, in all three of which barbarous copies of 330-341 prototypes, as well as third-century barbarous radiates are more common in the recent "B" than in the older "A" series.[2] It is therefore more reliable to use well-documented recent series when studying barbarous coins.

In addition an attempt can be made to combat the subjectivity problem by using the average level from several sites in one area where possible. This will help to remove any variation caused by rather extreme criteria having been used in identifying the barbarous coin in a particular find, but will still not overcome problems stemming from different criteria being used throughout different areas (e.g. if Belgian and British numismatists have very different views about what is barbarous and what is not, although that is not to say that they actually do!). This last problem is probably to some extent unavoidable, but should not be overlooked when comparing the level of barbarous coin in different areas.

3. Outline

The material collected generally confirms what is already known about the incidence of imitations in the Constantinian period.[3] A more detailed breakdown of the levels of barbarous coin in the most important finds, as well as regional averages, are to be found in Table 1 at the end of this chapter.

The first coins to be imitated are the Victoriae Laetae Princ Perp types introduced c.A.D.318. They are however relatively rare, and the earliest large-scale activity

comes with the Gloria Exercitus and related issues of 330-341. The coinage of the next period, the 2-Victories issues of 341-348, was less commonly imitated, but the level rises again in some areas with the issues of 348-354, and reaches a peak in 354-358 when Falling Horseman types began to be imitated in enormous quantities in certain areas.

4. What types are imitated?

In all periods it was the commonest official types which tended to be copied. Of the coinage of 330-341 we find large numbers of copies of Gloria Exercitus, 1 & 2 Standards, Urbs Roma, Constantinopolis, and fewer coins of Helena and Theodora. Imitations of 341-348 issues are normally restricted to the 2-Victories/VICTORIAE DD AVGGQ NN types. All phases of the Magnentian coinage were imitated.

The major exception to this rule are the issues of 348-350; of the three denominations struck during these years (large Aes2, small Aes2 and Aes3), it was virtually only the large Aes2 types which were copied.[4] This perhaps suggests that the overvaluation of this denomination was higher than for the small Aes2 and the Aes3, making copying more profitable. This phenomenon has also been connected by J.Kent to a law of Feb.12th 349, forbidding the practice of melting down the "pecunia maiorina" in order to remove the silver in the coin.[5] It is known that the large Aes2 contains more silver than the two smaller denominations, whereas its imitations are almost devoid of silver, which suggests that the large coins were being melted down to extract the silver, before being restruck as imitations.[6] However the choice of the type which was then copied will still have been motivated by the higher overvaluation of the large Aes2.

Imitations of the Spes Reipublice Aes4 (c.358-361) are extremely rare, as is the prototype in British and N.Gallic finds.

5. The size and quality of the imitations

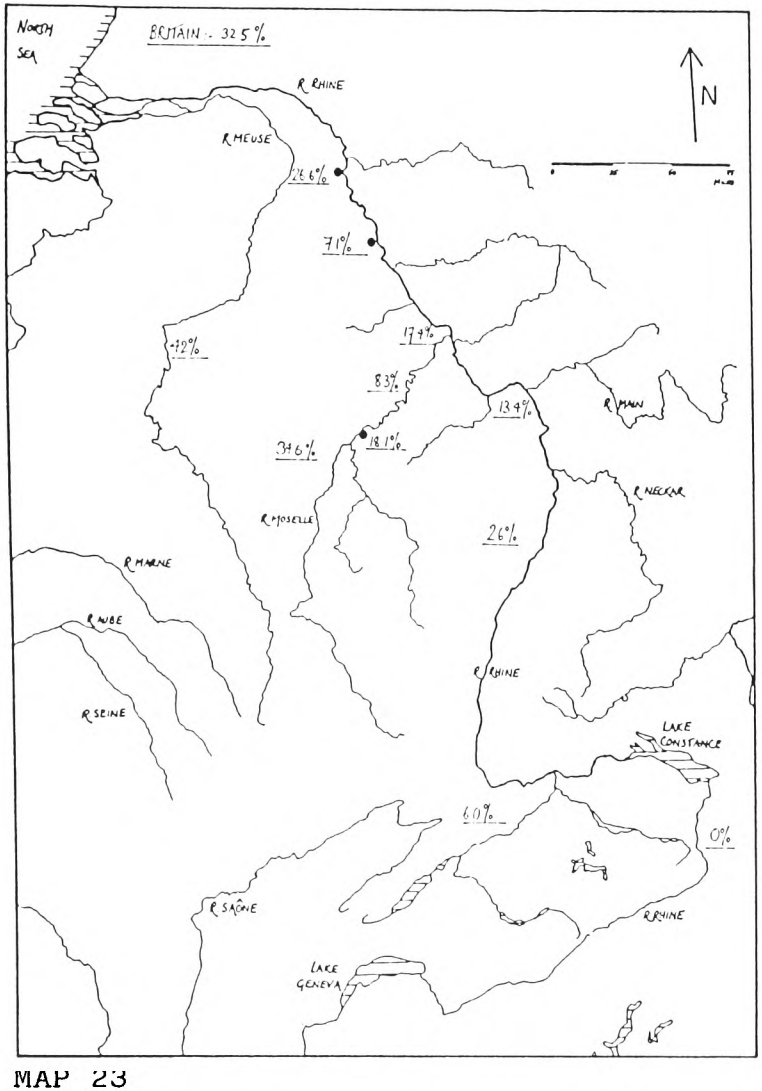
Various studies have shown that even the better quality imitations tend to be smaller and lighter than their originals, but both quality and size can drop to produce almost unrecognisable, illegible minimi.[7]

However imitations of the Aes2 coinage of 348-354 tend to be of relatively high quality and full weight, and minimi of these types are rare.[8] This applies equally to the Salus issues of 352-353.[9] Generally speaking the material corresponds well to that illustrated by P.Bastien, and indicates that with the introduction of the new Aes2 types in 348, the copiers took steps to ensure that their products were reasonably close in size to the official issues.[10] An exception to this observation is provided by imitations of the Magnentius 2-Victories types, struck in 351-352; although these are sometimes of Aes2 size, they can, like their originals, also be very small.[11] This exception will be discussed below (p.110.)

6. The geographical distribution of the imitations (Maps 23-26)

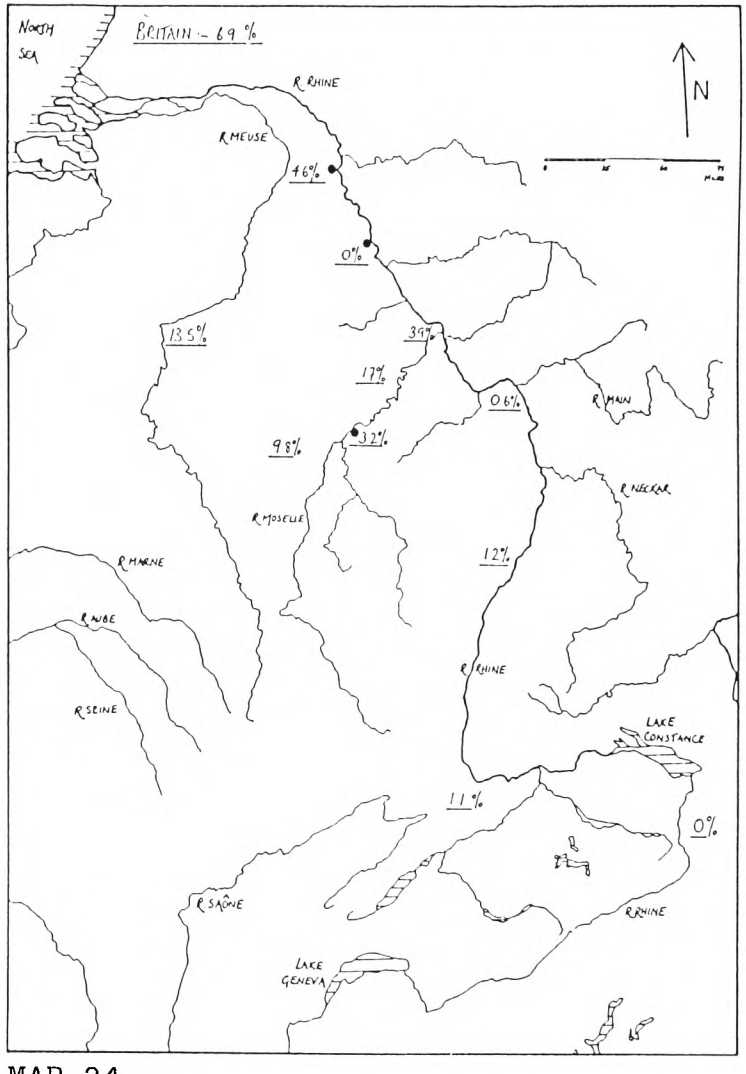
J-P.Callu & J-P.Garnier seem to assume that imitations originated along the Rhine and speak of two lines of penetration of barbarous coins from the Rhineland into Central Gaul; along the Moselle and Saar valleys, and from the Upper Rhine.[12] Certainly this is the impression gained if one examines only the find-spots of barbarous coins, but the resulting map is little more than a reflection of the fact that imitations occur in most finds, even if only in small quantities. Callu & Garnier's map thus corresponds very closely to a map of known hoards of 348-354, and as such is influenced by two very different factors:

a) density of settlement in antiquity,



MAP 23

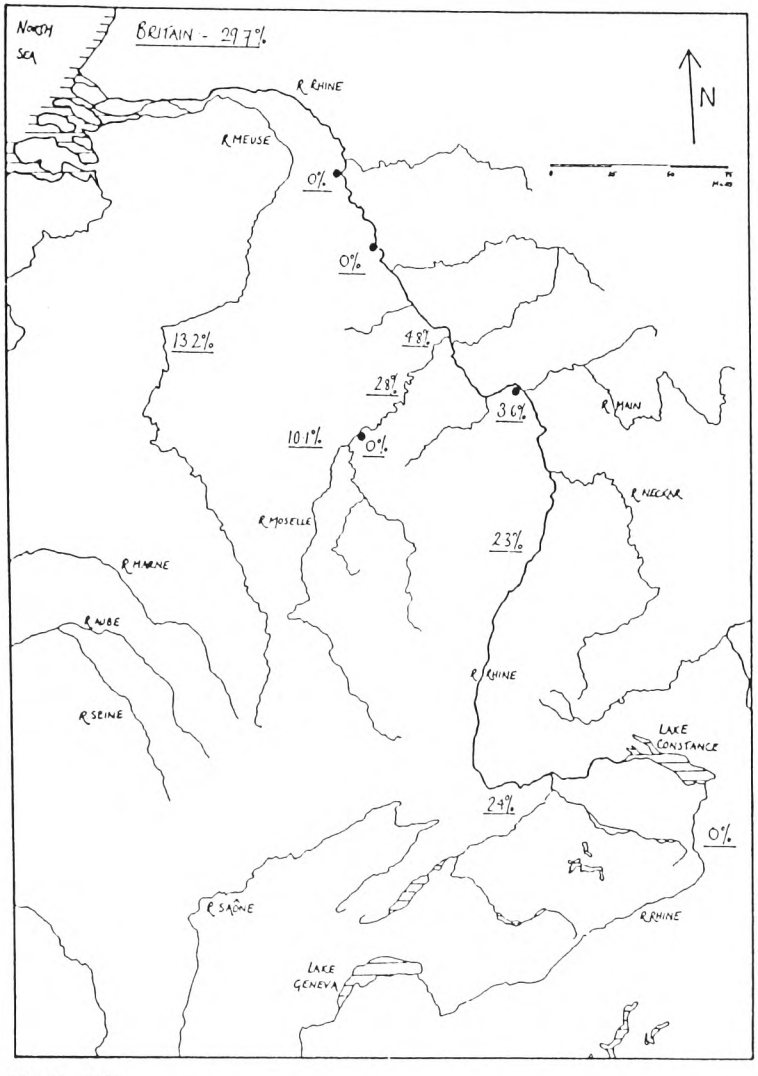
Level of imitations in site-finds, 330-41.



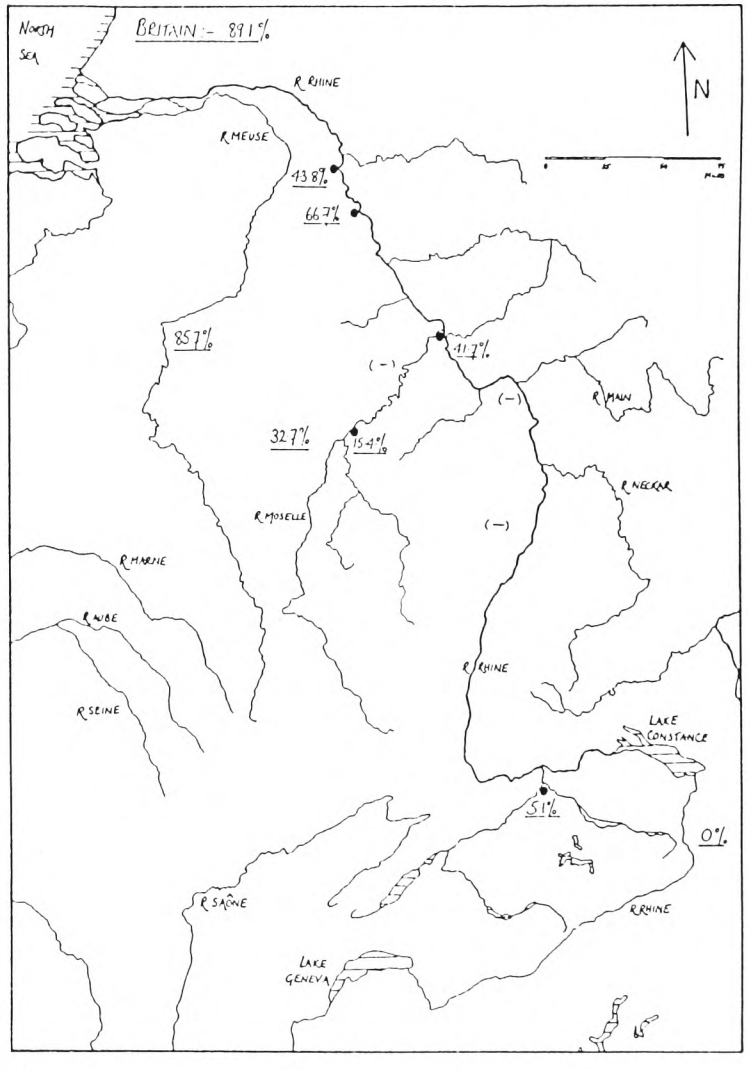
MAP 24

Level of imitations in site-finds, 341-8.

(The figures are drawn from Table 3. Figures next to cirles represent individual sites, otherwise regional averages are given.)



MAP 25
Level of imitations in site-finds, 348-54.



MAP 26
Level of imitations in site-finds, 354-8.

b) the state of modern research in various areas. For example the concentration of finds along the Moselle reflects the fact that in W.Germany and Luxembourg finds are normally well published.

However if the levels of barbarous coins of individual periods in site-finds are analysed instead of just the find-spots, then a very different pattern of regional variation in the incidence of copies is apparent. Copies of all periods are most common in Britain and Belgium, becoming gradually rarer the further South and East one progresses through the area under study (see Maps 23-26), and this regional variation is most obvious for the Falling Horseman imitations.[13]

7. The dating of the imitations.

There are two main schools of thought on the dating of Constantinian imitations:

1. That they were struck at the same time as, or very soon after the types that they copy.[14]
2. That most of the Constantinian imitations, those copying originals of 330-354 as well as the later Fel.Temp./Falling Horseman, were struck after 353.[15]

This second view has recently been supported by J-P. Callu & J-P.Garnier in a somewhat less extreme form; while admitting that some copies were struck as early as 330-348, they maintain that these earlier types continued to be copied later, and that the diademed minimi (including those with prototypes of 330-348) are all to be dated to after the fall of Magnentius in 353.[16]

Callu and Garnier base their main case upon a study of the level of imitations in a series of hoards from the period c.340/360. However the use of hoards in this context is not entirely without its problems, since hoards of bronze coin can be extremely selective. For example, as was demonstrated in Chapter 2, from 348 to 354 the two main

types of hoard concentrate on different sizes of coin (see p.58ff.). They contain either mainly Aes2 or mainly Aes3, and the two sizes are rarely mixed in any quantity. But if hoarders were capable of choosing Aes2 and excluding Aes3, why should they not have been equally capable of choosing Aes3 and excluding Aes4/5 minimi? Therefore even if hoards with a terminal date before 353 do not contain diademed minimi (one of the main reasons why Callu and Garnier date the minimi to after 353), this cannot be taken as definite proof that minimi were not already in circulation in 353; it is possible that they do not occur in hoards because they were excluded by selective hoarders.[17]

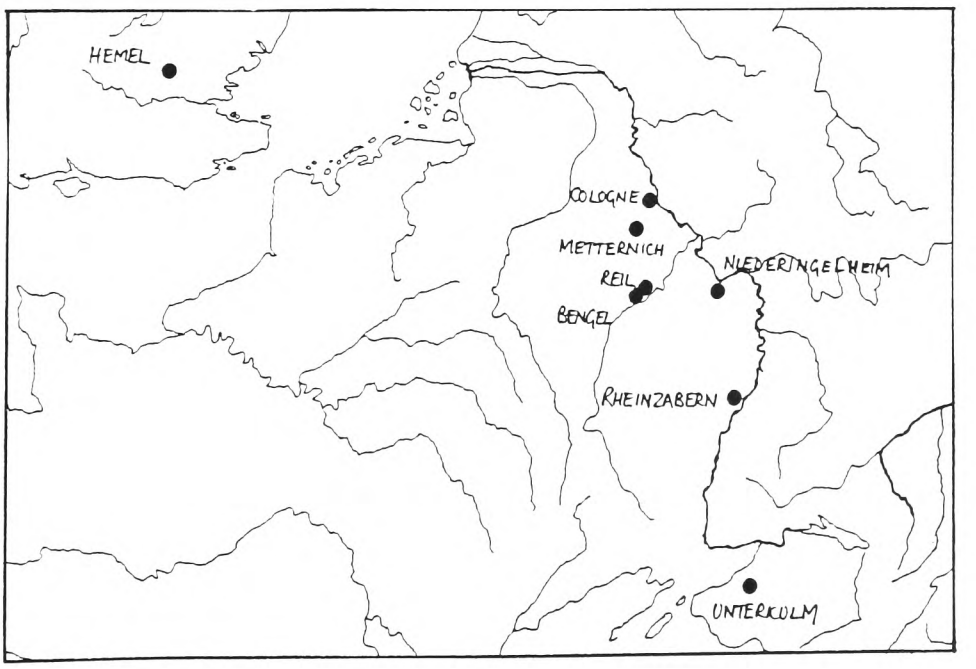
Furthermore Callu and Garnier treat individual hoards as a single complete unit; that is their analysis is restricted to the percentage of the entire find which is barbarous, rather than studying the levels of imitations in individual periods. This obscures certain important points and can be misleading. As was noted earlier the coin of some periods was more commonly imitated than that of others, and so the composition of a hoard affects the overall level of imitations; the greater the proportion of the official coins which are of a commonly copied period or type, the higher the level of imitations in the hoard, and vice versa. Therefore when studying the level of imitations in hoards it is necessary to consider not just the level in the entire hoard, but, more importantly, the level in individual periods.

In addition, now that sufficient material is available to enable an analysis of a large number of site-finds, new information about the occurence of imitations has come to light, particularly in relation to their geographical distribution; the evidence of the hoards must be reconsidered against this background.

Therefore the percentage of barbarous coins of one particular period, 330-341, in hoards of 348-354 will be analysed and then compared with this new information about the geographical distribution of imitations. The pattern which emerges is very different to that proposed by Callu

Table 1: the level of imitations of 330-341 in a selection of British and Gallic hoards of 348-354

HOARD	% of barbarous coin of 330-341	% in site-finds in area of hoard[18]	terminal date of hoard
Hemel	29,1	29,4	353
Metternich	27,6	26/17	350
Cologne II	18,2	6,3	353/4
Reil	17,7	8,3	353
Bengel II	6,9	8,3	353
Niederingelheim	>3,9[19]	11,7	348/50
Rheinzabern I	9,5 [20]	2,6	348/50
" II	12,7	2,6	(348/)352?
" III	7,7	2,6	348(/52/61?)[21]
Unterkulm	6,1[22]	4,9	348/50



Map 27: hoards in Table 1.

and Garnier, as will become apparent.

Examination of Table 1 suggests that the level of imitations is clearly more closely related to the area in which the hoard was found than to its terminal date; hoards tend to contain approximately the same, and in some cases a higher, level of imitations than the corresponding site-finds.[23] This observation is true of the entire period represented by Table 1 (348-354), and no increase in the levels of copies over these six years can be identified. Unfortunately as there is a lack of Rhineland hoards with a terminal coin of 340-348, it is not possible to compare directly levels of imitations in hoards from Gaul before and after 348, and therefore to see how the level of imitations develops up to 348. Such an analysis would indicate just how soon after their issue the official coins began to be copied in large numbers.[24]

Despite this limitation the correspondence between hoards and site-finds is remarkably close, and indicates that important geographical factors were at play. It is clearly an oversimplification to regard the varying levels of imitations in hoards in purely chronological terms (e.g. Metternich is 3 years earlier than Bengel II but contains four times as many copies of 330-341 prototypes - 27,6% to 6,9%). Since the correspondence of the levels of copies in hoards of 348-354 and in the site-finds is so close, and since the hoards show no increase in the level of imitations during these years, it seems reasonable to assume that by c.348-350 the level of copies of pre-348 prototypes had already reached something like their peak.

A number of additional points also militate against the views proposed by Callu and Garnier.

1) They suggest that after 353 Gloria Exercitus, Urbs Roma, Constantinopolis etc., rather than the new Falling Horseman type, continued to be imitated on the Continent because the latter were so rare that they were not circulating in sufficient numbers to make imitation possible.

However it is now clear that in Belgium, where offi-

cial Falling Horseman pieces are also extremely rare, that they were nevertheless copied in large quantities. Namur-Sambre is an extreme example of this phenomenon; although only one official Falling Horseman coin was found, 23 copies were present. If they were so extensively copied in one region poorly supplied with official issues, there is no reason, in theory, to assume they could not be imitated in other regions in N.Gaul.

2) Copies of 341-348 prototypes are not common; they are for example much rarer than those of 330-341. However it was demonstrated in Chapter 2 (p.59) just how common the 2-Victories coins were in hoards of 348-354, which implies that the activities of the copiers had already reached a peak by the time the 2-Victories issues entered circulation in significant numbers, i.e. well before 350. Similarly after 354 the 2-Victories type was still more common than the Urbs Roma and Constantinopolis types, as is clear from their occurence in the following hoards:

	Gloria Exerc	Urbs Roma	Constant-inopolis	2-Vict-ories
Cologne III	13	5	5	10
" IV	15	3	0	11
" V	6	2	1	4
" VI	21	8	6	27
Regensburg VIII	41	4	6	26

These are what one might term "cash" hoards; other hoards like Simmern and Marscherwald, which have not been included here, seem to contain much older elements which had been withdrawn from circulation at an earlier date, and so could distort the picture (see Chapter 2, p.70f.).

It would therefore be very surprising if the activities of copiers after 353 were almost exclusively restricted to the production of Gloria Exercitus, Urbs Roma and Constantinopolis minimi, neglecting the common 2-Victories prototypes; yet this is the obvious implication if Callu

and Garnier are right in dating finds such as Reims to c.359.[25]

3) Callu and Garnier maintain that all minimi, Falling Horseman as well as Gloria Exercitus et.al., were struck at the same time in Britain. But if this was the case then one would expect them to circulate side by side. Yet the British hoards which contain large quantities of minimi contradict this assumption; generally speaking either Gloria Exercitus, Urbs Roma and Constantinopolis or Falling Horseman are present in numbers, as is clear from the table below. The only exception to this observation is Richborough, where the stratigraphy of the find is vague and there is no certainty that all the coins belong together.[26]

Table 2: Barbarous coins in a selection of British hoards. (The number of official coins is given in brackets)

FIND	copies of 330-341 prototypes	copies of Falling Horseman
Caister-by-Yarmouth	24 (6)	- (1)
Corbridge I,II & III	only these recorded	-
White Woman's Hole[27]	48	1
Fenny Stratford	3 (28)	125 (1)
Colchester	-	7
Covesea	5 (4)	28 (1)
Lydney II	7	282
Richborough	71 (7)	137 (1)
Bourton-on-the-Water[28]	-	23
Duston	-	5
Colchester	1	8

4) Whereas Falling Horseman copies are often overstruck on earlier types, especially in Britain, overstruck copies of Gloria Exercitus, Urbs Roma and Constantinopolis, which should occur if they were struck together with the Falling

Horseman imitations, are virtually unknown.[29] M.Hammerson, in a detailed study of Constantinian imitations in Britain has recorded none from there, and certainly while collecting material for this study no Gloria Exercitus, Urbs Roma or Constantinopolis copies were found overstruck on official issues of 341-348 or later, which it would be reasonable to expect if these copies were struck so late.[30]

However in spite of these arguments against the views of Callu and Garnier, it is by no means possible to say with certainty that no copies of 330-348 prototypes continued to be struck after 348, or even 353. It is particularly noticeable on Belgian sites such as Chateau-Renaud, Dourbes, Falaën and Matagne-la-Grande that very high levels of Falling Horseman imitations are often accompanied by extremely high levels of earlier imitations; even 2-Victories copies, which are normally rare otherwise, can occur in reasonably large numbers. The conclusion to be drawn may be that in these cases Gloria Exercitus, 2-Victories etc. were still being struck by copiers during the period of activity which produced the Falling Horseman copies. On the other hand it is equally possible that these are simply sites where copies were particularly common in all periods.

But this correspondence between levels of 330-348 imitations and of Falling Horseman copies is not universal. At Namur for example the high level of Falling Horseman copies, while accompanied by a high level of 2-Victories 341-348 copies, is not paralleled by a similarly high level of 330-341 copies. Similarly at Cologne, grouping the Cathedral excavations and Deutz together, although 9 out of 14 Falling Horseman coins are copies, only 7,1% of 330-341 issues are barbarous, which is a remarkably low figure.

On the whole the evidence seems to suggest that with the possible exceptions noted above, the great proportion of copies of 331-348 prototypes had aleady been struck before the downfall of Magnentius in 353, probably indeed well before 348, and therefore represent a separate epidemic of copying from that which produced the Falling Horseman imitations. This is however the conclusion of a study

based on a rather restricted geographical area, and ultimate confirmation or contradiction of the pattern will probably be forthcoming as more site-finds are published, in particular from France.

These two epidemics were separated by a period in which copiers concentrated on something else, good quality imitations of the Aes2 issues of 348-354. Furthermore the gradual transition from Aes2 to Aes3 copies in c.352-5 is reflected in the large numbers of small copies of the Aes2 2-Victories coinage of Magnentius noted above (p.100).

8. Conclusions

Constantinian copies: c.330-350

The general view of British numismatists is that this outburst of copying is related to the rarity of 2-Victories issues of 341-348 in Britain, and that the imitations were struck to top up the pool of coinage in circulation when new coinage was no longer arriving in such large quantities as it had been in 330-341.[31]

This explanation can now be extended to the Continent on the basis of the evidence presented in Chapter 1. It was seen that the coinage of 341-348 is relatively rare not only in Britain, but also in the Rhineland, and here too the solution to the resulting shortage of coin was to strike imitations. The fact that the imitations are most common in Belgium suggests that in this somewhat isolated and rural area the shortage of official coin was particularly acute.

This has important repercussions for the dating of the 2-Victories issues of 341-348; J.Kent has sought to redate these issues to 347-348 in order to account for their rarity on British sites, but G.Depeyrot has rightly criticised

this dating, showing it was based on a consideration of the British finds to the exclusion of those from other regions where the 2-Victories issues are more common; he therefore dates them to 341-348.[32] This criticism of Depeyrot's can now be modified; the relative rarity of 2-Victories issues is to be observed not only in Britain, but also along the Rhine, in Belgium and in Luxembourg. However they are much more common elsewhere; for example at Arles and Conimbriga the coin-index for 341-348 is higher than for 330-341, and it is inconceivable that this coinage was struck over a period of only two years.[33]

The low levels of 2-Victories in N.Gaul and Britain and the ensuing epidemic of imitations are not due to a suspension of minting in 341-6, as suggested by Kent, but to the fact that these issues did not reach the area in such large numbers as elsewhere.

Falling Horseman imitations

The Falling Horseman imitations also appear to be linked to a shortage of official coin. The rarity of issues of 354-364 in N.Gaul was studied in Chapter 1, and was seen to be not only due to the virtual suspension of minting at Trier in 354-364, but also to be a consequence of the extremely depressed and ravaged state of the region.[34] Although it is clear from hoards that issues of 330-348 remained in circulation to make up the deficit in part, the answer to the shortage of coin was to produce copies.[35]

However the distribution of these copies in Britain and N.Gaul is different from that of the earlier products; copies of all periods tend to be most common in Belgium, becoming gradually rarer the further southeast one progresses through the area under study.[36] This geographical variation is most noticeable however for the Falling Horseman copies which are very clearly concentrated in Belgium, but are noticeably rarer even in neighbouring areas such as the Lower Rhine and Luxembourg, and are almost totally

absent southeast of the Moselle. In addition to coin shortage, another factor is operating here in connection with the distribution of the copies, since this distribution corresponds closely with the areas which survived the attacks of the Alamanni and Franks in 351-355, as well as with the areas where Julian concentrated his work of consolidation.

Although it is clear that large areas of the Rhineland and N.Gaul had suffered extensively in 351-355, the Belgian finds of Falling Horseman copies come from the hilly and inaccessible land further to the south, away from the main roads (see Map 5). Thus only a few of the Belgian sites, for example Furfooz and Eprave, show a break in settlement in the mid-fourth century, and the majority of the hill-top sites continue without any apparent interruption. In addition there is no concentration of hoards in the area in the 350s, a situation which cannot be attributed to a lower level of research in Belgium since hoards from the other periods, for example the late-third century, are common. If the German invasions in the mid-fourth century had left any mark in the form of the burial of hoards, it is likely that they would have been found. The evidence of the literary sources also suggests that this part of Belgium was little affected. The attack by a band of 600 Franks along the Meuse in the winter of 357/8 seems to have been a fairly limited affair, and Julian's operations along the Lower Rhine were centred on N.Belgium and S.Holland.[37] Clearly Belgium came through the 350s relatively unscathed.

However in Chapter 3 it was seen that the Pfalz suffered from the German invasions earlier than the Lower Rhine did, and that virtually no new coin reached the area after 352/3. Furthermore, although in 356 and 357 Julian counterattacked the Alamanni via Strasbourg, in fact he was mainly active on the Lower Rhine, around and below Mainz.[38] For example his building activity to restore the grain supply to N.Gaul stretched from the North Sea to Bingen.

The distribution of the Falling Horseman copies complements this picture; their complete absence in the Pfalz highlights the devastation there, whereas their presence in

small but significant quantities along the Lower Rhine below the Pfalz can be attributed to the work of recovery undertaken by Julian in the area.

It would seem then that the Falling Horseman copies not only stem from a shortage of official coin, but also that their presence is an indication of the areas which survived the German invasions of 351-355, or were recovered soon afterwards. In other words they are an indication of a healthy economy suffering from a shortage of coin. They are a form of self-help, and not a sign of the collapse of the economy and infrastructure.

The situation in Britain was in many ways similar to that in Belgium. Britain came through the troubles of the usurpation of Magnentius and the following years largely unscathed, although there are reports of brutal repression of the supporters of Magnentius after 353 and some time later, in 360, Lupicinus was dispatched to Britain by Julian.[39] But these seem to have been relatively minor problems. As in N.Gaul, so too in Britain official coin of 354-364 arrived in small quantities only, especially after the closure of the mint at Amiens in 353/354, which had been a major supplier of coin in 350-354, and of Trier a little later.[40] The relative commoness of Lyons Falling Horseman issues in Britain in comparison to N.Gaul suggests that some channels, which were not available to the N. Gallic sites, were open which allowed new coin to arrive across the Channel.[41] However the quantities involved were extremely small, and so the solution to the shortage in Britain, as in Belgium, was to produce barbarous copies in order to top up the pool of coin in circulation. Once again the obvious conclusion is that these copies are the sign of a healthy economy that was starved of the coin it required.

The circulation of copies

The regular presence of imitations, particularly those that are close in size to their prototypes, in hoards alongside official coins suggests that copies and official pieces could circulate together and that coin-users did not usually distinguish between them.

On the other hand barbarous minimi tend to be hoarded separately thus giving the impression that they also circulated separately, or at least had a different role from official coins.[42] However in Chapter 2 it was shown that various sizes of official coin which clearly circulated together were often hoarded separately, and therefore the fact that particular coins were hoarded selectively is not conclusive proof that they circulated apart from other coinage or enjoyed a different role.[43] The question of what role the barbarous minimi played in coin circulation must remained unanswered for the present; stratified deposits from site-finds, which might show what coins were lost together, and therefore had probably circulated together, seems to be the sort of evidence likely to illuminate the problem.

TABLE 3 The levels of imitations in site-finds.

S I T E S	33o/341			341/348			348/354			354/358		
	%	barb.	off	%	barb.	off	%	barb.	off	%	barb.	off
BRITAIN												
BATH				8,4	43	47o	22,7	96	327	88,4	298	39
WINT HILL	31,5	35	77	5,7	2	33	27,3	3	8	83,7	36	7
PORTCHESTER	24,2	39	122	o	o	18	2o	3	12	91,3	21	2
LINCOLN	32,5	74	154	o	o	5o	42,9	9	13	91,5	54	5
RICHBOROUGH	41,7	4895	6853	2o,2	256	1oo9	28,7	155	386	9o,4	15oo	159
average	32,5			6,9			29,7			89,1		
BELGIUM												
CHATEAU-RENAUD	72	116	45	19,5	8	33	2o,5	9	35	92,4	159	13
DOURBES	73,2	1182	433	34,4	56	1o7	23,9	21	67	9o,4	113	12
EPRAVES	3o,5	29	66	16,1	5	26	1o,2	5	44		o	o
FALAEN	52,4	33	3o	5,3	1	18	26,7	4	11	8o	8	2
FLORENVILLE	48,8	41	43	9,8	4	37		o	7	66,7	1o	5
FURFOOZ	28,2	11	28		1	7	o	o	15		2	o
LIBERCHIES	4o,7	68	99	14,6	6	35		o	4		1	o
MATAGNE	44,3	43	54	18,8	6	26	9,1	1	1o	84,6	11	2
MONT DIEU	7,7	2	24	o	o	13		3	5		o	1
NAMUR-SAMBRE	28,7	43	1o7	16,7	7	35	1,5	11	56	1oo	23	o
VIREUX	36	27	48	o	o	14	13,5	5	32		3	2
average	42			13,5			13,2			85,7		
LUXEMBOURG												
*ALTRIER	5,3	1	18		o	3	7,1	1	13		o	o
ASPELT	37,5	12	2o	2o	2	8		o	3		o	3
DALHEIM "A"	39,3	972	15o2	1o,7	1o2	848	8,1	22	249	41,4	36	51
" "B"	5o	5o	5o	18,9	7	3o		o	6		o	2
" Cellar	41,9	54	75	2	1	48		o	5		o	o
MAMER	37,3	19	32	4	1	24		o	5		1	1
STEINSEL	24,2	38	119	8,1	5	57	27,3	3	8	16,7	2	1o
TETELBIERG	36,4	225	393	12,7	31	213	2,4	1	4o	4o	4	6
WIDDERBIERG	1o,1	2o	176	1,8	1	54	2,6	1	38		2	4
average	34,6			9,8			1o,1			32,7		
LOWER RHINE												
KREFELD-GELLEP	26,6	3o4	839	4,6	28	586	o	o	57	43,8	7	9
COLOGNE	9,5	17	162	o	o	91	o	o	19	66,7	8	4
DEUTZ	4,7	7	142	o	o	59	o	o	16		1	1
Cologne average	7,1			o			o					
MOSELLE												
TRIER	18,1	83	376	3,2	6	184	o	o	72	15,4	4	22
LOWER MOSELLE												
HONTHEIM	4	4	95	8,6	3	32	1,4	5	365	o	o	43
ALTEBURG	1o	8	72	o	o	42	2,6	6	223		o	2
BINNINGEN	1o,3	3	26	o	o	11	2,6	1	37		o	o
EDIGER-ELLLER	4	2	48	o	o	25	4,5	1	22		o	3
POMMERN	13,2	15	99	o	o	27		o	8		3	3
average	8,3			1,7			2,8					

SITES	330/341			341/348			348/354			354/358		
	%	barb.	off	%	barb.	off	%	barb.	off	%	barb.	off
KOBLENZ AREA												
AHRWEILER	11,4	5	39	o	o	2o		o	7		1	o
ANDERNACH	15,9	7	37	5	1	19	4,8	4	8o		o	1
KOBLENZ	25	17	51	6,7	3	42		o	9	41,7	5	7
average	17,4			3,9			4,8					
RHEINHESSEN												
*BINGEN	o	o	13		o	5	9,1	1	1o		o	1
*MAINZ "A"	3,9	3	74	4,3	1	22	4,2	2	46		o	2
" "B"	11,8	17	127	1,9	1	51	3,6	1	27		1	3
*B.KREUZNACH "A"	o	o	34	o	o	14	o	o	11		o	o
" "B"	5,3	4	71	o	o	33		o	5		o	o
*ALZEY "A"	o,6	1	159	o	o	48	1o,5	2	17	o	o	14
" "B"	23,1	6	26	o	o	13		o	o		o	o
average	13,4			o,6			3,6					
PFALZ												
KREIMBACH	1,5	2	128	o	o	92	5,4	6	111		o	o
KINDSBACH	4,2	1	23	5,9	1	16	o	o	33		o	o
LEMBERG	2,o	1	48	o	o	45	2,6	1	38		o	o
WALDFISCHBACH	2,6	3	111	o	o	43	1	1	96		o	o
*SPEYER	1,5	1	64	o	o	14	o	o	19		o	2
*RHEINZABERN "A"	1	1	1oo	o	o	23	o	o	23		o	o
" "B"	2,8	2	7o	o	o	25		o	8		o	1
*PACHTEN	1,6	1	63		o	8		o	9		o	1
average	2,6			1,2			2,3					
W.SWITZERLAND												
KAISERAUGST	2,4	9	368	1,3	3	224	1,7	6	335		2	?
MONT TERRI	1o,7	3o	251	o,6	2	361	1,3	4	3o8		o	o
VINDONISSA	4,9	19	37o	1,4	2	137	4,1	2	47	5,1	4	75
average	6,o			1,1			2,4					
ALPENRHEINTAL												
BREGENZ	o	o	22	o	o	1o	o	o	22	o	o	1o
SCHAAN-KRÜPPEL	o	o	5o	o	o	58	o	o	12		o	1
BALZERS		o	3		o	2	o	o	15	o	o	16
CHUR	o	o	3o		o	7	o	o	19	o	o	1o
average	o			o			o			o		

Notes to Table 3
No percentage is given for finds with less than 1o coins in a period.
The figures for Richborough for 33o-341 and 341-348 are taken from M. Hammerson, op.cit.
Sites marked with an asterisk are not included in the averages since the coin series are probably distorted and the actual level of imitations on the sites is in all likelihood higher.

FOOTNOTES

1. For example D.Ziegler, Der Schatzfund von Brauweiler. Cologne.1983.p.23ff, was able to use metal analyses to show that many Divo Claudio coins, previously classed as imitations, are in fact official products of poor workmanship from the mint of Rome.

2. The levels of copies of 330-341 prototypes are given in Table 3. The levels of copies of 250-275 prototypes, in percentages are:

FIND	"A" series	"B" series
Bad Kreuznach	9,5	52
Alzey	38,0	74,1
Rheinzabern	20	53,8

3. The main studies to date on barbarous imitations of the fourth century are:
G.Boon (1974)
P.V.Hill (1950) & (1955).
C.H.V.Sutherland (1937).
M-R.Alföldi (1960/1) & FMRD.iv.3/1.p.18.
G.Depeyrot (1982) pp172ff & 197ff.
J-P.Callu and J-P.Garnier (1977).

4. This has an important effect on the levels of barbarous copies of 348-350 prototypes in finds, since different finds, and particularly hoards, tend to concentrate on one denomination or the other. Thus in a find with a lot of 348-350 large Aes2 - which was widely imitated - the level of barbarous coin will probably be higher than in a find concentrating on the rarely imitated Aes3.

5. RIC.viii.p.62ff.

6. For the silver content see RIC.viii.p.61ff.

7. See, for example:
C.King, "The Bancroft Roman villa (Milton Keynes) hoard". Coin Hoards 6.p.40ff.
" "The Appleford Hoard".RBN.1977.p.41ff.
" "The Bicester (Oxon) hoard of folles. A.D.317-348" British Museum Occasional Papers.31.p.79ff.
W.Hagen, "Münzschatz von Metternich".BJb.145.1940.p.99ff.
Callu and Garnier (1977.App.II) give the sizes of imitations in many finds.

8. So J.Kent (1957) p.78-9, remarks of the Fel.Temp. (Emperor on Ship) type and the Magnentian Felicitas Reipublice and Gloria Romanorum issues, "that, however crude in style the copy may be, its module is very little if at all below that of its prototype."

However a copy of a Magnentius Gloria Romanorum (ph.3) piece with diademed obverse (prototype RIC.viii. Amiens.1-2?) with a diameter of 12mm. is recorded from Cologne (KJb.5.1960/1. p.81.no.21. & pl.18.no.18 = FMRD.vi.1005. 8.20).

9. e.g.Bastien (1964).Pl.xviii.

10. For Bastien's material see Bastien (1964).Pl.xvi-xviii.

A phenomenon similar to that recorded here for 348-354 is to be observed with the introduction of the Aes2 Reparatio Reipub issues in 378; imitations of this type are by no means rare and tend to be close in size to the official coins.

11. cf. Bastien (1964).p.108. In a discussion of the copies of the Magnentius 2-Victories, he comments "Outre les pièces du diamètre normal on rencontre beaucoup d'imitations de petit module."

A good example of these small 2-Victories copies is provided by a group of them from Fontaines-Salées (see

Cat.2), which have an average weight of 0.864gr. and a diameter of c.13mm., in comparison to c.3,98-4,72gr. for the official issues (Bastien, 1964.p.98). They are however by no means an isolated case. See for instance Bastien (1964).Pl.xviii.nos.40 & 42. An unpublished copy from the Mainz "B" site-finds has a diameter of 14mm. A supposedly official coin from Glasgow with a Lyons mintmark (A.Robertson, Roman Imperial Coins in the Hunter Coin Cabinet. vol.v.Magnentius no.46.) may also be barbarous since the bust is not like the style of the official Lyons products for Magnentius.

The question whether or not this last coin is official is also closely related to the question of whether fractions of the maiorina were struck in the Gallic mints under Magnentius. K-J.Gilles (1977/8) has identified a definite issue of fractions from Trier, while P.Bastien (1964.pp.99-100 & 105, and 1983.pp.285 & esp.279f.) rejects almost all of the other suggested issues of fractions as barbarous, and promises to deal with this matter in more detail in: Le Monnayage de l'atelier de Lyon. 337-363.Wetteren. (forthcoming).

12. 1977.p.289.

13. cf. Hammerson, op.cit.p.145; "The copying phenomenon appears, at present, to be confined to Britain and Northern Gaul."

C.E.King (1981.p.97) notes the remarkable frequency of third-century barbarous radiates in Belgium. This observation is confirmed by the site-finds analysed here; the barbarous radiates show a distribution similar to that of the fourth-century copies, except that the radiates are appreciably more common on the Upper Rhine and in Switzerland than the later copies.

14. So, for example, Boon (1974) and Hill (1950 & 1955).

15. So M.R-Alföldi (1960/1), also J.Kent (1959b).p.65.

"It is to be suspected that the large scale forgery of Constantinian types did not begin until after 354."

16. 1977.

17. This argument also works in reverse. If hoarders could collect Aes3 and virtually exclude Aes2, why shouldn't they have collected Aes4/5 and excluded Aes3? In other words it is quite possible that even though better quality coin was available (as in 330-348 when the Gloria Exercitus et.al. issues were plentiful), only the minimi were hoarded. Thus finds such as Reims, which consist only of minimi of 330-341, need not be dated to a period when better coin was no longer available (i.e. c.359 according to Callu and Garnier), but could conceivably be much earlier.

18. These figures correspond to those in Maps 23-26.

19. FMRD.iv.1093. The identification of the barbarous coins in the find is somewhat problematic; it looks as if some imitations are not explicitly described as such, so that the actual level of imitations is conceivably higher than recorded.

20. F.Reutti, Germ.61.1983.1.p.38ff.

21. For the terminal date of Rheinzabern III see Cat.2.

22. Gesellschaft pro Vindonissa. 1971.p.59ff.

23. Although the levels of imitations in site-finds and hoards roughly correspond, this does not tell us whether the level of imitations in circulation had already reached a maximum in 348-354, since the percentage of copies found on a site normally provide no information about how many imitations were in circulation on the site at a given time, or when they were stuck. If the overall level of imitations of 330-341 on a site is 20%, this does not mean that the

level of these imitations in circulation on the site never rose above 20% at any given time. In other words we cannot say definitively that because the level of imitations in hoards of 348-354 had already reached the level found in site finds, the level of imitations had already reached its maximum in 348-354 (although this might of course be the case).

24. M.Hammerson, op.cit., suggests that the main bulk of Constantinian copying in Britain was already over "not only before the advent of the 2-Victories coinage, but before the arrival of fresh One Standard (sc. Gloria Exercitus) supplies."

25. An alternative explanation of why the 2-Victories coins were not copied might be that they were already in circulation but were for some reason discriminated against; for example their low silver content may have made them unpopular (see RIC viii.p.60 for metal content). But while it is true that the 2-Victories had a lower intrinsic value than the Gloria Exercitus issues, this does not seem to have affected their circulation. There is no evidence to suggest that they were tariffed any lower than the earlier coinage, and hoards show that Gloria Exercitus and 2-Victories were hoarded together and the latter was not discriminated against. In view of this it seems unlikely that unpopularity played a part in restricting copying of the 2-Victories type.

26. Mattingly & Stebbings (See Cat.2) note that the coins belong to one or more hoards, but that "at the same time, it was quite impossible to determine, by any objective test, which of the coins collected belong to the hoard or hoards and which were casual deposits."

27. G.Boon, "Romano-British counterfeits on Mendip Hill in S.Wales: two deposits and a discussion". Proc.Univ.Bristol Spelaeological Soc.1972.p.70ff.

28. Proc.Bristol and Gloucester Archaeological Soc.1934. p.121ff.

29. For examples of overstrikes see Besthorpe, Heslington, Lydney Park I and Oldcroft in Cat.2.
Also Pearce (1939).p.266ff. and G.Depeyrot (1982) p.173f.

30. M.Hammerson, op.cit. p.127.

31. So R.Reece (1978) p.130. & (1973) p.243.

32. J.Kent, RIC.viii.p.90 & 130, and a letter (8.12.75) quoted by Callu and Garnier (1977) p.285.n.21.
Depeyrot (1983).

33. In fact the only non-Rhineland site analysed where the coinage of 341-348 is less common than that of 330-341 is Carnuntum, where however it is possible that the coin-series is distorted and that the issues of 341-348 were really more common than the coin-series suggests (see Ch.1 n.14).

34. On the closure of Trier see Chapter 1, esp. p.49ff., and Ch.3 p.90ff.
On the depressed state of the Rhineland see Introduction p.6.

35. Chapter 2, p.66ff.

36. p.100 and Maps 23-26.

37. See Introduction p.9 and Map 3.

38. This contrasts with the military activities of Valentinian I in Gaul, who in 368-369 invaded Alamannic territory along the Neckar crossing the Rhine at Mannheim. This route was never used by Julian who always invaded further north near Mainz.

39. Amm.Marc.xiv.5,6 & xx.1,2-3.

40. See Chapter 5, p.135ff.

41. See Chapter 5, p.152 & 154ff.

42. For finds of minimi see e.g. Table 2, and Callu and Garnier (1977) App.II.p.300ff.

43. See esp. above p.59ff; groups i & ii in 350-354.

CHAPTER 5

MINT DISTRIBUTION PATTERNS

1. Introduction

Up to this point the analysis of the material under study has been in purely quantitative terms, i.e. which issues are present where, and in what amounts, in order to determine what coin was in circulation, was lost and was found in different areas, and to ascribe reasons to the resulting patterns.

In Chapter 5 the intention is to concentrate on where the coin in circulation in the Rhineland was produced; from which mints was the coin studied in Chapters 1-3 drawn? The analysis will concentrate on three main aspects of the material.

1) Where did the Rhineland draw its coin from; is this consistent a) geographically, and b) chronologically? Was different coin supplied to different areas, and do the sources of supply vary from period to period?

2) What coin moves where, and when? Does it move immediately after striking, or much later?

3) What causes coin to move? Is trade the main factor, official coin supply policy, or movements of government personnel (troops, civil servants etc.) from one area to another?

The chapter is split into three sections. First the development of the mint distribution in the hoards and site-finds analysed is described. Then this development is discussed in relation to the history of the period. Finally the evidence will be summarised and more general conclusions reached about coin use, circulation and movement.

2. The development of the pattern of mint distribution from 318 to 378

318-330 (Table 9.)

In British finds Trier is by far the most important mint (54,6%), with London, which closed in 325, relegated to second place (26,8%). Lyons and Arles are the only other mints to make a regular contribution (6,9% and 3,7% respectively), while the Eastern mints account for 3%.

On the Continent a very similar pattern to the British one is found throughout an area from the North Sea to Rheinzabern. The proportion of Trier coins generally increases to c.65%, though the figure can vary a great deal; for example nearly 75% in Trier, but less than 55% along the Moselle. London drops to 7-9%, Lyons generally accounts for 10-11%, and Arles for around 5%, but again with a wide range of variation. The Italian mints as a whole rarely provide more than some 6%, and Ticinum, which closed in 327, is the most important of them. Siscia and Sirmium seem to become more important the further up the Rhine one moves, rising from c.3% in Belgium and Luxembourg to some 8,4% in the Pfalz, but the evidence is rather inconclusive since the level in Rheinhessen is only 1,0%. The level of the Eastern mints varies enormously, but is generally between 5-9%.

In Vindonissa London is surprisingly common with 11,5%. Trier drops to 41,6%, but is compensated for by a rise of coin from the Italian and Balkan mints.

The mint distribution of coin of this period in hoards with a terminal coin of 350-364 is the same as that of the site-finds.

330-341: (Table 10.)

In British finds Trier consolidates the important position it had attained in the previous period, rising to 65%. Lyons (17%) and Arles (c.12,5%) also increase in importance, while Italian and Balkan mints make no significant contributions and Eastern mints drop slightly to c.2,2%.

Along the Lower Rhine, in Belgium and in Luxembourg the pattern is very similar to that found in Britain. Trier is a little less important on sites (59,4% in Belgium, 62,9% in Luxembourg, and only 55,7% in the Lower Rhine sites due to the very low level of Trier in Deutz) than in hoards (66,9%), while the values for Lyons are reversed; only 12,4% in hoards against 14,2%, 16,7% and 22% in the site finds. Eastern coin is rather more common than in Britain (3,1-6,1%).

This regular pattern continues in Trier although the percentage of coin from Trier itself increases slightly to 68,2%. The first variation in an otherwise very consistent picture comes with a group of sites along the Moselle where Arles is a little more common than Lyons (16,5% to 13,4%).

Moving further upstream along the Rhine, the pattern found along the Lower Rhine is repeated, but the level of Eastern coinage rises noticeably. In the Pfalz the site-finds have 6,2%, the hoards 7,8%; the peak is provided by Mainz, where levels of 7% and 15,4% are recorded for the two series. A similar, but not so regular increase in the level of coin from Siscia can also be observed.

In Switzerland there seem to be two separate areas with different supply patterns. In W.Switzerland, although Italian (7-13%), Balkan (9-10%) and Eastern (12,6-16,4%) mints have increased in importance, Trier is still the most important mint (31,3-36,4%). In contrast the site-finds and hoards of the Alpenrheintal show a marked shift away from the Gallic mints, although the Welschdörfli I hoard is an exception in this respect, showing close similarities to Vindonissa.

341-348: (Table 11.)

In the British finds there is a marked increase in the representation of Trier, and all other mints become less important than in the preceding period.

This trend is repeated along the length of the Rhine, and generally speaking the level of Treveran coin lies between 70% and 80%. In Trier the figure is 83,9%, a level that is surpassed by several individual finds, but by no area as a whole. Normally Lyons is more important than Arles, except in some British, Luxembourg and Lower Rhine finds where the order is reversed. The drop in representation of mints other than Trier in comparison with the pattern in 330-341 is best seen in the level of Eastern coin, which now rarely rises above 1% for any area, with the exception of Rheinhessen.

In contrast to 330-341 no increase in the level of Balkan and Eastern mints is to be observed as one moves upstream along the Rhine, and the differences between the Middle and Lower Rhine generally seem to be smaller than in the preceding period. The level of Trier coin perhaps drops a little on the Middle Rhine, which is especially marked in the Rheinzabern II and III hoards, but these two finds must be treated with caution since there is good reason to believe that they have been manipulated (see Cat.2).

W.Switzerland shows an increase in the representation of Gallic mints generally, not just Trier. Unfortunately material of this period is scarce from the Alpenrheintal, but it would seem to indicate that the area continued to rely more heavily on Italian and Balkan mints than did Vindonissa, but once again with the exception of Welschdörfli I. All Swiss sites show a drop in Eastern coin in comparison to 330-341 similar to that observed on the Middle and Lower Rhine.

348-350: (Table 12.)

The analysis of mint-distribution in this period is complicated by the fact that three different denominations were minted, and that these denominations were not struck in the same volume at all mints. As a result when a find concentrates on one particular denomination at the expense of the others, which is particularly noticeable in the hoards, then that find will naturally favour those mints which struck this denomination in the largest quantities.

When considering the pattern demonstrated by the site-finds the operation of this factor seems to produce two distinct groups, those where Trier is well represented, and those where Trier is poorly represented. This first group consists mainly of finds which have a predominance of the Aes3 denomination of 348-350, and include:

Find	Level of Trier coin of 348-50
Bath	91%
Richborough	85,8%
Dourbes	81%
Dalheim "A"	79%
Tetelbierg	70%
Trier	77,3%
Vindonissa	59,1%

Vindonissa normally has less Gallic coin than the Rhine-land sites further downstream -see above- and 59,1% represents a sharp increase in the level of Trier over previous periods.

However in site-finds where the Aes2 and Aes3 denominations are more evenly represented, or where Aes2 dominates, then the level of Trier drops markedly. Series belonging to this group are:

Find	Level of Trier coin of 348-50
Namur-Sambre	50%
Widdebierg	57,1%
Mainz "A"	38,8%
Rheinzabern "A"	50%
Kreimbach	59,3%
Lemberg	42,9%

Exceptions to this pattern are Krefeld, Hontheim, Waldfischbach and Mont Terri, where the level of Trier coin is 77,8%, 71,1%, 75% and 52,2/64,3% respectively although the Aes3 denomination is no more common than the Aes2.

This connection between the representation of the mint of Trier and the levels of the Aes2 and Aes3 denominations is also apparent in the hoards.

The same consideration also applies to the other mints, and their levels in finds depends to a great extent upon the denominations present. For example since the Italian mints struck mainly the small Aes2 coin they are best represented in finds which concentrate on this denomination. As a result the percentages for mints other than Trier vary widely, a problem which is compounded by the comparative rarity of coin of this period. Nevertheless some general observations can be offered.

Lyons coin is somewhat more common than Arles; the figures for the two mints in British hoards are 8,3% and 8,0% respectively, in Luxembourg site-finds 10,3 and 8,5%, in Lower Rhine hoards 18,9% and 13,6%, in Pfalz site-finds 14% and 3,6% and in W.Switzerland 16% and 9,7%.

The Italian mints can form an important, if somewhat erratic element. For example, in a group of hoards buried after the death of Magnentius, Rome reaches values of 22,5% in Cobham Park, 30,5% in Easterton, 25,8% in Besthorpe and 15% in Oldcroft, while in Cologne II the mints of Rome and Aquileia are well-represented with 28,6% and 20% respectively.[1] Earlier hoards showing the same phenomenon are Villing (Rome - 20,6%) and Rheinzabern II (Rome - 76,9%).[2]

Site-finds from the area of Villing and Rheinzabern also have high levels of Italian coins of this period averaging 5,8% for Aquileia and 19,9% for Rome. Generally these finds all have high levels of the small Aes2 denomination, which was struck particularly heavily in the Italian mints.

The mint of Siscia, which although of little importance in earlier periods had nevertheless nearly always been present, now vanishes almost completely from the picture. Examination of the site-finds from Britain and from the Continent as far up the Rhine as Vindonissa reveals that only Richborough (1 coin - 0,6%), Namur-Sambre (1 coin - 6,3%), Kindsbach (1 coin - 12,5%) and Pachten (1 coin - 16,7%) have any Siscia coin of 348-350. This is in strong contrast to the Alpenrheintal, where Siscia coin is not uncommon although the numbers are too small to permit an exact statistical analysis, and Carnuntum, where the level of Siscia, the main supplier of coin to the site, rises sharply to 69,1%.

The hoards reveal a similar picture. Of the hoards with a terminal coin struck before the death of Magnentius, only Skellow, Berkshire, Mackwiller, Strasbourg and Bassecourt contain Siscia coin of this period. Bassecourt comes from Switzerland, where Siscia coin is generally more common than on the Middle and Lower Rhine, and Strasbourg contains a unique element of 21 Aes3 from Siscia of 348-350. However hoards buried after the death of Magnentius regularly contain a very small (no more than 1,8%) element of Siscia coin of 348-350.

Coins from mints to the East of Siscia are even rarer. Among the site-finds only Richborough, Trier, Altbachtal and Mainz "A" contain examples. Otherwise exceptions apply similar to those observed for the Siscia coin, which are the site-finds of the Alpenrheintal, the Bassecourt hoard and a number of hoards with a terminal coin later than the death of Magnentius.

350: (Table 13.)

Coins of this period are rare in the site-finds, and most of the evidence is provided by hoards.

In Britain the amount of Trier coin decreases from the normally high level in 348-350 to 60% in the hoards, and falls even lower in the Richborough site-finds. This deficit was rectified in part by the newly opened mint of Amiens, which began to strike in mid to late 350 and accounts for some 4,8% of the total, and Lugdunum which rises to 30%. Arles shows no change, but all other mints drop dramatically and very little coin struck outside Gaul reaches Britain.

In N.Gaul the picture is similar, although Amiens coin is almost totally absent. Where statistics can be produced, Trier seems to supply about 70%, Lyons around 20%, with the balance coming from Arles. Italian and other coin is almost totally absent.

The Strasbourg hoard shows a gradual transition to the Swiss pattern, but like most of the finds so far mentioned, contains no coin of 350 struck outside Gaul. In W.Switzerland the dominance of Trier has been broken by Lyons, but the Gallic mints still account for over 90% of the total. In the Alpenrheintal sites there is as ever an important element of Italian coin, but Siscia and Eastern coin, previously present in significant quantities, are now missing.

The only western find which contains a significant amount of coin struck in 350 outside the territory of Magnentius is the Fussach hoard, which was buried after his death. Even Conimbriga, which normally has higher levels of Italian and Eastern coin, fits into this pattern, drawing more than 90% of its coin of 350 from the Gallic mints, a level never even approached previously at the Portugese site.

351-352: Magnentius phases 4-6: 2-Victories issues. (Table 14.)

There is a discrepancy in Britain between the evidence of the hoards and that of the site-finds. Leaving aside the Oldcroft hoard (see below), Amiens supplies a little above 50% of the coin in the hoards, while Trier drops to only 35,6%, Lyons to 7,3% and Arles to 5,6%. This contrasts strongly with the pattern in the Richborough site-finds, where Trier dominates with some 60% and Amiens provides only a little more than 25%. The Bath site-finds lie between these two patterns, but resemble the hoards more closely than they resemble Richborough; although Trier is still more important than Amiens the former's dominance has fallen and the figures are 44,4% and 40,7% respectively. The Oldcroft hoard is unique and, as in 350, draws its issues mainly from Lyons. Both the hoards and the site-finds show that Italian mints played no part in the supply of coin to Britain.

The picture on the Continent is somewhat different. Occasional Amiens coins are found from the North Sea to the Middle Rhine, but they do not seem to have penetrated further upstream. Trier is now even more dominant than in 350, regularly accounting for 80% or more of the finds throughout N.Gaul, and even at Strasbourg, which in 350 showed a close affinity to the Swiss finds, now provides 71,4% of the total. The rest of the 2-Victories issues were supplied by Lyons and Arles, the former being slightly more common than the latter. As in Britain, the Italian mints are conspicuous by their almost total absence.

The evidence from Switzerland is rather sparse, but generally Lyons seems to have made gains at the expense of Trier, the sole exception to this being the Chamoson hoard.[3] The virtual absence of Arles pieces in Swiss finds is notable, and the fact that it was not simply due to low output is indicated by Conimbriga where Arles accounts for 38,5% of the total.

352-353: Magnentius Salus issues, phase 7 and Poemenius. (Table 15).

As in 351-352 the British hoard evidence does not correspond with that from the site-finds, a problem which may be partly due to the rather scanty evidence available from the sites. In all hoards except for Coleshill, and on the sites, Trier has once more replaced Amiens as the main supplier.[4] However whereas in hoards Lyons rises to 28,4%, the figure at Richborough is only 6,7%. The Bath site-finds are too small to be statistically useful, but seem to be related more closely to the hoards than to Richborough. The discrepancy at Richborough may be due to the small sample of only 15 Salus coins of attributable mintage.

On the Continent the pattern is quite clear. Amiens is perhaps a little more common than it had been in 351-352, but otherwise Trier is totally dominant, providing 90-100% of the Salus issues on the Middle and Lower Rhine, although this figure may be artificially high due to the fact that all Poemenius coins can be attributed to Trier, even when the mint-mark cannot be read.

In Switzerland and elsewhere, the Salus issues are seldom present.

351-354: Constantius II/Falling Horseman Aes2 issues. (Table 16.)

This element of the coinage is composed of all issues struck for Constantius II and Gallus in mints under the control of Constantius II, from the accession of Gallus to the reduction of the Falling Horseman issues to Aes3 in 354; that is coin from the Balkan and Eastern mints during the entire period from 351 to 354 (apart from the short interlude in September 351 when Magnentius controlled Siscia), from Italian mints after c.September 352, and from

Gallic mints after the death of Magnentius in August 353.

The treatment of issues struck during such different periods as a single element is explained and justified below, p.147.

In Britain the picture is somewhat mixed. Most of the hoards reveal a supply drawn in varying proportions from Amiens, Trier and Lyons, but with none of the three particularly dominant, whereas the Croydon hoard and the Richborough site-finds show a marked preference for Trier. However nearly all of the hoards and Richborough have a very significant common element of Italian, Balkan and Eastern coins, with Rome the most important of these mints.

The interpretation of the picture on the Continent is hampered by the extreme rarity of these issues. Only the Cologne II hoard provides any real information, with a mint distribution very simliar to that seen at Richborough; Trier is dominant, with Italian, Balkan and Eastern coin once again playing an important part. The general impression from the sparse site-finds is that the picture at Cologne II is perhaps a fair reflection of the distribution of these issues in the Rhineland. A contrast is provided by some finds, such as the rather scarce Belgian site-finds, Alteburg, Hontheim and the Marscherwald hoard, which reveal a continuation of the pattern found for the Salus issues; that is a very heavy dependence on Trier, although when these finds draw on mints other than Trier, they too are represented by non-Gallic mints; for example Hontheim has only one coin each from Aquileia and Rome apart from the 14 from Trier present. Only one coin from the South Gallic mints is recorded in the finds from the Lower and Middle Rhine, a Lyons piece from Koblenz.

In Switzerland, as well as the Regensburg VIII hoard and the Carnuntum site-finds, Gallic coins are almost totally missing, and although Italian coins are not particularly scarce, the majority of the coinage was provided by the Balkan and Eastern mints.

At Conimbriga and Arles Rome plays the dominant role, although at Arles the sample is rather small.

354-358: Falling Horseman Aes3. (Table 17.)

A detailed analysis of this period is hampered by the rarity of these issues in Gallic and British site-finds as well as the rarity of Continental hoards of these years.

Fortunately a series of British hoards provide a very consistent picture of the coin-supply. Lyons (69,4% has become the most important mint, followed by Arles (21,7%); Trier, which closed in 354/5, is only third with some 7%. The Italian mints play a small but very regular role, with Aquileia (1,7%) a little more common than Rome (0,4%). Balkan and Eastern mints are absent. This pattern is repeated in the Bath site-finds, but not at Richborough, where although Lyons and Arles (40,5% & 21,6% respectively) have also risen in importance at the expense of Trier, the representation of the other mints has changed; Rome (10,8%) has overtaken Aquileia (5,4%), while Siscia (5,4%) and especially the Eastern mints (16,2%) are present.

On the Continent the rarity of site-finds is not compensated for by hoards as in Britain, and as a result only general observations can be made. Here too Trier loses its dominant position, with the exception of Marscherwald and Hontheim (see below), but the South Gallic mints do not increase in compensation as is the case in Britain; instead large proportions of non-Gallic coin arrive. Rome is the most important single mint, but Balkan coin is regularly present, and Eastern mints are surprisingly well represented. The pattern corresponds more closely to that from Richborough than that from the British hoards.

Against this background Marscherwald and Hontheim provide a stark contrast, being composed of solely Trier coin. However these Trier Falling Horseman issues were all struck before the closure of that mint in 354/5, and so Marscherwald and Hontheim belong to the very first year of this period. Their mint-distribution can be interpreted as a continuation of the concentration on Trier noted for the previous two periods, before a new pattern of mint-distribution came into being.

In West Switzerland we find a similar pattern to that on the Lower Rhine, but with Arles clearly dominant. Here too Eastern coin is normally present, but in the Alpenrheintal, although the sites draw heavily on Italian and Balkan mints, Eastern coin is absent. This low level of Eastern coinage is also found further East at Carnuntum.

358-361: Spes Reipublice. (Table 18.)

An analysis of mint-distribution for these issues is even harder than for the previous period, since the coinage is extremely rare. However what coin there is seems to indicate a mint-distribution pattern in N.Gaul similar to that found for the Falling Horseman Aes3 issues; Arles is the most important mint, and Eastern coins are surprisingly common. Kaiseraugst is an exception and relies mainly on Lyons.

Conimbriga shows a dramatic increase in the level of Eastern coinage, which rose to over 50%, while in Carnutum the downward trend observed in 354-358 continues and Eastern mints account for only 11,3%.

361-364: (Table 19.)

So rare are the coins of this period that no more than the most general observations are possible. The N.Gallic sites are limited to Lyons, Arles, Rome and possibly Eastern coin.

364-378: (Table 20.)

Coinage of this period is very common as site finds and once more there is sufficient material to produce a detailed analysis.

All regions of N.Gaul as far East as Rheinhessen share roughly the same supply pattern; Trier 9-14%, Lyons 17-24,5%, Arles 36-44,3%, Aquileia 9,2%-10,4%, Rome 7,5%-10,6% (but normally about 1,5% below Aquileia), Siscia 7,5%-12,5% (although Trier, Altbachtal has only 3,3%). Eastern mints contribute less than 1% of the total.

Britain has a different mint-distribution pattern, with Trier contributing only 1%, and Arles rising to 57,9%, while Rome and Siscia both drop to 2,6% and 6,9% respectively. Eastern coin is as rare as on the Continent.

The Pfalz seems to have enjoyed a slightly different supply from the areas further down the Rhine. Trier and Rome are less common, but this could be due to the relatively small sample available. Siscia reaches the unparalleled level of 36,8% in Rheinzabern in both the "A" and "B" series.

Vindonissa again shows close connections with Middle and Lower Rhine sites, being supplied mainly by Gallic mints, but has one or two peculiarities. Lyons is more important than Arles, and the dominance of Rome over Aquileia is even more marked. Siscia and Eastern coinage is no more common than on many N.Gallic sites.

As in the earlier periods Bregenz, in the Alpenrheintal, draws its supply from a different area to Vindonissa, mainly from Italy and Siscia.

3. Historical conclusions to the evolution of the pattern of mint distribution in N.Gaul

318-350: the division of the Empire after the death of Constantine the Great

In N.Gaul there is an obvious development in the pattern of mint distribution in these years which clearly reveals a stagnation in coin-movement. This is manifested in two ways (see Tables 4 & 5):

1) The increasing importance of Trier in the years after 330-341, and

2) The decreasing role played by the Balkan and Eastern mints in the years after 330-341.

Table 4: The level of Trier coins in groups of N.Gallic site-finds.

	318-330	330-341	341-348
Britain	54,6%	64,9%	82,7%
Belgium	65,4%	59,4%	69,9%
Luxembourg	67%	62,9%	76,7%
L.Rhine	61%	55,7%	76,5%
Trier	73,7%	68,2%	84,3%
Moselle	52,3%	56,9%	81,1%
Rheinhessen	62,8%	63,7%	71,7%
Pfalz	65,4%	65%	72,6%

Table 5: The level of Balkan and Eastern coin in groups of N.Gallic site-finds.

	318-330	330-341	341-348	348-350
Britain	5,2%	3,6%	1,9%	0,6%
Belgium	12,3%	8,3%	5,7%	3,2%
Luxembourg	7,7%	3,8%	0,9%	0%
L.Rhine	2,7%	5,4%	2%	0%
Trier	7,1%	7,3%	0,9%	4,5%
Moselle	14,9%	8,4%	0,7%	0%
Rheinhessen	6,3%	10,8%	8,3%	15,4%
Pfalz	10,8%	11,4%	5,4%	0%

(n.b. the small sample available is partly responsible for the great variation in the figures for 348-350; viz. the Rheinhessen figure of 15,4% represents a mere 2 coins from Mainz "A". Nevertheless a general drop in levels from 341-348 to 348-350 is apparent.)

This development cannot be explained solely in terms of an increase in the output of Trier in relation to other mints, since any such increase should be reflected in an equivalent rise in the level of Trier at Arles, Conimbriga and Carnuntum, whereas in fact the reverse happened (see individual sites in Cat.2).[5]

Furthermore a similar phenomenon to that observed in the N.Gallic finds is also apparent at Arles, Carnuntum, Apamea and Antioch. In the same way that N.Gaul shows a growing prefence for Trier, so these four sites all rely more and more on the products of the nearest mint, or in the cases of Arles and Antioch on their own products (see Table 6). A gradual development in the second quarter of the fourth century is apparent whereby not only in N.Gaul, but also elsewhere in the Empire, proportionally less and less coin was being imported; coin movement between different areas seems to have dropped sharply. However this conjecture is based on only a small sample of non-Gallic

Table 6: The level of Arles coin in the Arles site-finds, Balkan coin at Carnuntum, and Antioch coin at Antioch and Apamea.

	Arles	Carnuntum	Antioch	Apamea
318-330	13,6%	38,2%	42,2%	-
330-341	43,5%	37,8%	67,4%	68,1%
341-348	83,0%	58,2%	92,3%	90,3%
348-350	-	69,1%	-	-

(Figures for 348-350 for Antioch are unavailable, at Arles and Apamea too small to be statisticly significant.)

finds, and requires further confirmation.

If the volume of trade is greater in times of peace and stability than in times of war, as might reasonably be expected, then it is extremely unlikely that trade was primarily responsible for the movement of coin in N.Gaul, Arles, Carnuntum, Apamea or Antioch, since this development coincides with a period of stabilisation of the Empire under Constantine the Great and his sons. After the civil wars of 307-324, the reign of Constantine marked the beginning of an age of relative internal security. From 324 to 350 the only episode to upset this stability was the brief civil war between Constantine II and Constans in 340, which however only affected the northwestern provinces.

On the other hand this pattern of coin-movement fits in well with the political and administrative development from 318 to 350. From 324 to 337 Constantine I himself was an important unifying force within the Empire, and this was also a period of great administrative mobility and flux. From 326 to 337 new courts had been set up for Constantine II, Constantius II, Constans and Delmatius which must have involved the movement of personnel on no small scale. Nor had these Caesars necessarily remained tied to the same area; Constantine II was in Gaul soon after the death of Crispus in 326, on the Danube in 331, and back in Gaul

again in c.335; Constantius II had arrived in Gaul from the East by 332 when he returned to the East, before moving to the Danube in 335/6 and returning to the East once more in 336.[6]

However after 337 not only was the unifying force of Constantine I removed, but also the mobility of his sons was greatly reduced. With the exception of the short civil war between Constantine II and Constans in 340 and the merger of these two realms under Constans which resulted, the boundaries between the Eastern and Western halves of the Empire became fixed, and the movements of the Augusti were restricted to their own domains. This division of the Empire and the ensuing reduction of administrative mobility in comparison with the years up to 337 presumably resulted in fewer movements of personnel (i.e. soldiers or civil servants etc.) across the Empire, and this is paralleled by a reduction in the level of long range coin movements (i.e. Eastern coin to Gaul and vice versa) from 330-341 to 348-350.[7]

This situation was then reversed after the defeat of Magnentius in 353 (see below p.146ff.) in the wake of the reunification of the Empire under Constantius II. After 353 new Balkan and Eastern coin reappears in Western finds.

This explanation would account for the changes in the level of long-distance coin movement. But another consequence of the peace and stability of 324 to 350 may explain why shorter distance local coin movement also seems to have dropped during this period, and why certain areas come to rely increasingly on only the nearest mint.

After the disruption of the mid- and late-third century Diocletian carried out a widespread series of reforms, some of them already begun by his predecessors, which helped to set the Roman world on a much sounder footing. Among these reforms were a series of far-reaching financial measures including a reorganisation of the mint system. M.Hendy has shown that the system which was created was essentially diocesan, but with certain variations.[8]

However the system set up by Diocletian in 294 was not an end-product, but was altered quite significantly during

the course of the next three decades. The mint of Carthage moved to Ostia in c.309, and from there to Arles in c.313. London was closed in c.325 and Ticinum probably a year later. In the East the only major change was the creation of the mint at Constantinople in c.326, while in the Balkans two additional mints were active over short periods; Serdica from c.303/4 to c.308 and Sirmium from c.320 to c.326, although bronze was struck at the latter only in 324/5. However after 326 the system remained unchanged in the East and in the West until 350.

Thus this system of coin-production was in a state of constant flux in the first quarter of the fourth century, and presumably so too was the system of coin-supply. In the second quarter of the fourth century however coin-production, or rather its centres, was stabilised and coin-supply appears to have followed suit developing a system whereby each area was supplied increasingly by only the nearest mint. But this suggestion remains very hypothetical; confirmation or refutation will come as more coin-series are published from more areas, enabling us to see whether this really was an Empire-wide phenomenon.

350-353: the Usurpation of Magnentius.

From 350 the coin supply to N.Gaul shows significant changes, and to a greater extent even than in 341-350 coin is drawn virtually only from the Gallic mints. Not only are the Balkan and Eastern mints absent, as was the case in 348-350, but also the Italian mints. The exception to this pattern is provided by the Alpenrheintal sites which continue to draw much coin from Italy, although here too, in contrast to earlier periods, Balkan and Eastern mints are not represented. This contraction of the mints supplying N.Gaul reaches a peak with the Salus issues of 352-353

which are drawn almost exclusively from Trier. Clearly a series of mechanisms are at work which prevent initially non-Gallic, and later all but Treveran coin from reaching the Middle and Lower Rhine and adjoining areas.[9]

The drop in the level of Italian coin after the often very significant levels of 348-350 coincides with Magnentius' preparations for the civil war against Constantius II. He was already in Aquileia in Spring 350, and the army which he gathered in N.Italy in preparation for the campaign of 351 must have been the main recipient of the output of Rome and Aquileia.

By analogy the increasing failure of coin from Arles and Lyons to reach the Rhineland after 350 might suggest that as the theatre of war between Constantius II and Magnentius was transferred to N.Italy and S.France the output of Lyons and Arles was retained in the area, particularly after the recapture of the mints of Rome and Aquileia by Constantius II in the autumn of 352.[10] This is, however, clearly not the case since coin from Lyons was not confined to southern Gaul, but became increasingly important in Switzerland in 351-352, and reached Britain in larger quantities than before in 352-353. Furthermore the absence of Lyons and Arles coins in Rhineland finds continues beyond the civil war into 354-355 (See below p.148f.). In other words this increasing dependence of N.Gaul on Trier alone is not the result of a general tendency of coin to be drawn to southern Gaul where the main events of the civil war were taking place; rather it indicates the isolation of N.Gaul in terms of coin supplied. The extent of this isolation is clear from the fact that the products of the Amiens mint, so plentiful in Britain, make no impact upon N.Gallic circulation, hardly reaching even the nearby Belgian sites.

This isolation apparently worked both ways since Trier coin was equally unable to leave N.Gaul. In Britain it was replaced to a great extent by Amiens, and the diminished importance of Trier is emphasised by the fact that in 352-354 Lyons nearly overtakes it as the second most important mint in British hoards.[11] Trier also loses ground in the

West Swiss sites, where it had previously been the most important mint; the only Swiss find where it contributes a significant part of the 2-Victories issues of 351-352 is Chamoson. In fact after 350 Switzerland seems to have experienced an isolation of coin supply similar to that seen in N.Gaul, coming to rely almost exclusively on Lyons.

Our understanding of this phenomenon is hampered by the lack of published central Gallic finds which might enable us to see how the pattern of mint-distribution evolved there. All that can be said at present is that the frontier areas of N.Gaul and Switzerland became increasingly reliant on Trier and Lyons respectively, and that in the case of N.Gaul this is related to a reduction of coin-movement out of the area as well as into it.[12] To what extent this may be due to official minting and coin-supply policy cannot be determined on the basis of the available evidence. However this isolation of the Rhineland coincides with the development of the Germanic invasions as reflected in the incidence of hoards and destruction levels (See Chapter 3). The hoard evidence suggests that Switzerland was already suffering badly from invasions in 351/352; could this be the reason why Trier coin suddenly stopped reaching the area then, the invasions closing the channels by which the coin from Trier normally came to Switzerland and forcing the area to rely on Lyons coin? Similarly the coin from the S.Gallic mints stopped arriving in N.Gaul at precisely the time at which the hoard evidence suggests that the invasions became severe along the Lower and Middle Rhine, in 352/353. The earlier invasions in Switzerland and along the Upper Rhine may have been an additional factor and perhaps affected communications between Lyons and the Lower and Middle Rhine.

This suggests that the infrastructure in the frontier areas of Gaul was badly affected by the events of 351-353, which resulted in a partial breakdown in communications reflected in a drop in local coin-movement.[13]

Thus within the provinces under Magnentius' control there is clear evidence for a restriction in the movement of coin in certain areas. What of the relationship between

the usurper's territory and that of Constantius II and Vetranio?

It has already been observed that coin struck after 341 in Balkan and Eastern mints becomes increasingly rare in the northwestern provinces, culminating in an almost complete stop for the issues of 348-350; but this becomes even more marked after 350. Among the hoards and other coin finds from the territory of Magnentius which have a terminal coin struck between January 350 and the death of Magnentius in August 353, only Chamoson definitely contains a coin struck after January 350 in a mint under the control of Vetranio or Constantius II, and then only a single example; this represents but a fraction of 0,1% of all the coin of 350-353 in these finds.[14]

So complete is this break in East-to-West coin movement, that a continuation of the trend towards a reduction in long-distance coin movement observed in 341-350 is on its own insufficient to explain it. The obvious conclusion is that the civil war of 350-353 led to a total break between the two halves of the Empire, at least along the northern frontiers, thus preventing the large-scale movement of coin from Constantius II's territory into Magnentius'. The explanation that hoarders simply deliberately avoided coins of Constantius II holds no water since coins in his name struck before January 350, as well as those struck for him by Magnentius in 350 are included in the hoards.

The civil war must have stopped the movement between the two halves of the Empire of people who might have taken large quantities of coin with them. It is inconceivable that once the civil war was clearly unavoidable Constantius II and Magnentius were involved in exchanges of personnel, either civil servants or troops, and trade probably suffered as well. In a similar situation in the first years of the fifth century, when Stilicho was pursuing a policy of confrontation with the Eastern Empire, all western harbours were closed to ships and merchants from the East since they were suspected of spying for the Eastern Emperor, Arcadius.[15] Indeed it must have been

theoretically possible to seal the borders between the two hostile territories completely, since traffic was always carefully controlled at the provincial borders in order to collect customs-dues.[16] Whether such a step was actually taken, or whether the phenomenon observed is peculiar to Britain and Gaul might be confirmed by a study of Italian and Iberian hoards. For example the Iberian penninsula had strong trading links with the rest of the Mediterranean world, and Conimbriga always draws a remarkably large amount of its coin from Eastern mints, so a study of Iberian hoards might also indicate whether these links too were disrupted.[17]

353-354: the reconquest of the West by Constantius II

After the final defeat of Magnentius in August 353 we can detect two opposing tendencies in the coin-supply to the Rhineland:

1) Some finds show a continuation of the pattern of isolation and reliance upon Trier seen for the issues of 352-353; e.g. Marscherwald, Hontheim, Alteburg and the Belgian sites (with the proviso that the Belgian sample is very small).
2) In stark contrast to the pattern of 350-353 an element of non-Gallic, and particularly Balkan and Eastern, coin struck in 351-354 is suddenly present.

Six hoards with terminal coins struck between Aug.353 and the reduction of the Fel.Temp./Falling Horseman issues to Aes3 in 354 are recorded. Four of these contain an element of Balkan and Eastern coin struck in 351/354.

Coleshill.....2 coins
Croydon.....21 coins
Cologne II[18].....8 coins
Fussach.....18 coins

From what was seen above such coinage did not arrive in Britain and Gaul before August 353 (or at least arrived only in minute quantities), and accordingly we can treat it as if it were in effect issued after August 353 when analysing the mint-distribution pattern and compare it directly with the Gallic coin of 353-354. Thus the totals in the table above can be expressed as a percentage of all coin struck in non-Magnentian mints in 351-354. (i.e. Eastern and Balkan mints 351-354, Italian mints 352-354 and Gallic mints 353-354)

Coleshill.....25%
Croydon.....45,7%
Cologne II.....15,1%
Fussach.....75%

A series of later hoards with terminal coins of 354-358 also have this element of Eastern and Balkan coin of 351-354,

Bockenau.....2 coins / 100%
Fontaines-Salees.....1 coin / 100%
Besthorpe.....10 coins / 15,2%
Heslington.....12 coins / 7,7%
Oldcroft.....7 coins / 7,8%

and this Balkan and Eastern coin is present in the rather sparse site-finds as well.

The presence of this Eastern and Balkan coin in hoards with terminal coins as early as 353-354 shows that it arrived in the Northwest very soon after the defeat of Magnentius.

Furthermore, it is clear from the mint-distribution of the Aes2 Falling Horseman issues of 351-354 in N.Gaul that the arrival of this Eastern and Balkan coin is not just a sign of a reversion to the pre-civil war coin-supply situation. If we add together the Falling Horseman issues of 351-354 from all the N.Gallic site-finds and hoards studied, then we have the following totals:

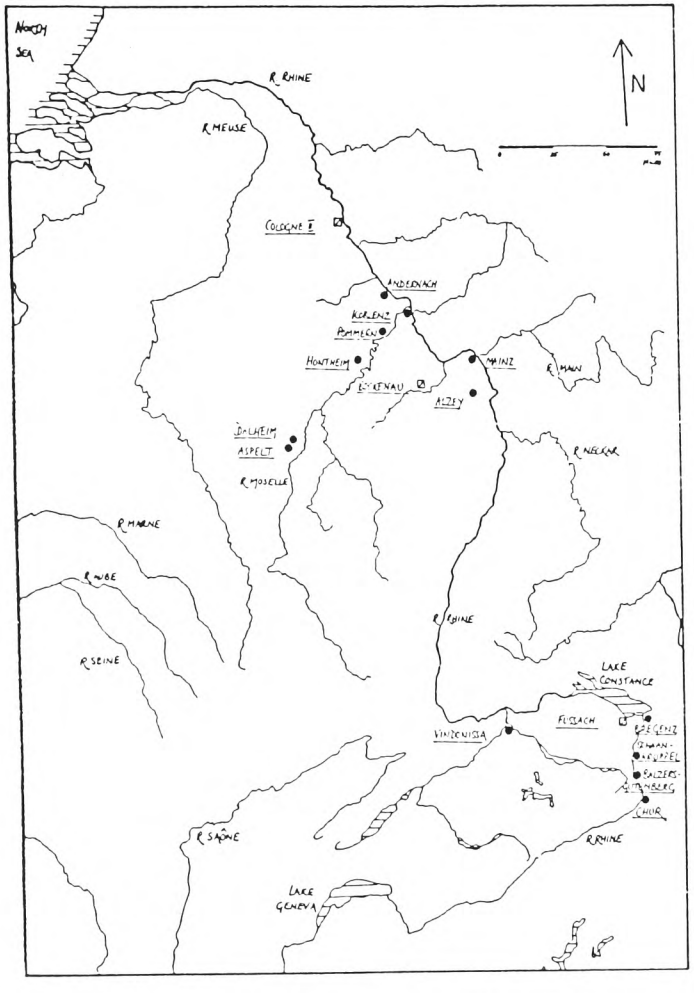
Amb	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
9	107	1	-	2	4	5	2	12

Admittedly the material available is limited, but the overall picture is clear and Lyons and Arles, which had been the most important mints after Trier in N.Gallic finds until 353, are conspicuous by their absence. Generally speaking, when finds draw on mints other than Amiens and Trier, they draw on non-Gallic mints.

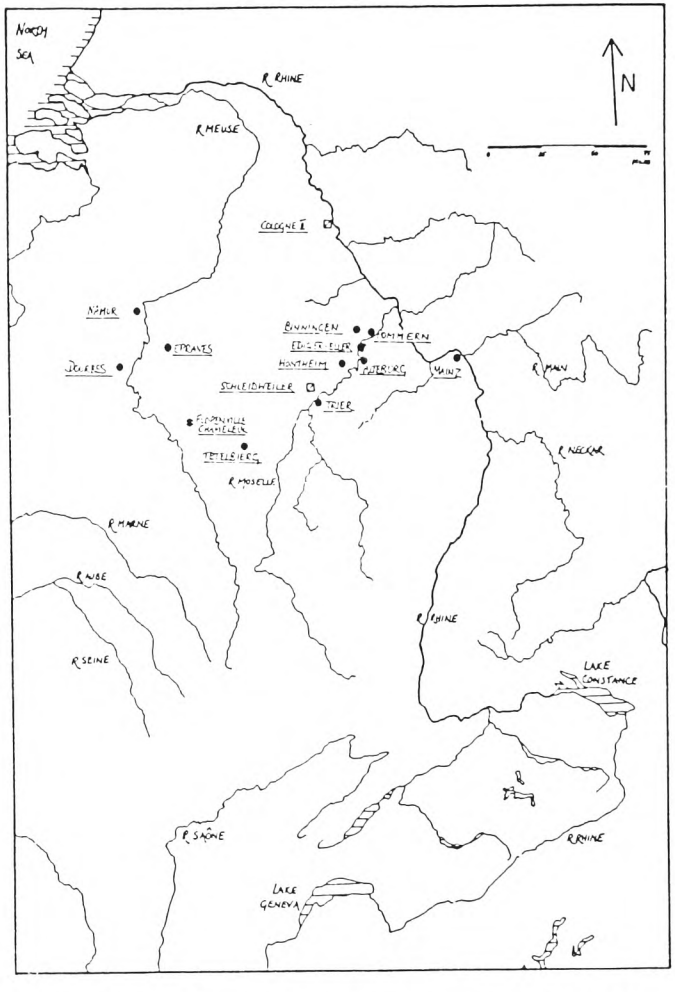
The level of Lyons issues in British finds (c.16,2% of the Aes2 Falling Horseman of 351-354 in the British hoards) proves that the absence of Lyons in N.Gaul is not simply due to low output by the mint, and G.Depeyrot records an increase in the output of Arles in the second half of 353.[19] Yet if after the final defeat of Magnentius coin supply had simply returned to what had previously been normal, then we would expect Lyons and Arles coins to be much more common in N.Gallic sites than is actually the case.

The obvious explanation for this extraordinary mint-distribution is the arrival from N.Italy of the victorious army of Constantius II in the summer of 353. This army had originally marched with Constantius II from the East in 350, and then campaigned in the Balkans in 351 and 352 before moving into N.Italy in late summer of 352. It is therefore likely that it would have been supplied with just these Italian, Balkan and Eastern issues which we have in the N. Gallic finds. Overbeck has already suggested this explanation for the Alpenrheintal finds, and the Fussach hoard in particular.[20]

If this non-Gallic coin entered circulation via the army of Constantius II and not through the channels which normally suplied N.Gaul, this would explain why the distribution of non-Gallic Aes2 Falling Horseman issues in N. Gallic sites is different from that of Trier Aes2 Falling Horseman coin. The non-Gallic coin is found mainly along the Rhine and Moselle, and did not penetrate militarily unimportant and remote areas such as Belgium (See Maps 28 & 29).



Map 28: distribution of non-Gallic Aes2 Falling Horseman, 351/354.



Map 29: distribution of Aes2 Fall-Horseman from Trier, 353/354.

☒ hoard ● site-find

It is also clear that Constantius II's army brought with it mainly new coin, for there is no corresponding increase in the levels of pre-348 Eastern and Balkan coin in post-Magnentian hoards.[21] Apart from the Falling Horseman issues of 351-354, the only other coinage to show a possible increase are the Italian Fel.Temp. issues of 348-350, which are well-represented in Cologne II, Easterton, Besthorpe and Oldcroft.[22]

354-361: the recovery of the Rhineland

In some finds it is still possible to observe the continued isolation of the Rhineland in terms of coin supply and the resulting reliance on Trier that was evident in 352-354. This is the case with the site-finds from Hontheim (a hill-top fortification which seems to have been destroyed and abandoned in this period) and with the Marscherwald hoard; all the identifiable coins struck after 354 in both finds come from Trier. However the Trier issues present in the two finds pre-date the elevation of Julian to Caesar in November 355, so that the latest datable coins in the two finds are issues of 354-355. This is important when attempting to establish the chronological development of the mint-distribution pattern after 354, since it suggests that the movement of non-Gallic coin into N.Gaul observed after the defeat of Magnentius had been a brief phenomenon, not lasting into 354-355.[23] The isolation of the Rhineland in terms of coin-supply which coincides with the Germanic invasions continued, and was broken only briefly by the arrival of non-Gallic coin with the army of Constantius II. But it must be stressed that this conclusion rests at present on the evidence of only two finds, Marscherwald and Hontheim.

However the mint-distribution pattern at Hontheim and

Marscherwald is in strong contrast to the other finds. If we combine the totals of issues of 354-358 found in N. Gallic sites (excluding Hontheim) then we have the following figures:

Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
20	6	12	11	21	5	3	16

This mint-distribution pattern is continued for the issues of 358-361. Once again adding together the site-finds we have the following figures:

Tre	Lug	Are	Aqu	Rom	Sis	East
4	3	6	1	2	1	6

a pattern which is repeated, almost exactly, at Richborough.[24]

The isolation of the Rhineland in terms of coin-supply has been totally broken, and non-Gallic mints contribute over 50% of the Aes3 Falling Horseman issues. Furthermore Marscherwald and Hontheim suggest that this change in coin-supply probably took place in 355 at the earliest.[25]

It is also clear that this new mint-distribution pattern is not the result of a general East-to-West coin movement since this situation is not paralleled elsewhere in the West. The British hoards, as well as British sites other than Richborough are completely different, drawing their coin from no further East than Italy.[26] Similarly the Alpenrheintal sites have no Eastern coin, although as ever the Balkan mints are represented there, and at Carnuntum the level of Eastern coin drops to 14,9% in 354-358, and then to 11,3% in 358-361, lower than in any previous period in the fourth century.[27] Even at Conimbriga, where Eastern coin had always played an important part, it becomes relatively scarce totalling only 27,2% of all issues of 354-358, although this figure rises significantly to 51,1% for 358-361.

Thus there is clearly no question of a general East-to-West coin movement. The phenomenon seems to be limited

to an area stretching from the North Sea to Vindonissa, and to Richborough.[28]

The arrival of this non-Gallic coin in N.Gaul is even more remarkable, since it seems to have happened at a time when new coin was extremely rare throughout the entire area and when the Rhineland was chronically depressed and devastated in the wake of the German invasions.[29]

The possibility that the coin movement belongs to a later period when the situation along the Rhine was once more stable can also be excluded; for example that it took place during the Valentinianic period after 364. If that were the case Balkan and Eastern coin of 361-364 should be found in N.Gaul, yet no Balkan and only one or possibly two Eastern coins (Alzey - 1?, Speyer - 1) are recorded in the sites studied.[30] Furthermore the Eastern Falling Horseman issues of 354-358 are already present in the Mainz III hoard which contains no coins struck later than 358.

We have then a situation where non-Gallic coin of 354-361 suddenly arrives during the period 355-364 in large quantities on the Rhine from Vindonissa to the N.Sea and at Richborough. Furthermore this is not linked to a general tendency of coin to move from the East to the West in these years. A comparison of the mint-distribution pattern in N.Gaul with that found in Britain and W.Switzerland for the period 354-361 also reveals that this peculiar coin-movement is not the result of a normal and sound economy drawing coin from new areas in order to make up for the deficit caused by the closure of Trier in 354/5.[31] Britain had been virtually untouched by the troubles of 350-355 and compensated by drawing coin mainly from Lyons, while in W.Switzerland , which was secured by Constantius II in his campaigns of 354-356, Arles became the most important supplier of coin, a sharp contrast to the situation in N. Gaul.[32]

To a certain extent the levels of non-Gallic coin are simply the product of the lack of Gallic coin along the Rhine; whereas the absolute amount of non-Gallic coin in 354-361 shows no increase over, for example, 341-348, the percentage does increase since the total number of coins of

354-361 in Gallic finds is so low. It is as if two basic types of mechanism were suppling coin to N.Gaul:

a) official supply policy, and

b) coin movement, whether via trade, troop transfers, or whatever, which brought in coin from more distant mints.

Mechanism a) seems to have broken down in N.Gaul in 354-361 cutting the supply of coin from the Gallic mints, but b) was still functioning, drawing non-Gallic coin into the area. The breakdown in a) has already been examined in Chapter 1 and attributed to the depressed state of the Rhineland in the aftermath of the German invasions. This same depression must also have disrupted trade since there will have been virtually nobody left in the area to ply trade.[33] So what aspect of mechanism b) was still functioning and attracting non-Gallic coin? Furthermore why was this apparently not functioning in Britain and the Alpenrheintal?

The occurence of this non-Gallic coin coincides with the presence of Julian here in 355-361, and the distribution of above all the Eastern coin coincides with the area in which he was active; created Caesar in November 355, he arrived in N.Gaul in 356, campaigned along the Rhine from East Holland to Strasbourg until 360, and in 361 conducted a tour of inspection of the defences along the entire length of the Rhine before marching East to face Constantius II in 361.[34]

It is not possible to link the coin-movement to any particular troop reinforcements from outside Gaul arriving on the Rhine.[35] Perhaps the solution is to be found in links to and from the court of Julian, with the movement of personnel that such links imply, and more specifically links to Constantius II's court which was in Italy until 357, before moving to the Danube and then to the East.[36]

The lack of Eastern coins in the Alpenrheintal would also be explained by the military situation, for although the area was the scene of major operations from 354 to 356, in Spring 357 Constantius II left N.Italy and marched to the Danube. Thereafter the centre of operations clearly moved to the Middle and Lower Rhine where Julian was cam-

paigning.[37] The situation in Britain is discussed below.

The Relationship between Britain and N.Gaul

Whereas until the closure of the London mint in 325 the mint-distribution on British sites is distinguished from that found in N.Gaul by a much heavier reliance on London coin, from 330 to 350 Britain and N.Gaul share the same pattern. But with the opening of the new mint at Amiens in 350, the British and Rhenish patterns diverge once more, and a substantial part of the output of Amiens went into circulation in Britain leading to a significant drop in the importance of Trier there.[38]

However after 350 there is a conflict between the evidence of the hoards, which are mainly post-Magnentian, and the Richborough site-finds, which is the only one of the five British sites studied to produce any reliable statistics for these years. The hoards show Amiens running ahead of Trier for the 2-Victories issues of 351-352, but in Richborough the pattern is reversed. Furthermore some of the hoards (Besthorpe, Oldcroft, Heslington and Lydney Park I), and to a lesser extent the Bath site-finds, have important elements of Lyons Salus-issues of 352-353, as well as Lyons and Amiens Aes2 Falling Horseman of 353-354. These elements are not present at Richborough.

A similar phenomenon was noted on a smaller scale by R.Reece, who compared Richborough with other British site-finds. He observed differences similar to those recorded above between Richborough and the hoards, although by no means so pronounced (Table 7) . Thus for example, in 350-353 Richborough has more Trier and less Lyons coins than the other sites, although it must be stressed that this very small variation is of only limited statistical significance.

Apparently Richborough enjoyed a mint-distribution

pattern that lies somewhere between that found elsewhere in Britain and the pattern found in N.Gaul. This would suggest a very close link between S.E.England and the Rhine, and may also explain why the Croydon hoard has a mint-distribution closer to that of Richborough than to that found in the other British hoards. Croydon would have had

Table 7. Reece (1978): mint distribution 350-353.

	Amb	Tre	Lug	Are	Aqu	Rom	Others
Richborough	22%	48%	18%	1,1%	1,1%	1,1%	8,5%
Other British sites	23%	42%	23%	8,2	-	0,9%	3,9%

(These figures are based on a sample of 93 coins from Richborough and 113 from other sites.)

a source of supply similar to Richborough, being only some 50 miles away, whereas the other hoards come from areas of North and West England which seem to have been supplied with coin from different sources, as is indicated by the hoards and Reece's analysis of the site-finds in Table 7.

The link between Richborough and the Rhine is even more marked in the following years, 354-358. Richborough has a mint distribution typical of N.Gaul, drawing on a wide range of mints, but the British hoards and the Bath site-finds rely mainly on Lyons. This corresponds once more with Reece's comparison of Richborough and other British site-finds for the period 355-360 (Table 8).

Table 8. Reece (1978): mint-distribution 355-360.

	Tre	Lug	Are	Aqu	Rom	Sis	East
Richborough	18,2%	-	18,2%	-	31,8%	-	31,8%
Other British sites	2,8%	83,8%	8,3%	-	5,6%	-	-

(These figures are based on a sample of 22 coins from Richborough and 36 from other sites.)

This close connection between the Richborough and the N.Gallic patterns is probably related to Richborough's position as one of the most important ports in S.E. England and its proximity to the Rhine. There were two occasions in this period when particularly close links existed between Britain and S.Gaul; in 359 when Julian organised the shipment of grain from Britain to the Rhine and 360 when Lupicinus was dispatched from Gaul to deal with problems in Britain.[39] However these links did not extend to all of Britain, and apart from very occasional coins from Italian mints, non-Gallic coin is not found outside Richborough, although with the caveat that the sample available is still very small. The rest of Britain was apparently supplied with new coin by a different route to N.Gaul, and relied mainly upon Lyons. However the absolute numbers of Lyons coins are very small, and this, combined with the fact that the non-Gallic coin did not penetrate far into Britain, serves to emphasise how cut off and isolated the province was.

After 364 the close connection between Richborough and the Rhineland is no longer apparent, and the mint-distribution pattern is consistent throughout the British finds. Trier was unable to reassert itself as the main supplier of coin and Britain continued to rely on the new sources it had found in 354-361, Lyons and above all Arles.

The relationship between Switzerland and the Lower and Middle Rhine

The lack of published sites between Rheinzabern and W.Switzerland prevents a detailed study of the transition in the mint-distribution pattern between these areas. However in 318-351 W.Switzerland is closely related to the Middle and Lower Rhine sites, following very similar trends in mint distribution, although the dominance of Trier is less marked at the W.Swiss sites.

Further up the Rhine, in the sites of the Alpenrheintal, there is a clear break in the mint distribution; the supply is different from Vindonissa and Mont Terri, relying much more heavily on Italian, Balkan and Eastern mints.[40] The reason for this difference is certainly in part geographical; the two regions are separated from one another by the peripheral ranges of the Alps running southwest from Lake Constance, and the Alpenrheintal enjoys better communications with Italy and the Upper Danube than does W.Switzerland. But another factor probably also plays an important part, for the boundary between the Dioceses of Italia and Galliae ran between Vindonissa and the Alpenrheintal. Which of the two factors was the more important, the geographical or the administrative, cannot be determined until more sites have been studied to see how mint-distribution pattern varies elsewhere on either side of geographical and diocesan boundaries.

Perhaps the most surprising aspect of the W.Swiss mint-distribution pattern is the importance of Arles in 354-361. Lyons was in fact the closest mint to the area and in 351-352, when Trier was no longer supplying coin to W.Switzerland in quantity, Lyons filled the gap. Similarly in 364-378, although Arles was the most important mint on the Middle and Lower Rhine, Lyons was still dominant at Vindonissa. However in 354-358, although Lyons was striking heavily enough to be the most important mint in Britain, it seems to have made only a minor contribution to the coin in circulation in W.Switzerland, the majority of the new coin being drawn from Arles. The same pattern continues at Vindonissa in 358-361, although Lyons provides most of the coin at Kaiseraugst, where however the coin-series is too small in 358-361 to be of much statistical value.

This implies that in 354-358, and maybe in 358-361 also, there was a definite coin-supply policy whereby coin from Lyons moved Northwest and reached Britain, while part of the production of Arles went to W.Switzerland, a surprising policy in view of the fact that the main routes from Arles to W.Switzerland pass through Lyons.

4. Conclusions

Circulation pools

Throughout an area stretching from the North Sea to the Pfalz, the coin of each period was drawn from the same mints, resulting in a remarkably consistent mint-distribution pattern. Even in Trier the presence of the Imperial mint makes very little difference, and its products are only slightly more common in the city itself than in the surrounding areas.

Certainly there are some exceptions to this remarkable uniformity; for example in 330-341 coin from Arles is more common along the Moselle than it is elsewhere, and during the same period Eastern coinage is more common on the Middle than on the Lower Rhine. However such irregularities are minor and may sometimes be due to sample error, particularly in periods when coin is relatively scarce. On the whole the Lower and Middle Rhine, as well as adjacent regions, seem to form an area throughout which there was a uniform pool of coin of any given period as reflected in the mint-distribution.

Furthermore even very small coin-series tend to reveal this normal mint-distribution pattern, which implies that a coin-series does not have to be very large in order to be reliable.

After the closure of London in 325 Britain was part of this N.Gallic "pool" until 350, when events relating to the usurpation of Magnentius and the ensuing crises led most of Britain to draw its coin from sources not open to the Rhineland. This situation continued into the Valentinianic period.

The boundary of the N.Gallic "pool" on the Upper Rhine cannot be determined because of the lack of published sites between the Pfalz and Switzerland. In West Switzerland the mint distribution is clearly different to, but follows the same general trends as, the N.Gallic "pool", while in the Alpenrheintal we see a completely separate circulation unit, relying much more heavily on non-Gallic mints.

Speed of coin movement

Within N.Gaul not only is the mint-distribution pattern in the site-finds constant, but also the mint distribution of individual issues remains constant over long periods of time; for example the element of 318-330 coin found in certain hoards of 354-358 (Marscherwald, Mainz III, Simmern and Bockenau) has the same mint distribution as the 318-330 coin in the Gallic site-finds. This implies that the mint-distribution pattern established itself soon after the issues entered circulation and that thereafter no great movements of coin seem to have taken place.

When large scale movements of coin can be identified, they seem to have taken place soon after the striking of the coin. Thus the Eastern issues of 351-354 are already present in hoards of 353-354, and this East-to-West coin movement in 353-354 does not seem to have involved coin struck before 350. Similarly the non-Gallic issues of 354-361 seem to have arrived in Gaul before 364.

Since the issues of 350-353 can be so closely dated, they are particularly helpful in establishing the speed with which coin moved after entering ciculation. As a result we have a series of hoards about which we can say that even the most recent issues are drawn from as wide a range of mints as they ever could be; in other words coin moved soon after striking and thereafter circulated locally. For example in the Metternich hoard, which has a terminal date of 350, the issues of 350 are divided as follows:

Trier 72%, Lyons 24%, Arles 4%

The figures compare well with site-finds which had much more time to draw on coin of 350 from various sources.

Similarly it was seen in Chapter 1 that the people who sought safety from the German invasions in the hill-top refuges which were destroyed in 351-355 took with them predominantly new coin.[41]

Reasons for coin movement.

Throughout the period 318-378 it is possible to establish a link between the movement of coin in N.Gaul and political or administrative development. For example the division of the Empire after the death of Constantine the Great coincides with a drop in coin movement, a situation reversed when the Empire was reunified under Constantius II. More particularly the arrival of the army of Constantius II in the West in 353 was accompanied by a large scale movement of non-Gallic coin into N.Gaul, and when Julian was present along the Rhine the supply of coin to the area was perhaps influenced by important links with the court of Constantius II further to the East. The devastation of the German invasions of 351-355 also affected the coin-supply in N.Gaul, isolating the frontier areas and reducing the level of coin movement.

On the whole no evidence could be discovered to support the assumption that trade was an important factor in coin movement in N.Gaul; proportionally less coin was imported into the area at a time of stability, 341-350, and more at a time of depression, 353-361, the opposite to what would be expected if trade were an important factor.

On the other hand it is clear from the Conimbriga site-finds that trade could play an extensive role in the movement of coin; in some periods Conimbriga draws as much as half of its coin from mints in the Eastern part of the Empire. However as J.Kent points out "the feature of the Spanish money-supply that distinguishes it from those of the northern provinces is its strongly Mediterranean character...The importance of the sea-routes to Spain is clear."[42] So too large amounts of Roman bronze coin reached S.India and Sri Lanka via trade across the Indian Ocean.[43] But in antiquity sea-transport was much more economical and faster than land-transport, and so it is not surprising that the Iberian peninsula should have enjoyed such strong trading links with the rest of the Mediterranean world. Such links however are not to be expected on the land-locked norther frontiers, and trade can never have

played such an important role in long-distance coin movement there. Furthermore Spain was not a particularly important military or administrative area at this time; in contrast the Rhineland was an important frontier area and often the residence of the Emperor and his court. It is therefore not surprising that coin-movement in N.Gaul seems to have been generally linked to political and administrative matters.

On the other hand local trade may have been an important factor in ensuring that the coin in circulation was as well mixed as the consistent mint-distribution pattern in N.Gaul suggests.

TABLE 9 Mint distribution, 318-33o

SITES										
BRITAIN	Lon	Tre	Lug	Are	Tic	Aqu	Rom	Sis	Sir	East
WINT HILL	5 31,2	9 56,3	1 6,3	1 6,3	-	-	-	-	-	-
PORTCHESTER	11 21,2	28 53,8	5 9,6	1 1,9	3 5,8	-	-	1 1,9	-	3 5,8
LINCOLN	11 33,3	15 45,5	2 6,1	1 3,o	-	-	1 3,o	2 6,1	-	1 3,o
RICHBOROUGH	113 21,2	333 62,6	3o 5,6	19 3,6	9 1,7	4 o,8	3 o,6	4 o,8	-	17 3,2
average	26,8	54,6	6,9	3,7	1,9	o,2	o,9	2,2	-	3,o
BELGIUM+ARDENNES										
DOURBES	3 1o,3	15 51,7	3 1o,3	2 6,9	1 3,5	-	1 3,5	-	-	4 13,8
FLORENVILLE	-	8 8o	1 1o	-	-	-	-	-	-	1 1o
MATAGNE	-	2o 71,4	4 14,3	2 7,1	-	-	-	1 3,6	-	1 3,6
NAMUR-SAMBRE	6 16,7	21 58,3	1 2,8	3 8,3	1 2,8	-	-	2 5,6	-	2 5,6
average	6,8	65,4	9,4	5,6	1,6	-	o,9	3,2	-	9,1
N. FRANCE										
CONDE-SUR-AISNE	5 31,3	4 25	4 25	-	-	1 6,3	-	2 12,5	-	-

LUXEMBOURG	Lon	Tre	Lug	Are	Tic	Aqu	Rom	Sis	Sir	East
DALHEIM "A"	47 13,5	215 61,6	24 6,9	17 4,9	17 4,9	2 o,6	3 o,9	13 3,7	-	11 3,2
DALHEIM (Cellar)	1 5,3	13 68,4	2 1o,5	1 5,3	1 5,3	-	1 5,3	-	-	-
STEINSEL	1 5,3	16 84,2	1 5,3	-	-	-	-	-	-	1 5,3
TETELBIERG	12 1o,9	66 6o	12 1o,9	2 1,8	6 5,5	1 o,9	1 o,9	3 2,7	-	7 6,4
WIDDEBIERG	2 6,3	18 56,3	4 12,5	1 3,1	2 6,3	-	2 6,3	2 6,3	-	1 3,1
average	9,o	67,o	8,9	2,5	4,2	o,4	2,o	3,2	-	4,5
LOWER RHINE										
KREFELD	3 5,3	37 64,9	8 14,o	2 3,5	2 3,5	-	2 3,5	-	-	3 5,3
DEUTZ	2 14,3	8 57,1	2 14,3	1 7,1	-	-	1 7,1	-	-	-
MOSELLE										
TRIER	2 3,5	4,2 73,7	6 1o,5	2 3,5	1 1,8	-	-	1 1,8	-	3 5,3
L. MOSELLE										
HONTHEIM	7 6,9	52 51,5	11 1o,9	7 6,9	2 2	2 2	2 2	5 5	-	13 12,9
ALTEBURG	5 13,5	16 43,2	4 1o,8	5 13,5	1 2,7	-	-	3 8,1	1 2,7	2 5,4
POMMERN	1 7,1	9 64,3	2 14,3	-	1 7,1	-	1 7,1	-	-	-
EDIGER-ELLER	-	6 5o,o	1 8,3	2 16,7	-	-	-	1 8,3	-	2 16,7
average	6,9	52,3	11,1	9,3	3,o	o,5	2,3	5,4	o,7	8,8

RHEINHESSEN	Lon	Tre	Lug	Are	Tic	Aqu	Rom	Sis	Sir	East
BINGEN	1 7,1	8 57,1	2 14,3	2 14,3	-	-	-	-	-	1 7,1
KREUZNACH "B"	1 9,1	8 72,7	1 9,1	1 9,1	-	-	-	-	-	-
MAINZ "A"	6 7,8	36 46,8	11 14,3	2 2,6	6 7,8	2 2,6	3 3,9	3 3,9	1 1,3	7 9,1
MAINZ "B"	6 17,6	23 67,6	2 5,9	-	1 2,9	-	-	-	-	2 5,9
ALZEY "A"	11 14,7	5o 66,7	3 4,o	2 2,7	3 4,o	-	3 4,o	1 1,3	-	2 2,7
average	8,9	62,8	1o,7	5,7	2,9	o,5	1,6	1,o	o,3	5,o
PFALZ										
RHEINZABERN "A"	1 4,2	21 87,5	-	-	1 4,2	-	-	1 4,2	-	-
RHEINZABERN "B"	2 18,2	5 45,5	1 9,1	-	-	-	1 9,1	2 18,2	-	-
WALDFISCHBACH	3 13,o	13 56,5	-	4 17,4	1 4,3	-	-	1 4,3	-	1 4,3
SPEYER	2 3,7	37 68,5	4 7,4	3 5,6	-	-	-	4 7,4	1 1,9	3 5,6
PACHTEN	2 7,7	18 69,2	2 7,7	-	2 7,7	-	-	2 7,7	-	-
average	9,4	65,4	4,8	4,6	3,2	-	1,8	8,4	o,4	2,o
W. SWITZERLAND										
VINDONISSA	13 11,5	47 41,6	8 7,1	9 8,o	8 7,1	3 2,7	6 5,3	14 12,4	1 o,9	4 3,5
MONT TERRI (Berne)	-	3 25,o	2 16,7	1 8,3	1 8,3	-	-	2 16,7	1 8,3	2 16,7

ALPENRHEINTAL	Lon	Tre	Lug	Are	Tic	Aqu	Rom	Sis	Sir	East
BREGENZ	-	5 45,5	1 9,1	1 9,1	-	-	1 9,1	3 27,3	-	-
OTHER SITES										
ARLES	2 9,1	7 31,8	1 4,5	3 13,6	1 4,5	1 4,5	-	4 18,2	-	3 13,6
CONIMBRIGA	3 5,5	12 21,8	2 3,6	1o 18,2	3 5,5	1 1,8	6 1o,9	5 9,1	1 1,8	12 21,8
CARNUNTUM	4 1,2	13 3,9	3 o,9	2o 6,o	35 1o,4	6 1,8	4 1,2	126 37,6	2 o,6	122 36,4
HOARDS										
BENGEL II	-	14 73,7	2 1o,5	1 5,3	1 5,3	-	1 5,3	-	-	-
MACKWILLER	1 2,9	2o 57,1	5 14,3	2 5,7	2 5,7	-	1 2,9	1 2,9	-	3 8,6
COLOGNE I	1 1o	5 5o	4 4o	-	-	-	-	-	-	-
COLOGNE II	15 9,9	75 49,3	21 13,8	8 5,3	3 2,o	2 1,3	5 3,3	4 2,6	-	19 12,5
MASCHERWALD	2 1,8	73 66,9	13 11,9	7 6,4	3 2,8	-	1 o,9	3 2,8	-	7 6,4
SIMMERN	24 5,8	257 62,4	36 8,7	24 5,8	2o 4,9	7 1,7	13 3,2	11 2,7	-	2o 4,9
RHEINZABERN IIIa	5 1o,2	34 69,4	3 6,1	5 1o,2	1 2,o	-	-	1 2,o	-	-
MAINZ II	2 5,4	26 7o,2	5 13,5	1 2,7	-	-	1 2,7	1 2,7	-	1 2,7

TABLE 1o Mint distribution 33o-341

BRITAIN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
WINT HILL	42 65,6	8 12,5	12 18,8	-	-	1 1,6	1 1,6
PORTCHESTER CASTLE	63 66,3	17 17,9	1o 1o,5	-	4 4,2	-	1 1,1
LINCOLN	62 65,3	16 16,8	11 11,6	1 1,1	1 1,1	2 2,1	2 2,1
RICHBOROUGH	1175 62,5	387 2o,6	155 8,2	9 o,5	41 2,2	36 1,9	77 4,1
average	64,9	17,o	12,3	o,4	1,9	1,4	2,2
BRITAIN: HOARDS							
GADEBRIDGE PARK	28 75,7	7 18,9	1 2,7	1 2,7	-	-	-
HANHAM	6 6o,o	2 2o,o	2 2o,o	-	-	-	-
COLESHILL	426 66,4	83 12,9	73 11,4	16 2,5	19 2,9	5 o,8	2o 3,1
BESTHORPE	171 65,8	44 16,9	27 1o,4	1 o,4	9 3,5	2 o,8	6 2,3
HESLINGTON	81 54,o	31 2o,7	22 14,7	-	5 3,3	1 o,7	1o 6,6
OLDCROFT	8o 67,2	11 9,2	19 16,o	-	3 2,5	2 1,7	4 3,4
average	64,9	16,4	12,5	o,9	2,o	o,7	2,6
BELGIUM+ARDENNES: SITES							
CHATEAU RENAUD	19 59,4	1 3,1	4 12,5	-	2 6,3	1 3,1	5 15,6
DOURBES	22o 66,1	43 12,9	35 1o,5	3 o,9	13 3,9	3 o,9	16 4,8
EPRAVE	26 74,3	4 11,4	2 5,7	-	2 5,7	-	1 2,9

	Tre	Lug	Are	Aqu	Rom	Sis	East
FALAËN	12 63,2	5 26,3	-	-	1 5,3	-	1 5,3
FLORENVILLE	12 46,2	8 3o,8	2 7,7	-	1 3,8	1 3,8	2 7,7
FURFOOZ	18 69,2	1 3,8	4 15,4	-	1 3,8	2 7,7	-
LIBERCHIES	29 5o,9	9 15,8	13 22,8	-	4 7,o	1 1,8	1 1,8
MATAGNE	29 69,o	6 14,3	5 11,9	-	2 4,8	-	-
MONT DIEU	5 27,8	2 11,1	4 22,2	-	3 16,7	1 5,6	2 11,1
NAMUR-SAMBRE	5o 63,3	11 13,9	1o 12,7	1 1,3	2 2,5	1 1,3	4 5,1
VIREUX	2o 64,5	4 12,9	3 9,7	-	-	-	4 12,9
average	59,4	14,2	11,9	o,2	5,4	2,2	6,1
N. FRANCE : SITE							
CONDE-SUR-AISNE	11 57,9	4 21,1	2 1o,5	-	-	1 5,3	1 5,3
LUXEMBOURG: SITES							
ALTRIER	1o 66,7	2 13,3	1 6,7	-	1 6,7	-	1 6,7
ASPELT	8 53,5	3 2o,o	2 13,3	1 6,7	1 6,7	-	-
DALHEIM "A"	827 62,8	219 16,6	147 11,2	13 1,o	49 3,7	17 1,3	45 3,4
DALHEIM "B"	33 71,7	4 8,7	6 13,o	-	-	-	1 2,2
DALHEIM (Cellar)	45 69,2	1o 15,4	5 7,7	1 1,5	-	-	4 6,2
STEINSEL	63 64,9	15 15,5	11 11,3	1 1,o	3 3,1	2 2,1	2 2,1

	Tre	Lug	Are	Aqu	Rom	Sis	East
TETELBIERG	2o9 65,1	53 16,5	27 8,4	6 1,9	12 3,7	5 1,6	9 2,3
WIDDEBIERG	86 66,7	22 17,1	11 8,5	2 1,6	2 1,6	1 o,8	5 3,9
average	62,9	16,7	11,2	1,5	3,2	o,7	3,1
LOWER RHINE: SITES							
KREFELD	333 65,2	87 17,o	61 11,9	7 1,4	7 1,4	5 1,o	11 2,2
COLOGNE	52 59,8	2o 23,o	5 5,8	-	5 5,8	1 1,1	4 4,6
DEUTZ	34 42,o	21 25,9	14 17,3	3 3,7	3 3,7	2 2,5	4 4,9
average	55,7	22,o	11,7	1,7	3,6	1,5	3,9
LOWER RHINE: HOARDS							
METTERNICH	756 49,7	295 19,4	219 14,4	27 1,8	113 7,4	12 o,8	99 6,3
COLOGNE II	18 78,3	3 13,o	1 4,3	-	-	-	1 4,3
MARSCHERWALD	12 66,7	1 5,5	4 22,2	-	1 5,5	-	-
COLOGNE III	8 61,5	4 3o,8	1 7,7	-	-	-	-
COLOGNE IV	8 66,7	-	1 8,3	-	1 8,3	1 8,3	1 8,3
COLOGNE VI	13 76,5	1 5,9	1 5,9	-	-	-	2 11,8
average	66,9	12,4	1o,1	o,5	3,o	1,3	4,o
MOSELLE: SITE							
TRIER	15o 68,2	31 14,1	17 7,7	2 o,9	4 1,8	5 2,3	11 5,o

LOWER MOSELLE: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
ALTEBURG	35 61,4	4 7,o	12 21,1	-	1 1,8	2 3,5	3 5,3
HONTHEIM	34 47,9	11 15,5	13 18,3	2 2,8	1 1,4	6 8,5	4 5,6
BINNINGEN	11 55	4 2o	4 2o	-	-	-	1 5
POMMERN	43 69,4	7 11,3	8 12,9	-	1 1,6	1 1,6	2 3,2
EDIGER-ELLER	18 6o,o	4 13,3	4 13,3	-	1 3,3	1 3,3	2 6,7
average	56,9	13,4	16,5	o,6	1,6	3,4	5,o
LOWER MOSELLE: HOARDS							
BENGEL II	21 67,8	2 6,5	6 19,3	-	-	-	2 6,5
REIL	56 62,2	17 18,9	1o 11,1	2 2,2	2 2,2	-	3 3,3
average	65,o	12,7	15,2	1,1	1,1	-	4,9
KOBLENZ AREA: SITES							
KOBLENZ	18 52,9	4 11,8	8 23,5	-	2 5,9	-	2 5,9
ANDERNACH	15 55,6	7 25,9	4 14,8	-	-	-	1 3,7
average	54,3	18,9	19,2		3,o		4,8
RHEINHESSEN: SITES							
KREUZNACH "B"	32 71,1	6 13,3	2 4,4	-	1 2,2	1 2,2	3 6,7
MAINZ "A"	31 59,6	5 9,6	5 9,6	-	2 3,8	1 1,9	8 15,4
MAINZ "B"	57 66,3	1o 11,6	9 1o,5	1 1,1	3 3,5	-	6 7,o

	Tre	Lug	Are	Aqu	Rom	Sis	East
ALZEY "A"	53 57,o	9 9,7	2o 21,5	3 3,2	2 2,2	3 3,2	3 3,2
ALZEY "B"	9 64,3	2 14,3	1 7,1	-	-	1 7,1	1 7,1
average	63,7	11,7	1o,6	o,9	2,3	2,9	7,9
MIDDLE RHINE: HOARDS							
BOCKENAU	12 7o,6	1 5,9	3 17,7	-	-	1 5,9	-
SIMMERN	12 46,2	5 19,2	2 7,7	-	2 7,7	1 3,8	4 15,4
PERSCHEID	42 53,8	9 11,5	9 11,5	1 1,3	6 7,7	4 5,1	7 9,o
MAINZ II	14 48,3	5 17,2	3 1o,3	-	1 3,4	3 1o,3	3 1o,3
average							
PFALZ: SITES							
KREIMBACH	38 64,4	5 8,5	3 5,1	2 3,4	2 3,4	4 6,8	5 8,5
KINDSBACH	12 7o,6	2 11,8	-	-	-	2 11,8	1 5,9
LEMBERG	27 67,5	4 1o,o	6 15,o	-	-	1 2,5	2 5,o
WALDFISCHBACH	39 66,1	6 1o,2	4 6,8	1 1,7	4 6,8	3 5,1	2 3,4
SPEYER	3o 65,2	5 1o,9	4 8,7	-	1 2,2	-	6 13,o
RHEINZABERN "A"	39 59,1	12 18,2	3 4,5	2 3,o	3 4,5	3 4,5	4 6,1
RHEINZABERN "B"	27 65,9	4 9,8	6 14,6	-	1 2,4	1 2,4	2 4,9
PACHTEN	22 61,1	4 11,1	3 8,3	-	3 8,3	3 8,3	1 2,8
average	65,o	11,3	7,9	1,o	3,5	5,2	6,2

PFALZ: HOARDS	Tre	Lug	Are	Aqu	Rom	Sis	East
MACKWILLER	6o 51,3	13 11,1	1o 8,5	4 3,4	6 5,1	1o 8,5	14 11,9
RHEINZABERN II	73 45,6	38 23,7	11 6,9	1 o,6	18 11,2	5 3,1	14 8,8
RHEINZABERN IIIa	595 53,6	235 21,2	14o 12,6	15 1,4	54 4,9	3 o,3	68 6,1
RHEINZABERN IIIb	16 72,7	1 4,5	1 4,5	-	3 13,6	-	1 4,5
average	55,8	15,1	8,1	1,4	8,7	3,o	7,8
W. SWITZERLAND: SITES							
VINDONISSA	9o 36,4	43 17,4	26 1o,5	13 5,3	19 7,7	25 1o,1	31 12,6
MONT TERRI (Berne)	21 31,3	9 13,4	16 23,9	1 1,5	3 4,5	6 8,9	11 16,4
ALPENRHEINTAL: SITES							
BREGENZ	1 6,7	1 6,7	-	3 2o,o	2 13,3	5 33,3	3 2o,o
SCHAAN-KRÜPPEL	6 18,2	6 18,2	1 3,o	1 3,o	8 24,2	-	11 33,3
CHUR	3 16,7	1 5,6	3 16,7	1 5,6	2 11,1	3 16,7	5 27,8
average	13,9	1o,2	6,6	9,5	16,2	16,7	27,o
ALPENRHEINTAL: HOARD							
WELSCHDÖRFLI II	4 13,8	2 6,9	1 3,4	4 13,8	7 24,1	3 1o,3	8 27,6

OTHER SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
ARLES	8 17,4	3 6,5	2o 43,5	1 2,2	4 8,7	1 2,2	9 19,6
CONIMBRIGA	54 12,6	36 8,4	85 19,8	2 o,5	137 31,9	1 o,2	115 26,7
CARNUNTUM	1o 1,6	8 1,3	2o 3,2	26 4,1	37 5,9	239 37,8	292 46,2
OTHER HOARDS							
FONTAINES-SALEES	1o 76,9	2 15,4	-	-	-	1 7,7	-
L'ESTRADE	22 2o,4	28 25,9	37 34,2	1 o,9	8 7,4	1 o,9	11 1o,2
REGENSBURG VIII	1 1,9	5 9,8	1 1,9	4 7,8	6 11,8	7 13,7	27 52,9

TABLE II Mint Distribution 341-348

BRITAIN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
WINT HILL	25 83,3	2 6,7	2 6,7	-	1 3,3	-	
PORTCHESTER CASTLE	1o 9o,9		-	1 9,1	-	-	
LINCOLN	3o 81,1	1 2,7	6 16,2	-	-	-	
RICHBOROUGH	537 75,5	42 5,9	88 12,4	2 o,3	4 o,6	2 o,3	36 5,1
average	82,7	7,o	3,9	o,7	o,7	o,6	1,3
BRITAIN: HOARDS							
GADEBRIDGE PARK	8 66,7	-	3 25,o	-	-	-	1 8,3
HANHAM	74 78,7	5 5,3	13 13,8	1 1,1	1 1,1	-	-
COLESHILL	9o1 83,9	84 7,8	64 5,9	6 o,6	13 1,2	5 o,5	-
BESTHORPE	1o7 91,5	6 5,1	2 1,7	-	2 1,7	-	
HESLINGTON	115 86,5	9 6,8	7 5,3	-	1 o,8	1 o,8	
OLDCROFT	39 88,6	2 4,5	1 2,3	-	-	1 2,3	1 2,3
average	82,7	4,9	9,o	o,3	o,8	o,6	1,8
BELGIUM + ARDENNES: SITES							
CHATEAU RENAUD	12 63,2	3 15,8	1 5,3		-	-	3 15,8
DOURBES	49 59,8	16 19,5	9 11,o	-	1 1,2	2 2,4	5 6,1
EPRAVE	1o 76,9	2 15,4	1 7,7	-		-	-

	Tre	Lug	Are	Aqu	Rom	Sis	East
FALAËN	9 81,9	-	1 9,1	-	-	1 9,1	-
FLORENVILLE	14 6o,9	3 13,o	3 13,o	-	2 8,7	1 4,3	-
LIBERCHIES	21 75,o	3 1o,7	4 14,3	-	-	-	-
MATAGNE	13 81,3	1 6,3	1 6,3	-	1 6,3	-	-
MONT DIEU	8 72,7	-	-	-	2 18,2	1 9,1	-
NAMUR-SAMBRE	21 72,4	3 1o,3	2 6,9	-	-	1 3,4	2 6,9
VIREUX	6 54,5	2 18,2	1 9,1	1 9,1	-	-	1 9,1
average	69,9	1o,9	8,3	o,9	3,4	2,8	2,9
N. FRANCE: SITE							
CONDE-SUR-AISNE	11 91,7	-	-	-	1 8,3	-	-
LUXEMBOURG: SITES							
DALHEIM "A"	523 72,2	7o 9,7	79 1o,9	11 1,5	25 3,5	7 1,o	9 1,2
DALHEIM "B"	23 85,2	2 7,4	1 3,7	-	1 3,7	-	-
DALHEIM (Cellar)	37 84,1	-	5 11,4	-	2 4,5	-	-
STEINSEL	37 75,5	4 8,2	4 8,2	2 4,1	2 4,1	-	-
TETELBIERG	135 76,3	12 6,8	21 11,9	2 1,1	2 1,1	1 o,6	4 2,3
WIDDEBIERG	28 87,5	2 6,3	2 6,3	-	-	-	-
average	76,7	8,2	11,2	1,1	2,1	o,3	o,6

LOWER RHINE: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
KREFELD	293 73,1	54 13,5	37 9,2	5 1,2	2 o,5	5 1,2	5 1,2
COLOGNE	4o 72,7	5 9,1	7 12,7	-	1 1,8	1 1,8	1 1,8
DEUTZ	31 83,8	2 5,4	4 1o,8	-	-	-	-
average	76,5	9,3	1o,9	o,4	o,8	1,o	1,o
LOWER RHINE: HOARDS							
METTERNICH	1598 64,2	387 15,5	339 13,6	25 1,o	77 3,1	27 1,1	32 1,4
COLOGNE II	11 91,7	-	1 8,3	-	-	-	-
COLOGNE VI	12 85,7	1 7,1	1 7,1	-	-	-	-
average	81,5	7,5	9,7	o,4	1,o	o,4	o,5
MOSELLE: SITE							
TRIER	97 84,3	8 7,o	6 5,2	1 o,9	2 1,7	-	1 o,9
LOWER MOSELLE: SITES							
HONTHEIM	24 92,3	-	2 7,7	-	-	-	-
ALTEBURG	32 88,9	2 5,6	-	-	1 2,8	-	1 2,8
EDIGER-ELLER	12 66,7	3 16,7	2 11,1	-	1 5,6	-	-
POMMERN	13 76,5	3 17,6	1 5,9	-	-	-	-
average	81,1	1o,o	6,2	-	2,1	-	o,7

LOWER MOSELLE: HOARDS	Tre	Lug	Are	Aqu	Rom	Sis	East
BENGEL II	46 82,1	5 8,9	4 7,1	-	-	1 1,8	-
REIL	119 85,6	12 8,6	3 2,2	1 o,7	1 o,7	1 o,7	2 1,4
average	83,9	8,8	4,7	o,4	o,4	1,3	o,7
KOBLENZ AREA: SITES							
KOBLENZ	19 57,6	9 27,3	2 6,1	1 3,o	1 3,o	1 3,o	-
ANDERNACH	11 73,3	2 13,3	1 6,7	-	-	1 6,7	-
average	65,5	2o,3	6,4	1,5	1,5	4,9	-
RHEINHESSEN: SITES							
KREUZNACH "B"	18 81,8	1 4,5	1 4,5	-	1 4,5	-	1 4,5
MAINZ "A"	13 72,2	2 11,1	-	-	-	-	3 16,7
MAINZ "B"	22 64,7	5 14,7	5 14,7	-	2 5,9	-	-
ALZEY "A"	17 68,o	1 4,o	2 8,o	1 4,o	1 4,o	2 8,o	1 4,o
average	71,7	8,6	6,8	1,o	3,6	2,o	6,3
MIDDLE RHINE: HOARD							
PERSCHEID	54 83,1	3 4,6	-	-	2 3,1	5 7,7	1 1,5
MAINZ II	7 41,2	4 23,5	2 11,8	-	-	2 11,8	2 11,8

PFALZ: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
KREIMBACH	4o 66,7	6 1o,o	8 13,3	-	2 3,3	2 3,3	2 3,3
LEMBERG	27 87,1	1 3,2	2 6,4	-	1 3,2	-	-
WALDFISCHBACH	19 76,o	5 2o,o	1 4,o	-	-	-	-
RHEINZABERN "A"	11 68,8	1 6,3	1 6,3	1 6,3	1 6,3	1 6,3	-
RHEINZABERN "B"	9 64,3	1 7,1	1 7,1	1 7,1	-	1 7,1	1 7,1
average	72,6	9,3	7,4	2,7	2,6	3,3	2,1
PFALZ: HOARDS							
MACKWILLER	54 72,9	7 9,5	8 1o,8	1 1,4	2 2,7	1 1,4	1 1,4
RHEINZABERN II	153 56,4	46 16,9	49 18,o	5 1,8	9 3,3	4 1,5	5 1,8
RHEINZABERN IIIa	9o4 59,9	297 19,7	214 14,2	25 1,7	46 3,o	17 1,1	6 o,4
RHEINZABERN IIIb	35 76,1	3 6,5	5 1o,9	2 4,3	-	1 2,2	-
average	66,3	13,2	13,5	2,3	2,4	1,6	o,9
W. SWITZERLAND: SITES							
VINDONISSA	4o 45,5	18 2o,5	11 12,5	5 5,7	5 5,7	4 4,5	5 5,7
MONT TERRI (Berne)	47 39,8	32 27,1	32 27,1	2 1,7	4 3,4	1 o,8	-
ALPENRHEINTAL: SITES							
SCHAAN-KRÜPPEL	5 15,6	2 6,3	8 25,o	2 6,3	9 28,1	4 12,5	2 6,3
BREGENZ	-	-	1	-	1	-	-
CHUR	-	-	1	-	-	2	1

ALPENRHEINTAL: HOARDS	Tre	Lug	Are	Aqu	Rom	Sis	East
WELSCHDÖRFLI I	3 23,1	5 38,5	3 23,1	2 15,4	-	-	-
WELSCHDÖRFLI II	2	-	-	-	3	3	-
OTHER SITES							
ARLES	6 12,8	1 2,1	39 83,o	1 2,1	-	-	-
CONIMBRIGA	24 6,3	58 15,1	114 29,8	7 1,8	29 7,6	4 1,o	147 38,4
CARNUNTUM	3 1,5	-	1 o,5	25 12,8	7 3,6	114 58,2	46 23,5
OTHER HOARDS							
REGENSBURG VIII	2 9,1	2 9,1	1 4,5	4 18,2	4 18,2	4 18,2	5 22,7
L'ESTRADE	13 12,9	29 28,7	5o 49,5	1 1,o	3 3,o	1 1,o	4 4,o

TABLE 12 Mint distribution, 348-350

BRITAIN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
RICHBOROUGH	139 85,8	13 8,0	1 0,6	3 1,9	4 2,5	1 0,6	1 0,6
BATH	152 91,0	5 3,0	1 0,6	1 0,6	8 4,8	-	-
REECE (1978)	82	6,2	2,8	3,8	3,8	0,5	1,0
BRITAIN: HOARDS							
BYARD'S LEAP.	11 73,3	-	2 13,3	1 6,7	1 6,7	-	-
WYCOMBE	15 93,8	-	1 6,2	-	-	-	-
BOXLEY WARREN	54 94,7	-	2 3,5	-	1 1,8	-	-
COBHAM PARK	168 53,2	26 8,2	36 11,4	11 3,5	71 22,5	4 1,3	-
COLESHILL	195 62,3	33 10,5	46 14,7	7 2,2	30 9,6	1 0,3	1 0,3
CROYDON	1118 63,2	179 10,1	247 13,9	40 2,3	183 10,3	1 0,1	1 0,1
EASTERTON	27 45,8	6 10,2	4 6,8	3 5,1	18 30,5	1 1,7	-
BESTHORPE	35 39,5	11 12,4	9 10,1	9 10,1	23 25,8	1 1,1	1 1,1
HESLINGTON	18 75,0	4 16,7	-	2 8,3	-	-	-
OLDCROFT	14 70,0	3 15,0	-	-	3 15,0	-	-
average	67,1	8,3	8,0	3,8	12,2	0,5	0,2
BELGIUM+ARDENNES:SITES							
DOURBES	17 81,0	2 9,5	-	2 9,5	-	-	-
NAMUR-SAMBRE	8 50,0	5 31,3	1 6,3	1 6,3	-	1 6,3	-

LUXEMBOURG: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
DALHEIM "A"	128 79,o	19 11,7	2 1,2	4 2,5	9 5,6	-	-
TETELBIERG	14 7o,o	1 5,o	2 1o,o	2 1o,o	1 5,o	-	-
WIDDEBIERG	8 57,1	2 14,3	2 14,3	1 7,1	1 7,1	-	-
average	68,7	1o,3	8,5	6,5	5,9	-	-
LOWER RHINE: SITE							
KREFELD	14 77,8	1 5,6	1 5,6	1 5,6	1 5,6	-	-
LOWER RHINE: HOARDS							
METTERNICH	14 53,8	4 15,4	6 23,1	-	2 7,7	-	-
COLOGNE II	15 21,4	15 21,4	5 7,1	14 2o,o	2o 28,6	1 1,4	-
MARSCHERWALD	25 45,5	11 2o,o	6 1o,9	5 9,1	7 12,7	1 1,8	-
average	4o,2	18,9	13,7	9,7	16,3	1,1	-
MOSELLE: SITE							
TRIER	17 77,3	1 4,5	1 4,5	1 4,5	1 4,5	-	1 4,5
LOWER MOSELLE: SITES							
HONTHEIM	32 71,1	6 13,3	1 2,2	2 4,4	4 8,9	-	-
ALTEBURG	2o 55,6	7 19,4	1 2,8	3 8,3	5 13,9	-	-
RHEINHESSEN: SITE							
MAINZ "A"	4 3o,8	3 23,1	2 15,4	2 15,4	-	-	2 15,4
MIDDLE RHINE: HOARD							
BOCKENAU	3 25,o	4 33,3	2 16,7	1 8,3	1 8,3	-	1 8,3

PFALZ: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
RHEINZABERN "A"	6 5o,o	2 16,7	-	-	4 33,3	-	-
KREIMBACH	16 59,3	4 14,8	2 7,4	1 3,7	4 14,8	-	-
LEMBERG	6 42,9	2 14,3	1 7,1	2 14,3	3 21,4	-	-
WALDFISCHBACH	15 75,o	2 1o,o	-	1 5,o	2 1o,o	-	-
average	56,8	14,o	3,6	5,8	19,9	-	-
PFALZ: HOARDS							
LINGENFELD	16 94,1	-	-	-	1 5,9	-	-
RHEINZABERN II	2 15,4	1 7,7	-	-	1o 76,9	-	-
MACKWILLER	55 71,4	2 2,6	8 1o,4	7 9,1	3 3,9	2 2,6	-
VILLING	1o 29,4	12 35,3	5 14,7	-	7 2o,6	-	-
average	52,6	13,4	4,3	2,3	26,8	o,7	-
UPPER RHINE: HOARD							
STRASBOURG	27 52,9	1 2,o	2 3,9	-	-	21 41,2	-
W. SWITZERLAND: SITES							
VINDONISSA	13 59,1	3 13,6	1 4,5	4 18,2	1 4,5	-	-
MONT TERRI (Berne)	12 52,2	3 13,o	4 17,4	1 4,3	3 13,o	-	-
MONT TERRI (Basle)	9 64,3	3 21,4	1 7,1	-	1 7,1	-	-
average	58,5	16	9,7	7,5	8,2	-	-
W. SWITZERLAND: HOARD							
BASSECOURT	1o 45,5	1 4,5	5 22,7	1 4,5	3 13,6	1 4,5	1 4,5

ALPENRHEINTAL: SITES	Tre	Lug	Are	Aqu	Rom	Sis	East
BREGENZ	1	1	1	1	-	1	-
SCHAAN-KRÜPPEL	4	1	-	1	-	1	-
BALZERS-GUTENBERG	-	-	-	-	-	1	1
CHUR	-	-	-	1	4	-	-
ALPENRHEINTAL: HOARDS							
PIZOKEL	1 7,7	2 15,4	1 7,7	2 15,4	7 53,8	-	-
FUSSACH	3	-	1	-	-	3	2
OTHER SITES							
CONIMBRIGA	2 14,3	2 14,3	9 64,3	-	1 7,1	-	-
CARNUNTUM	1 0,7	-	2 1,5	9 6,6	4 2,9	94 69,1	26 19,1
OTHER HOARD							
REGENSBURG VIII	1 11,1	-	-	4 44,4	1 11,1	-	3 33,3

TABLE 13 Mint distribution 35o

BRITAIN: SITES	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
BATH	-	8	1	-	-	-	-	-
PORTCHESTER CASTLE	-	1	1	-	-	-	-	-
RICHBOROUGH	4 12,5	15 46,9	11 34,4	1 3,1	-	1 3,1	-	-
BRITAIN: HOARDS								
SKELLOW	-	3	-	2	-	-	-	-
BYARD'S LEAP	-	6	-	3	-	-	-	-
WYCOMBE	1 4,8	14 66,7	3 14,3	3 14,3	-	-	-	-
BERKSHIRE	-	5	-	1	-	-	-	-
COBHAM PARK	17 4,9	186 53,6	116 33,4	28 8,1	-	-	2???	-
BOXLEY WARREN	-	4	-	1	-	-	-	-
COLESHILL	27 7,3	222 6o,2	93 25,2	27 7,3	-	-	-	-
CROYDON	39 5,8	458 66,8	12o 17,5	62 9,o	-	4 o,6	2 o,3	-
EASTERTON	2 8,7	13 56,5	7 3o,4	1 4,3	-	-	-	-
BESTHORPE	2 4,2	29 6o,4	12 25,o	5 1o,4	-	-	-	-
HESLINGTON	-	8 66,7	3 25,o	-	-	-	1 8,3	-
OLDCROFT	-	8 32,o	17 68,o	-	-	-	-	-
average	4,5	57,9	29,9	6,7		o,1	o,1	

BELGIUM+ARDENNES	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
CHATEAU-RENAUD	-	3	-	-	-	-	-	-
DOURBES	-	5	-	-	-	-	-	-
EPRAVES	-	1	-	1	-	-	-	-
FALAEN	-	1	1	-	-	-	-	-
FLORENVILLE	-	3	-	-	-	-	-	-
FURFOOZ	-	4	-	-	-	-	-	-
MATAGNE-LA-GRANDE	-	1	-	-	-	-	-	-
NAMUR-SAMBRE	-	4	-	-	-	-	1	-
VIREUX	-	4	-	1	-	-	-	-
LUXEMBOURG: SITES								
ALTRIER	-	1	1	-	-	-	-	-
DALHEIM "A"	-	23 71,9	7 21,9	2 6,3	-	-	-	-
STEINSEL	-	-	1	-	-	-	-	-
TETELBIERG	-	7	-	-	-	-	-	-
WIDDEBIERG	-	1	-	-	-	-	-	-
N. FRANCE: SITE								
CONDE-SUR-AISNE	-	5	-	-	-	-	-	-
LOWER RHINE: SITES								
KREFELD	-	3	-	-	-	-	-	-
COLOGNE	-	3	-	-	-	-	-	-
DEUTZ	-	1	-	-	-	-	-	-

LOWER RHINE: HOARDS	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
COLOGNE I	-	6	-	-	-	1	-	-
COLOGNE II	-	57 77,o	12 16,2	3 4,1	-	2 2,7	-	-
COLOGNE VI	-	1	-	-	-	-	-	-
MARSCHERWALD	-	43 66,2	17 26,2	5 7,7	-	-	-	-
KOPSTUKKEN	-	6 54,5	1 9,1	4 36,4	-	-	-	-
HERKENBOSCH	-	2	1	-	-	-	-	-
METTERNICH	-	18 72,o	6 24,o	1 4,o	-	-	-	-
average	-	67,4	18,9	13,1	-	o,7	-	-
MOSELLE: SITE								
TRIER	-	2	-	-	-	-	-	-
LOWER MOSELLE: SITES								
HONTHEIM	2 4,3	35 74,5	7 14,9	2 4,3	1 2,1	-	-	-
ALTEBURG	-	14 77,8	4 22,2	-	-	-	-	-
EDIGER-ELLER	-	1	2	-	-	-	-	-
BINNINGEN	-	1	1	-	-	-	-	-
LOWER MOSELLE: HOARDS								
REIL	-	-	-	1	-	-	-	-
TRABEN-TRARBACH	-	1	1	-	-	-	-	-
KOBLENZ AREA: SITES								
AHRWEILER	-	1	-	-	-	-	-	-
ANDERNACH	-	4	-	1	-	-	-	-

	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
KOBLENZ	-	1	-	-	-	-	-	-
MIDDLE RHINE: HOARDS								
KOBLENZ	-	1	-	2	-	-	-	-
PERSCHEID	-	2	-	-	-	-	-	-
BOCKENAU	-	3	2	-	-	-	1	-
RHEINHESSEN: SITES								
BINGEN	-	-	-	1	-	-	-	-
MAINZ "A"	-	-	1	-	-	-	-	-
MAINZ "B"	2	2	-	-	-	-	-	-
KREUZNACH "A"	-	1	-	-	-	-	-	-
KREUZNACH "B"	-	1	-	-	-	-	-	-
ALZEY "A"	-	2	1	-	-	1	-	-
PFALZ: SITES								
SPEYER	-	2	-	-	-	-	-	-
RHEINZABERN "A"	-	2	-	-	-	-	-	-
RHEINZABERN "B"	-	3	-	-	-	-	-	-
KREIMBACH	-	22 81,5	4 14,8	1 3,7	-	-	-	-
KINDSBACH	-	5	2	-	-	-	-	-
LEMBERG	1	7	1	-	-	-	-	-
WALDFISCHBACH	-	14	5	-	-	-	-	-

PFALZ: HOARDS	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
LINGENFELD	-	1	-	-	-	-	-	-
RHEINZABERN II	-	1	-	-	-	-	-	-
RHEINZABERN III a	-	-	1	-	-	-	-	-
MACKWILLER	-	4	-	-	-	-	-	-
U. RHINE: HOARD								
STRASBOURG	-	7 38,9	6 33,3	5 27,8	-	-	-	-
W. SWITZERLAND: SITES								
VINDONISSA	-	4 33,3	6 5o,o	1 8,3	-	1 8,3	-	-
MONT TERRI (Basle)	-	12 46,2	14 53,8	-	-	-	-	-
MONT TERRI (Berne)	-	14 36,8	2o 52,6	3 7,9	-	1 2,6	-	-
W. SWITZERLAND: HOARDS								
KAISERAUGST II	-	-	1	-	-	-	-	-
BASSECOURT	-	2o 41,7	18 37,5	6 12,5	3 6,3	1 2,1	-	-
CHAMOSON	-	5 2o,o	13 52,o	6 24,o	-	-	1 4,o	-
ALPENRHEINTAL: SITES								
BREGENZ	-	-	1	-	2	-	-	-
SCHAAN-KRÜPPEL	-	1	-	-	-	-	-	-
BALZERS-GUTENBERG	-	-	1	-	1	-	-	-
CHUR	-	-	-	-	1	-	1	-

ALPENRHEINTAL: HOARDS	Amb	Tre	Lug	Are	Aqu	Rom	Sis	East
FUSSACH	-	1	-	-	-	-	3	-
PIZOKEL	-	1	-	1	1	-	-	-
OTHER SITES								
ARLES	-	-	1	-	-	1 ?	-	-
CONIMBRIGA	1	4	3	2	-	2	-	-
CARNUNTUM	-	-	2	-	-	2	22	5
OTHER HOARDS								
REGENSBURG VIII	-	-	-	1	3	7	1	-
FONTAINES-SALEES	-	-	3	-	1	-	-	-

TABLE 14 Mint distribution: 2-Victories issues, 351-352

BRITAIN: SITES	Amb	Tre	Lug	Are	Aqu	Rom
WINT HILL	1	-	-	-	-	-
BATH	11 40,7	12 44,4	3 11,1	-	-	1 3,7
PORTCHESTER CASTLE	1	-	-	1	-	-
LINCOLN	3	1	1	-	-	-
RICHBOROUGH	11 26,2	25 59,5	5 11,9	-	1 2,4	-
BRITAIN: HOARDS						
SKELLOW	6 60,0	2 20,0	1 10,0	1 10,0	-	-
HANHAM	-	-	1	-	-	-
WYCOMBE	-	1	-	-	-	-
BOXLEY WARREN	8	-	-	-	-	-
COLESHILL	20 42,6	19 40,4	5 10,6	3 6,4	-	-
CROYDON	1	-	-	-	-	-
BESTHORPE	35 52,2	28 41,8	2 3,0	2 3,0	-	-
COVESEA	1	-	-	-	-	-
HESLINGTON	37 51,4	29 40,3	4 5,6	2 2,8	-	-
LYDNEY PARK	1	-	1	-	-	1
OLDCROFT	2 6,7	4 13,3	22 73,3	2 6,7	-	-
average (excluding Oldcroft)	51,6	35,6	7,3	5,6		

BELGIUM+ARDENNES: SITES	Amb	Tre	Lug	Are	Aqu	Rom
CHÂTEAU-RENAUD	-	1o 9o,1	1 9,1	-	-	-
DOURBES	3 17,5	13 76,5	-	1 5,9	-	-
EPRAVE	-	22 95,7	1 4,3	-	-	-
FALAËN	-	4	-	-	-	-
FURFOOZ	-	6	-	-	-	-
MATAGNE	-	3	-	-	-	-
MONT-DIEU	-	1	1	-	-	-
NAMUR-SAMBRE	1 8,3	7 58,3	2 16,7	2 16,7	-	-
VIREUX	-	8	1	-	-	-
average	6,5	8o,2	7,5	5,7		
N. FRANCE: SITE						
CONDE-SUR-AISNE	-	5	-	-	-	-
LUXEMBOURG: SITES						
ALTRIER	-	3	-	-	-	-
ASPELT	-	1	-	-	-	-
DALHEIM "A"	-	34 81,o	5 11,9	3 7,1	-	-
DALHEIM "B"	-	1	-	-	-	-
DALHEIM (Cellar)	-	2	-	-	-	-
STEINSEL	-	2	-	-	-	-
TETELBIERG	-	4	1	-	-	-
WIDDEBIERG	-	9	-	-	-	-

LOWER RHINE: SITES	Amb	Tre	Lug	Are	Aqu	Rom
KREFELD	-	9 81,8	1 9,1	1 9,1	-	-
COLOGNE	-	1	-	1	-	-
DEUTZ	-	2	-	1	-	-
LOWER RHINE: HOARDS						
HERKENBOSCH	-	3	1	-	-	-
COLOGNE II	24 6,4	316 84,5	26 7,o	7 1,9	-	1 o,3
COLOGNE VI	-	9	-	-	-	-
THEUX	-	12 loo,o	-	-	-	-
KOPSTUKKEN	1 4,3	22 95,7	-	-	-	-
SOEST	-	2	-	-	-	-
MARSCHERWALD	-	92 87,6	8 7,6	5 4,8	-	-
average	2,7	92,o	3,7	1,8		o,1
MOSELLE: SITE						
TRIER	-	9 9o,o	-	1 lo,o	-	-
LOWER MOSELLE: SITES						
HONTHEIM	-	73 85,9	11 12,9	-	1 1,2	-
ALTEBURG	3 4,3	54 78,3	8 11,6	3 4,3	-	1 1,4
EDIGER-ELLER	-	4	2	-	-	-
POMMERN	-	1	1	-	-	-
BINNINGEN	1 8,3	11 91,7	-	-	-	-
average	4,2	85,3	8,2	1,4	o,4	o,5

LOWER MOSELLE: HOARDS	Amb	Tre	Lug	Are	Aqu	Rom
BENGEL I	1 2,8	3o 83,3	3 8,3	1 2,8	1 2,8	-
BENGEL II	-	2	-	-	-	-
REIL	1 6,7	11 73,3	2 13,3	1 6,7	-	-
TRABEN-TRARBACH	1	2	1	-	-	-
average	4,8	78,3	1o,8	4,8	1,4	
KOBLENZ AREA: SITES						
AHRWEILER	-	-	-	1	-	-
ANDERNACH	2	24	4	-	-	-
MIDDLE RHINE: HOARDS						
PERSCHEID	-	-	1	-	-	-
BOCKENAU	2 12,5	1o 62,5	4 25,o	-	-	-
SIMMERN	-	2	-	-	-	-
MAINZ IV	-	-	1	-	-	-
RHEINHESSEN: SITES						
KREUZNACH "A"	-	1	1	-	-	-
KREUZNACH "B"	-	1	-	-	-	-
MAINZ "A"	-	3	1	-	-	-
MAINZ "B"	1 1o,o	9 9o,o	-	-	-	-
ALZEY "A"	-	2	1	-	-	-
PFALZ: SITES						
SPEYER	-	1	3	-	-	-
RHEINZABERN "A"	-	2	2	-	-	-

	Amb	Tre	Lug	Are	Aqu	Rom
KREIMBACH	1 2,8	34 94,4	1 2,8	-	-	-
KINDSBACH	-	9 81,9	2 18,2	-	-	-
LEMBERG	1 8,3	1o 83,3	1 8,3	-	-	-
WALDFISCHBACH	-	2o 74,1	6 22,2	-	-	1 3,7
average	2,8	83,4	12.9	-	-	o,9
MIDDLE/UPPER RHINE: HOARDS						
VILLING	-	32 1oo,o	-	-	-	-
RHEINZABERN II	-	1	-	-	-	-
STRASBOURG	-	1o 71,4	4 28,6	-	-	-
W. SWITZERLAND: SITES						
VINDONISSA	-	-	3	-	-	1
MONT TERRI (Berne)	-	2 3,4	56 94,9	-	1 1,7	-
MONT TERRI (Basle)	-	2 6,3	29 9o,6	-	-	1 3,1
W. SWITZERLAND: HOARDS						
KAISERAUGST II	-	-	158 1oo,o	-	-	-
BASSECOURT	-	1	4	-	1	-
CHAMOSON	-	41 43,6	29 3o,9	3 3,2	-	21 22,3
ALPENRHEINTAL: SITES						
BREGENZ	-	-	1	-	-	1
SCHAAN-KRÜPPEL	-	-	1	-	-	-
BALZERS-GUTENBERG	-	-	2	-	1	-

	Amb	Tre	Lug	Are	Aqu	Rom
CHUR	-	-	-	-	1	1
ALPENRHEINTAL: HOARDS						
PIZOKEL	-	-	8 8o,o	-	-	2 2o,o
WELSCHDÖRFLI II	-	1	-	-	-	-
FUSSACH	-	-	-	1	-	-
OTHER SITES						
ARLES	-	-	1	-	-	-
CONIMBRIGA	1 3,8	1 3,8	6 23,1	1o 38,5	2 7,7	6 23,1
CARNUNTUM	-	-	-	4	3	1
OTHER HOARDS						
LYONS AREA	1 o,o5	68 3,2	1915 9o,8	121 5,7	1 o,o5	2 o,1
FONTAINES-SALEES	2 5,4	1o 27,o	14 37,8	9 24,3	-	2 5,4
REGENSBURG VII	-	-	-	-	-	1
FRAUENSATTLING	-	2	-	-	-	-

TABLE 15 Mint distribution, The Salus issues (incl. Poemenius), 352/3

BRITAIN: SITES	Amb	Tre	Lug	Are
BATH	2	4	2	-
PORTCHESTER CASTLE	1	-	-	-
RICHBOROUGH	6 40,0	8 53,3	1 6,7	-
BRITAIN: HOARDS				
COLESHILL	9 47,4	4 21,1	5 26,3	1 5,3
CROYDON	-	2	1	-
BESTHORPE	12 21,8	26 47,3	12 21,3	5 9,1
HESLINGTON	1 6,3	8 50,0	6 37,5	1 6,3
LYDNEY PARK	1	2	-	-
OLDCROFT	-	-	3	1
average	25,2	39,5	28,4	6,9
BELGIUM+ARDENNES: SITES				
CHATEAU-RENAUD	1	4	-	-
DOURBES	1	5	-	-
FALAËN	-	1	-	-
LIBERCHIES	-	1	-	-
NAMUR-SAMBRE	-	9	-	-
VIREUX	1	3	-	-
N. FRANCE: SITE				
CONDE-SUR-AISNE	-	1	1	-

LUXEMBOURG: SITES	Amb	Tre	Lug	Are
ASPELT	-	1	-	-
DALHEIM "A"	-	4	1	-
TETELBIERG	-	3	-	-
WIDDEBIERG	-	5	-	-
LOWER RHINE: SITES				
KREFELD	1	5	-	-
COLOGNE	-	3	-	-
DEUTZ	-	3	-	-
LOWER RHINE: HOARDS				
HERKENBOSCH	-	8	-	-
LUXEMBOURG	2 1,7	114 96,6	2 1,7	-
COLOGNE I	-	4	-	-
COLOGNE II	24 1,o	2246 98,2	12 o,5	6 o,3
COLOGNE VI	1	7	1	-
MARSCHERWALD	2 2,o	96 98,o	-	-
average	1,6	97,6	o,7	o,1
MOSELLE: SITE				
TRIER	1	4	-	-
LOWER MOSELLE: SITES				
HONTHEIM	3 3,3	85 93,4	3 3,3	-
ALTEBURG	-	34 97,1	1 2,9	-

	Amb	Tre	Lug	Are
EDIGER-ELLER	-	2	-	-
BINNINGEN	-	5	-	-
average	1,7	95,3	3,1	
MOSELLE: HOARDS				
BENGEL II	-	3	-	-
REIL	-	19 loo,o	-	-
TRABEN-TRARBACH	-	47 loo,o	-	-
BALDRINGEN	-	11o loo,o	-	-
average		loo,o		
KOBLENZ AREA: SITES				
ANDERNACH	-	18 loo,o	-	-
KOBLENZ	-	1	-	-
MIDDLE RHINE: HOARDS				
KOBLENZ	-	2	-	-
BOCKENAU	-	3	-	-
MAINZ-MOMBACH	-	17 loo,o	-	-
RHEINHESSEN: SITES				
BINGEN	-	1	-	-
MAINZ "A"	-	9	-	-
MAINZ "B"	-	3	-	-

PFALZ: SITES	Amb	Tre	Lug	Are
KREIMBACH	-	1	-	-
SPEYER	1	-	-	-
W. SWITZERLAND: SITES				
VINDONISSA	-	1	-	-
MONT TERRI (Basle)	-	-	-	1
ALPENRHEINTAL: SITE				
BREGENZ	-	-	-	1
OTHER SITES				
ARLES	-	-	-	1
CONIMBRIGA	-	-	-	1
CARNUNTUM	-	1	-	-
OTHER HOARDS				
FONTAINES-SALEES	-	-	1	-

TABLE 16

Mint distribution, Constantius II/Falling Horseman, 351/4

BRITAIN: SITES	Amb	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
BATH	2 15,4	7 53,8	1 7,7	-	-	2 15,4	-	-	1 7,7
WINT HILL	-	-	1	-	-	-	-	-	-
RICHBOROUGH	-	16 72,7	-	-	1 4,5	2 9,1	2 9,1	-	1 4,5
average	7,7	63,3	3,9		2,3	12,3	4,6		6,1
BRITAIN: HOARDS									
COLESHILL	5	-	1	-	-	-	-	-	2
CROYDON	1 2,2	17 37,o	2 4,3	1 2,2	2 4,3	2 4,3	4 8,7	-	17 37,o
EASTERTON	1	-	-	-	-	-	-	-	-
BESTHORPE	27 4o,9	13 19,7	11 16,7	-	1 1,5	4 6,1	3 4,5	-	7 1o,6
HESLINGTON	43 27,6	35 22,4	46 29,5	-	5 3,2	15 9,6	1 o,6	1 o,6	1o 6,4
LYDNEY PARK	-	2	1	-	-	1	-	-	-
OLDCROFT	24 26,7	32 35,6	13 14,4	-	1 1,1	13 14,4	4 4,4	-	3 3,3
average	24,4	28,7	16,2	o,6	2,5	8,6	4,6	o,2	14,3
BELGIUM+ARDENNES: SITES									
DOURBES	-	1	-	-	-	-	-	-	-
EPRAVE	-	1	-	-	-	-	-	-	-
NAMUR-SAMBRE	-	1	-	-	-	-	-	-	-
LUXEMBOURG: SITES									
ASPELT	-	-	-	-	-	-	1	-	-

	Amb	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
DALHEIM "B"	-	-	-	-	-	-	-	-	1
TETELBIERG	-	1	-	-	-	-	-	-	-
LOWER RHINE: HOARDS									
COLOGNE II	9 16,7	35 66,o	-	-	-	1 1,9	4 7,5	1 1,9	3 5,7
MARSCHERWALD	-	46 loo,o	-	-	-	-	-	-	-
MOSELLE: SITE									
TRIER	-	1	-	-	-	-	-	-	-
LOWER MOSELLE: SITES									
HONTHEIM	-	14 87,5	-	-	1 6,3	1 6,3	-	-	-
ALTEBURG	-	4	-	-	-	-	-	-	-
EDIGER-ELLER	-	1	-	-	-	-	-	-	-
POMMERN	-	-	-	-	-	-	-	-	1
BINNINGEN	-	1	-	-	-	-	-	-	-
KOBLENZ AREA: SITES									
ANDERNACH	-	-	-	-	-	-	1		
KOBLENZ	-	-	1	-	1	1	-	-	1
MIDDLE RHINE: HOARD									
BOCKENAU	-	-	-	-	-	-	-	-	2
RHEINHESSEN: SITES									
MAINZ "A"	-	1	-	-	-	1	-	1	1
MAINZ "B"	-	1	-	-	-	-	-	-	-
ALZEY "A"	-	-	-	-	-	-	-	-	2?

W. SWITZERLAND: SITE	Amb	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
VINDONISSA	-	-	-	-	-	1	1	-	-
ALPENRHEINTAL: SITES									
BREGENZ	-	-	-	-	2	-	-	-	1
SCHAAN-KRÜPPEL	-	-	-	-	-	-	1	-	1
BALZERS-GUTENBERG	-	-	-	-	1	-	1	-	2
CHUR	-	-	-	-	-	-	-	-	3
ALPENRHEINTAL: HOARD									
FUSSACH	-	-	-	-	4 16,7	2 8,3	6 25,0	6 25,0	6 25,0
OTHER SITES:									
ARLES	-	-	-	1	-	4	-	-	-
CONIMBRIGA	-	-	-	-	-	23 52,3	1 2,3	1 2,3	19 43,2
CARNUNTUM	-	-	-	-	5 5,0	5 5,0	47 46,5	11 10,9	33 32,7
OTHER HOARDS									
REGENSBURG VIII	-	-	-	-	-	-	5 35,7	1 7,1	8 57,1
FONTAINES-SALEES	-	-	-	-	-	-	-	-	1

TABLE 17 Mint distribution 354-358

BRITAIN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
BATH	1 3,7	2o 74,1	4 14,8	2 7,4	-	-	-	-
WINT HILL	1	2	-	-	1	-	-	-
PORTCHESTER CASTLE	-	2	-	-	-	-	-	-
LINCOLN	-	3	1	-	-	-	-	-
RICHBOROUGH	-	15 4o,5	8 21,6	2 5,4	4 1o,8	2 5,4	-	6 16,2
BRITAIN: HOARDS								
BESTHORPE	11 5,o	137 62,3	64 29,1	5 2,3	3 1,4	-	-	-
HESLINGTON	34 5,4	416 66,7	16o 25,7	12 1,9	2 o,3	-	-	-
LYDNEY PARK	1 9,1	8 72,7	2 18,2	-	-	-	-	-
POUNDBURY	5 1o,6	36 76,6	5 1o,6	1 2,1	-	-	-	-
OLDCROFT	36 4,2	581 68,4	213 25,1	18 2,1	2 o,2	-	-	-
average	6,9	69,4	21,7	1,7	o,4	-	-	-
BELGIUM+ARDENNES: SITES								
CHATEAU-RENAUD	4	-	-	-	-	-	-	-
DOURBES	1	1	-	-	-	1	-	3
FALAËN	-	1	-	-	-	-	-	-
VIREUX	1	-	-	-	-	-	-	-
LUXEMBOURG: SITES								
ASPELT	-	-	1	-	-	-	-	-

	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
DALHEIM "A"	5 14,3	1 2,9	5 14,3	8 22,9	8 22,9	2 5,7	1 2,9	5 14,3
DALHEIM "B"	-	-	-	-	2	-	-	-
STEINSEL	-	1	-	1	2	-	-	-
TETELBIERG	-	-	1	-	1	-	1	-
WIDDEBIERG	2	-	-	-	1	-	-	-
LOWER RHINE: SITES								
KREFELD	-	-	-	-	-	-	-	1
COLOGNE	-	-	1	-	-	-	-	-
LOWER RHINE: HOARDS								
MARSCHERWALD	216 loo,o	-	-	-	-	-	-	-
COLOGNE IV	1	-	-	-	-	-	-	-
MOSELLE: SITE								
TRIER	5	1	-	-	4	-	-	-
LOWER MOSELLE: SITES								
HONTHEIM	21 loo,o	-	-	-	-	-	-	-
ALTEBURG	1	-	-	-	-	-	-	-
POMMERN	-	-	1	-	-	-	-	-
KOBLENZ AREA: SITES								
ANDERNACH	-	-	-	-	1	-	-	-
KOBLENZ.	-	1	-	1	1	1	1	2

RHEINHESSEN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
MAINZ "A"	-	-	1	-	-	-	-	1
MAINZ "B"	1	-	-	-	-	-	-	-
ALZEY "A"	-	-	2	1	1	-	-	4
MIDDLE RHINE: HOARDS								
BOCKENAU	-	-	-	-	-	1	-	-
SIMMERN	-	-	1	-	2	-	-	-
MAINZ III	-	-	-	-	-	-	-	9
PFALZ: SITES								
SPEYER	-	-	-	-	-	1	-	-
RHEINZABERN "B"	-	-	-	-	1?	-	-	-
W. SWITZERLAND: SITES								
VINDONISSA	-	2 6,3	10 31,3	6 18,8	3 9,4	6 18,8	-	5 15,6
KAISERAUGST, FORTRESS	-	2 15,4	5 38,5	2 15,4	2 15,4	1 7,7	-	1 7,7
KAISERAUGST, VICUS	-	1	1	-	-	-	-	-
average		10,9	34,9	17,1	12,4	13,3	-	11,7
ALPENRHEINTAL: SITES								
BREGENZ	-	-	1	2	-	-	-	-
BALZERS-GUTENBERG	-	-	-	3	1	1	2	-
CHUR	-	-	1	2	1	-	-	-
SWITZERLAND: HOARD								
VAIRANO	-	-	3 21,4	1 7,1	4 28,6	-	1 7,1	5 35,7

OTHER SITES	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
ARLES	-	-	1o 76,9	1 7,7	1 7,7	-	-	1 7,7
CONIMBRIGA	2 o,5	11 3,o	76 2o,7	22 6,o	141 38,4	12 3,3	3 o,8	1oo 27,2
CARNUNTUM	-	1 o,3	5 1,7	25 8,7	8 2,8	178 61,6	29 1o,o	43 14,9
OTHER HOARDS								
FONTAINES-SALEES	-	5	-	-	-	1	-	-
L'ESTRADE	-	1	-	-	-	-	-	-
ARLES	-	-	29 1oo,o	-	-	-	-	-
REGENSBURG VIII	-	-	-	-	-	1	-	-

TABLE 18 Mint distribution 358-361

BRITAIN: SITES	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
RICHBOROUGH	4 19,0	1 4,8	6 28,6	-	4 19,0	-	-	6 28,6
N. GAUL: SITES								
DOURBES	1	-	-	-	1	-	-	-
DALHEIM "A"	3 23,1	3 23,1	2 15,4	1 7,7	1 7,7	-	-	3 23,1
STEINSEL	-	-	2	-	-	1	-	-
TRIER	-	-	-	-	-	-	-	1
KOBLENZ	-	-	-	-	-	-	-	2
RHEINZABERN "B"	-	-	1?	-	-	-	-	-
PACHTEN	-	-	1	-	-	-	-	-
N. GAUL: HOARDS								
MAINZ IV	-	-	-	-	-	-	-	1
RHEINZABERN IIIa	-	-	-	-	-	-	1	-
W. SWITZERLAND: SITES								
KAISERAUGST, FORTRESS	-	6	1	-	-	-	-	1
KAISERAUGST, VICUS	-	-	1	-	-	-	-	2
VINDONISSA	-	5	12	-	-	2	-	-
ALPENRHEINTAL: SITES								
BREGENZ	-	-	-	1	-	-	-	-
BALZERS-GUTENBERG	-	-	-	1	-	-	-	-
CHUR	-	-	2	-	-	-	-	-

SWITZERLAND: HOARD	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
VAIRANO	-	1	-	-	-	1	-	-
OTHER SITES								
ARLES	-	1	4	-	-	-	-	-
CONIMBRIGA	-	3 6,7	12 26,7	1 2,2	4 8,9	2 4,4	-	23 51,1
CARNUNTUM	-	1 1,9	2 3,8	9 17,o	1 1,9	26 49,1	8 15,1	6 11,3

TABLE 19 Mint distribution 361-364

SITES unless stated	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
RICHBOROUGH	-	5	-	-	-	-	-	-
MONT DIEU	-	1	-	-	-	-	-	-
CONDE-SUR-AISNE	-	1	-	-	-	-	-	-
DALHEIM "A"	-	2	-	-	5	-	-	-
TETELBIERG	-	1	-	-	-	-	-	-
ALZEY "A"	-	-	-	-	1	-	-	1?
RHEINZABERN "A"	-	-	1	-	-	-	-	-
SPEYER	-	-	-	-	-	-	-	1
VINDONISSA	-	1	3	-	1	-	-	-
KAISERAUGST, FORTRESS	-	-	-	1	-	-	-	-
KAISERAUGST, VICUS	-	-	-	-	1	-	-	-
BREGENZ	-	1	2	-	1	-	-	-
CHUR	-	1	-	1	-	-	-	-
VAIRANO (HOARD)	-	1	2	1	-	-	-	-
CARNUNTUM	-	2 2,2	9 10,1	7 7,9	8 9,0	29 32,6	22 24,7	12 13,5

TABLE 2o Mint distribution 364-378

ALL SITES

BRITAIN	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
WINT HILL	-	3 11,1	2o 74,1	4 14,8	-	-	-	-
LINCOLN	1 1,3	14 18,7	4 58,7	9 12,o	2 2,7	5 6,7	-	-
PORTCHESTER CASTLE	-	9 2o,5	22 5o,o	5 11,4	1 2,3	6 13,6	-	1 2,3
RICHBOROUGH	38 2,6	353 24,o	72o 48,9	174 11,8	76 5,2	1o4 7,1	-	5 o,3
average	1,o	18,6	57,9	12,5	2,6	6,9	-	o,7
BELGIUM+ARDENNES								
CHATEAU-RENAUD	5 26,3	4 21,1	8 42,1	1 5,3	-	1 5,3	-	-
DOURBES	3 13,6	1 4,5	11 5o,o	1 4,5	2 9,1	3 13,6	-	1 4,5
FLORENVILLE	4 6,8	15 25,4	2o 33,9	8 13,6	9 15,3	3 5,1	-	-
MATAGNE	9 15,3	12 2o,3	24 4o,7	7 11,9	1 1,7	6 1o,2	-	-
MONT DIEU	8 14,8	11 2o,4	17 31,5	6 11,1	6 11,1	5 9,3	-	1 1,9
NAMUR-SAMBRE	11 16,2	11 16,2	22 32,4	8 11,8	7 1o,3	9 13,2	-	-
average	15,5	18,o	38,4	9,7	7,9	9,5		1,1
N. FRANCE								
CONDE-SUR-AISNE	1	16	22	-	1	2	-	1
LUXEMBOURG								
ALTRIER	1 9,1	1 9,1	6 54,5	1 9,1	2 18,2	-	-	-

	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
ASPELT	1 3,3	1o 33,3	11 36,7	4 13,3	1 3,3	3 1o,o	-	-
DALHEIM "A"	145 1o,9	292 21,9	482 36,1	167 12,5	137 1o,3	1o3 7,7	-	8 o,6
DALHEIM "B"	2 18,2	4 36,4	3 27,3	1 9,1	-	-	-	1 9,1
STEINSEL	31 14,6	44 2o,8	88 41,5	12 5,7	24 11,3	12 5,7	-	1 o,5
TETELBIERG	8 5,3	3o 19,9	66 43,7	18 11,9	12 7,9	17 11,3	-	-
WIDDEBIERG	7 29,2	5 2o,8	7 29,2	1 4,2	2 8,3	2 8,3	-	-
average	13,4	21,3	38,3	9,8	8,5	7,5		1,3
LOWER RHINE								
KREFELD	61 14,3	73 17,1	168 39,3	48 11,2	27 6,3	5o 11,7	-	-
COLOGNE	9 16,7	14 25,9	23 42,6	2 3,7	6 11,1	-	-	-
DEUTZ	-	15 3o,6	16 32,7	7 14,3	7 14,3	3 6,1	-	1
average	1o,3	24,5	38,2	9,7	1o,6	5,9		o,7
MOSELLE								
TRIER	44 14,7	63 21,o	117 39,o	32 1o,7	28 9,3	16 5,3	-	-
LOWER MOSELLE								
EDIGER-ELLER	4 21,1	2 1o,5	1o 52,6	-	2 1o,5	1 5,3	-	-
POMMERN	7 15,9	12 27,3	15 34,1	4 9,1	-	6 13,6	-	-
average	18,5	18,9	43,4	4,6	5,3	9,5		

KOBLENZ AREA	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
ANDERNACH	1 3,7	5 18,5	13 48,1	4 14,8	3 11,1	1 3,7	-	-
KOBLENZ	2o 9,2	57 26,3	66 3o,4	38 17,5	24 11,1	8 3,7	-	4 1,8
average	6,5	22,4	39,3	16,2	11,1	3,7	-	o,9
RHEINHESSEN								
KREUZNACH "A"	7 17,5	5 12,5	12 3o,o	4 1o,o	4 1o,o	8 2o,o	-	-
MAINZ "A"	3 1o,7	5 17,9	9 32,1	3 1o,7	2 7,1	6 21,4	-	-
MAINZ "B"	7 9,1	12 15,6	3o 39,o	12 15,6	9 11,7	7 9,1	-	-
ALZEY "A"	7 4,4	38 23,8	76 47,5	18 11,3	1o 6,3	1o 6,3	1 o,6	-
ALZEY "B"	-	2 15,4	1o 76,9	-	-	1 7,7	-	-
average	8,3	17,o	45,1	9,5	7,o	12,9	o,1	
PFALZ								
SPEYER	5 11,1	1o 22,2	16 35,6	6 13,3	3 6,7	5 11,1	-	-
RHEINZABERN "A"	2 1o,5	5 26,3	3 15,8	2 1o,5	-	7 36,8	-	-
RHEINZABERN "B"	-	1 5,3	9 47,4	-	1 5,3	7 36,8	-	1 5,3
PACHTEN	1 5,6	2 11,1	12 66,7	2 11,1	1 5,6	-	-	-
average	6,8	16,2	41,4	8,7	4,4	21,2		1,3
W. SWITZERLAND								
VINDONISSA	11 2,8	1o8 27,8	91 23,4	94 24,2	34 8,7	46 11,8	1 o,3	4 1,o
ALPENRHEINTAL								
BREGENZ	-	-	1 5,9	4 23,5	5 29,4	5 29,4	-	2 11,8

OTHER SITES	Tre	Lug	Are	Aqu	Rom	Sis	Sir	East
CONIMBRIGA	1 1,7	2 3,3	4 6,7	7 11,7	2o 33,3	7 11,7	-	19 31,7
CARNUNTUM	1 o,1	14 1,7	24 2,9	99 12,1	74 9,o	55o 67,o	12 1,5	47 5,7

FOOTNOTES

1. The terminal coin of Cobham Park may be not post-Magnentian but earlier, i.e. Magnentius phase 7, see Cat.2.

2. See Cat.2 for the probability that Rheinzabern II has been manipulated.

3. I am informed by M.Peter of the Römermuseum, Augst, that the Kaiseraugst site-finds also show an increased dependence on Lyons.

4. The statistics for Coleshill are not complete, and so may be unreliable.

5. According to G.Depeyrot (1982.Pl.58,1-2), the level of production at Trier dropped from 330 to 335, but remained fairly constant thereafter.

6. For the movements of the Emperors see O.Seeck (1919). 173ff. and PWRE, under the respective rulers:
Constantine I: IV.1.p.1013ff.
Constantine II: ibid.p.1026ff.
Constantius II: ibid.p.1044ff.
Constans: ibid.p.948ff.
Delmatius: IV.2.p.2456f.

7. A similar link between long-range coin movement and political events can be observed in the sudden drop in West to East coin movement after 318-330, as revealed by the site-finds from Athens and Antioch.

The level of non-Eastern coin at Athens and Antioch.

	Athens	Antioch
318-330	25,6%	15%
330-341	3,2%	0,8%
341-348	4,3%	-

Here too a political explanation for the drop in coin movement seems likely since it coincides with the end of the civil wars between Constantine I and Licinius I in 324 and the ensuing permanent transfer of Constantine I's residency to the East. The coin movement seems to be the direct result of the arrival of troops and court from the West, but once this transfer had been effected, then Western coin no longer moved to the East in anything like the same quantities.

Cf. also R.Reece (1985.p.92), "George Duncan (thesis in preparation) has noted the spread of Western coinage East during the campaigns of Constantine, and in preliminary work at both Cyprus and Alexandria I have noted a flood of Constantinian issues minted at Rome between 310 and 320."

8. Hendy, 1972a, 1972b & 1985.

9. This phenomenon must be distinguished from the gradual restriction of coin-movement from 318 to 350 noticed above. That seems to have been widespread, while the development in 350-353 is restricted to the Rhineland and so must have a different cause.

10. For the events of the civil war see Introduction p.1ff. and Map 1.

11. The Richborough site-finds have a different mint-distribution pattern, and coin from Trier is much more common. But see below p.154ff., Richborough behaves more like a Rhineland than a British find in this period.

12. In some cases this apparent lack of coin movement into the Rhineland may be due to the nature of the coin-finds. One of the most striking features of many finds of Magnentian coins is that an extremely high proportion of the coins are in virtually mint-condition and they give the appearance of having been in circulation only a very short time. In addition Magnentian coins are normally rare as

site-finds and are only found in large numbers in hoards or destruction-levels of the period; that is from sealed deposits, and these normally date from soon after the striking of the coins. Could it be that the coinage from different mints simply didn't have time to circulate and mix freely before ending up in the ground?

However while this explanation may be correct for some cases, there are finds where the Magnentian coinage certainly had had sufficient time to mix as much as it ever would. Marscherwald and Hontheim for example have a terminus post quem of 355, 2 years after the fall of Magnentius, yet these finds too show the same lack of movement of the later Magnentian issues. (Under normal circumstances 2 years was ample time for coin to circulate and mix thoroughly; viz. the Metternich hoard has a terminal coin of 350 yet the coins in the hoard struck in 350 are well-mixed - 18 from Trier, 6 from Lyons and 1 from Arles.)

13. cf. Fulford (1978 p.76) who suggests that the Rhineland economy declined as a result of the Germanic invasions to the point where "insufficient surplus was being produced to enable the manufacture of commodoties that might attract trade and money from...elsewhere." This would explain why non-Trier coin didn't penetrate into the Rhineland, but would not explain why Trier coin seems not to have left the area.

14. Perhaps Cobham Park should also be included. The latest datable coins in the find are a series of Salus issues for Magnentius struck in 352-353, however there is also an Aes2 Fel.Temp./Falling Horseman piece of uncertain mintage for Constantius Gallus. This coin must come from a mint under the control of Constantius II, but whether it pre- or postdates the Salus issues, and so the fall of Magnentius, cannot be determined.

15. C.Th.vii.16.1.

16. On the collection of custom dues see e.g. Jones.LRE. p.825f. and PWRE.xxii.1.p.346ff.

17. How does this picture compare with other periods of usurpation? Unfortunately there are few such episodes for which such a study is possible; where the usurpation was of sufficient duration, the coin-issues are numerous enough and well enough documented, and sufficient well published coin finds are available. The obvious choice for comparison is the Gallic Empire of c.260-274.

During this period not only was coin being struck in large quantities in the Gallic mints, but also in the mints of the central "legitimate" Empire outside Gaul. The issues of Gallienus as sole Emperor and of Claudius II, both as ruling Augustus and as Divus, were numerous and are very common as site-finds and in hoards all over the territory of the Gallic Empire. Reece (1978, p.240) writes " The issues of Gallienus and of Claudius II are common in all areas (sc. of the Western Empire), but especially in Britain." So too coin of the Gallic Empire is found in the Central Empire; Reece continues "Coin of the Gallic Emperor Postumus are similarly represented in Britain and Italy." On a more general level C.E.King (1981) has shown that the distribution of Central Empire and Gallic Empire coins for 260-275 is not directly linked to the political allegiance of individual areas; for example Gallic Empire coin is surprisingly rare in central Gaul, while Central Empire coin of 260-275 is much more common in Britain than that of 275-295. The question that is of interest here is whether these coins crossed the frontier between the two territories before or after the final defeat of the Gallic Empire in 274. To answer this we must turn to the evidence of the coin hoards.

Several studies of these hoards have been made which can be used here. J-P.Callu (La politique monétaire des empereurs romains.Paris.p.274ff.) lists hoards buried after the death of Postumus, and it is clear that coin of Claudius II (268-270) was already present in significant quantities in hoards with terminal coins of Victorinus (268-270)

and buried within the Gallic Empire. (Table C, p.276 has an average of 4,1% Claudius II against 13,6% Victorinus for such hoards.) Similar finds are listed by Drinkwater ("Coin hoards and the chronology of the Gallic Emperors". Britannia 5.1974.p.293ff. Tables II & III.) and Lafaurie ("La chronologie des Empereurs gaulois".RN.1964.p.119ff.) in their studies of the chronology of the Gallic Empire. Certainly during this period of the Gallic Empire significant quantities of coin were coming into Gaul from non-Gallic "legitimate" mints.

However the history of the Gallic Empire is not an exact parallel to the usurpation of Magnentius. In the third century the Central Empire, while not officially recognising the break-away Emperors, was at least forced by problems elsewhere to tolerate them at times, and it was perhaps this relative peace between the two Empires that allowed coin from both to mix. In contast from 350 to 353 there was a period of unbroken hostility between Constantius II and Magnentius which apparently dramatically reduced monetary contact between the two halves of the Roman world.

In contrast to the episode of the Gallic Empire, the British Empire under Carausius and Allectus was almost constantly at war with the Central Empire from 287 to 296, with only a short interval of relative peace in c.290-293, a situation more similar to the events of 350-353. This seems to be reflected in the distribution of British Empire coins which are rarely found outside Britain (C.E.King, 1981.p.92f.)

18. n.b. the data for Cologne II is taken from Cat.2, Cologne II, Table C.

19. 1982.p.101 & Pl.73.2.

20. Overbeck Alpenrheintal I.p.214ff.

21. n.b There are some indications that the level of Eastern coin of 330-341 rose in British hoards after 353, i.e. that Constantius II's army did bring some earlier coin with

it. However this increase is really significant only in Heslington, which has 7,5% Eastern coin of 330-341. In addition two other points must be made:
a) there is no corresponding rise in the level of 341-348 Eastern coin, which would be expected if Constantius II's army brought older coin with it.
b) the increase of 330-341 Eastern coin is not observed on the Continent.
On these two grounds it seems unlikely that the phenomenon observed at Heslington is related to the East-West coin movement of 353-354.

22. Similar levels are also recorded for finds on the Middle Rhine with a terminus post quem earlier than August 353 - e.g. Villing, Kreimbach, Lemberg and Waldfischbach (see above p.129f.).

23. This is further evidence that the extraordinary coin-movement in 353-354 was linked to the arrival of the forces of Constantius II in Gaul, since the movement stops once these forces were already established there.

24. See below p.154ff. for the links between Richborough and the Rhineland at this time.

25. cf. K-J.Gilles (1985 p.64) who also seems to think that these Eastern coins did not arrive until after 355.

26. R.Reece (1978. p.134f.) records no Balkan or Eastern coin from a selection of British sites, excluding Richborough, see below p.155, Table 8.

27. The evidence from the Alpenrheintal presented here is sparse, but is supported by Overbeck's more detailed study of mint-distribution in the Alpenrheintal, (Alpenrheintal. I.p.240ff. Tab.8-14.) Furthermore Eastern coin had always played an important part of the coin-supply to the Alpenrheintal, so that its absence is all the more surprising.

28. This limited distribution of Eastern coin removes the possibility that the high level is due to it being more easily identifiable than the products of other mints. If that were the only factor, then we should expect to observe increased Eastern levels generally in the West.

29. For the depressed state of the Rhineland see Intro. p.6f.

The depressed state of the Rhineland would exclude prima facie the possibility that special trading links with areas outside Gaul at this time are responsible for the arrival of the non-Gallic coin: the economy of N.Gaul can not have been in a state to support such trade.

30. Although these issues are rare in the East (see Antioch, Apamea and Athens), the issues of 348-354 were equally so. Yet they managed to find their way to the West in significant quantities in the wake of the civil war of 350-353. The coin-index at Athens is 2,3 for 348-354, 2,2 for 361-364, and at Antioch 3,4 and 3,5, although at Apamea the 361-364 coin is a little rarer and the coin-index is 2,6 and 1,4 respectively.

31. On the closure of Trier see Ch.3 p.89ff.

32. For further information on Britain see below p.154ff, on Switzerland p.156f.

33. cf. Fulford 1978.p.76 and Ch.1.p.49ff.

34. See Intro p.7f. & Map 3.

35. Hoffmann (1969.p.202ff.) found no evidence for troop movements from the East to Gaul during this period: the only large-scale reinforcement of the Rhine army that he could identify was the 8,000 men with which Silvanus marched from Autun to Auxerre shortly before ("paulo ante" Amm.Marc.xvi.2,4.) Julian followed this route in 356. Hoffmann interprets these as new troops which Silvanus

brought into Gaul, but no details are known about their origin. From Ammianus Marcellinus we know that Julian himself took with him only 300 troops as a bodyguard when he marched from N.Italy to Gaul in 355; at the Battle of Strasbourg in 357 his army totalled only 13,000 men, and we have no indication of his having ever received reinforcements. Indeed in 359 Julian was forced to send some of his own best units to the East to reinforce Constantius II in his campaign against the Persians.

36. O.Seeck (1919).p.204ff.

37. Amm.Marc.xvi.10.20; after celebrating his vicennalia in Rome in May, Constantius II marched into Illyricum to deal with barbarian incursions along the Danube. See also Introduction p.6. and Map 2.

38. cf. M.Fulford (1978) p.77.

39. Amm.Marc.xviii.2.3 & xx.1.2.

40. See also Overbeck, Alpenrheintal.I.p.239ff. for a rather more detailed account of the Alpenrheintal finds than is presented here.

As regards its mint-distribution the Welschdörfli I hoard is atypical of Alpenrheintal finds, drawing most of its coin from the Gallic mints. Was the hoard perhaps assembled outside the Alpenrheintal?

41. Ch.1 p.41ff.

42. RIC viii.p.93.

43. R.Walburg, "Antike Münzen aus Sri Lanka/Ceylon". SFMA.3.1985.p.27ff.

CONCLUSIONS

1. The disruption and damage caused by the German invasions is most obviously reflected in a series of hoards and destruction levels, which in turn help to date and localize these invasions.

2. The breakdown in communications and the isolation of particular areas which the German attacks caused is reflected in a dramatic drop in coin movement in and out of the worst affected areas in 351-355; in these years N.Gaul received very little coin struck in mints other than Trier while W.Switzerland was reached only by Lyons coin in 351/352, although Trier had been the most important mint previously.

3. The area which was normally supplied by Trier shrank after 350 as some regions turned to different mints and other regions were devastated or occupied by the Germans. Ultimately the demand for coin from Trier was so low that the mint closed in 354/5.

4. The disruption caused by the German invasions led to an almost complete break in the supply of official coin to Britain and N.Gaul in c.353-361, a situation which was further compounded by the closure of the mint of Trier. How different areas reacted to this shortage of coin depends on how badly they were affected by events of 350-355. Britain managed to draw some of the new coin it required from Lyons, but nevertheless there and in Belgium, both areas which had survived relatively intact, the answer to the coin shortage was to strike barbarous imitations. On the other hand along the Middle and Lower Rhine, where the German invasions had been most severe, the depression and depopulation were so acute that there was no demand for coin, and imitations are correspondingly rarer. This implies that the occurrence of imitations is an indication of

a relatively sound and intact economy which was starved of official coin, and is not evidence of chaos and collapse.

5. Two episodes of coin movement into N.Gaul stand out particularly. Firstly the arrival of the victorious army of Constantius II in 353 led to a short-lived injection of new Central and Eastern coin which this army had brought with it. Secondly surprisingly high levels of non-Gallic, and especially Eastern coin, arrived in Gaul after 355. However this does not seem to have reached the neighbouring areas such as the Alpenrheintal or Britain (with the exception of Richborough). No certain explanation for this rather enigmatic coin movement can be found as yet, but it is hard to avoid the conclusion that it is linked to the presence of the Court of Julian during his camapaigns in N.Gaul from 355 to 361.

In addition to such specific information about events in N.Gaul in the 350s, a number of more general conclusions about coin circulation were reached.

6. With few exceptions, the coin recovered from sites of even very different types tends to be remarkably uniform (as long as the coin is a representative sample of the coin actually lost on the site). The history and nature of the site seem to have had a smaller effect upon the coin-series than is perhaps realised, although there is a series of sites, mainly hill-top fortifications, where the catastrophic events of 351-355 are reflected in an unusuallly high coin-index for the period 348-354.

7. This uniformity is also evident in the mint-distribution pattern, which is remarkably consistent within particular areas; even relatively small complexes conform to the normal pattern. This indicates that the coin in circulation was extremely well-mixed, and coin circulation must have been very intensive in order to have produced this consistently mixed pool of coin.

8. Fourth-century coin finds from the northwestern provinces do not have to be very large in order to be statistically useful. Fewer than one hundred fourth-century coins, which have been recovered under well-controlled circumstances, are normally sufficient to indicate whether a coin-series is normal or abnormal. However this can only be established once a large number of larger coin-series from the area and period under study have been analysed in order to determine the normal patterns.

9. There are particular areas which form coin-circulation pools, within which the mint-distribution pattern of the coin which was lost and found is remarkably consistent. The Rhineland from the North Sea to the Pfalz, and possibly even further south, formed one such pool. In the years 330 to 350 Britain was attached to this pool, but was independent of the Rhineland at other times. Two further pools can be identified in W.Switzerland and the Alpenrheintal. It is not possible to say on the basis of present evidence whether geographical or administrative boundaries were more important in defining these pools.

10. Long-range coin movement seems always to have involved relatively new coin. Coins were apparently capable of moving very long distances soon after striking, but thereafter they generally circulated only locally.

11. Coin movement in N.Gaul and Britain seems to have been linked to political and administrative matters. The coin which reached the area reflects events such as the division of the Empire after the death of Constantine the Great, the German invasions of 350-355, the reunification of the Empire under Constantius II and the presence of Julian in Gaul. No evidence could be found for trade being an important factor in long-distance coin movement in N.Gaul, although it was probably important in other areas such as the Iberian peninsula. On the other hand local trade may well have had a major role in ensuring that the coin in circulation was so well mixed (point 7 above).

12. No evidence could be found for political bias in the composition of coin hoards. There is for example no sign that coin of Constans or Constantius II was avoided under Magnentius, or that the usurper's coin was shunned after his overthrow.

13. Similarly there is no evidence that any part of the coinage was demonetised during the period studied.