



IMITATIONS OF ROMAN BRONZE COINS, A.D. 318-363

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(PLATES 41-44)

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For reasons of gain or from the mere desire to deceive, the imitation of coins is a practice as old as coinage itself. On the numismatic level the examination of an imitation possesses in itself only the interest of distinguishing it from its prototypes. But on the level of the circulation of the coinage, the massive production of imitations changes the dimensions of the problem. It then becomes an economic phenomenon, usually connected with a shortage of coins. G. C. Boon, borrowing terms from the medical vocabulary, has distinguished *endemic* counterfeiting, that is, the constant imitation in small quantities of the regular coinage, from *epidemic* counterfeiting, which puts a large number of copies into circulation.¹ *Endemic* and *epidemic* provide good images and in view of their evocative character deserve to be generally used.

In the Roman imperial era the *epidemic* production of bronze imitations was limited to certain periods and certain geographical areas. The circumstances which caused it vary from age to age. In Gaul the copious counterfeiting of the *as* from Augustus to Nero sprang from a local shortage of small bronze coins, at a time when the monetary system as a whole was firmly established.² In northern and central Gaul and

¹ G. C. Boon, "Counterfeit Coins in Roman Britain," *Coins and the Archaeologist*, BAR 4 (Oxford, 1974), p. 95.

² C. M. Kraay, *Die Münzfunde von Vindonissa (bis Trajan)*, (Basel, 1962), pls. 1-10; J.-B. Giard, "Le pèlerinage gallo-romain de Condé-sur-Aisne et ses monnaies," RN 1968, pp. 84-91, pls. 9-18.

in Britain the issue of forged radiates was a result of the collapse of the antoninianus and of the inadequacy of the official coinage after the fall of Tetricus. J. Lallemand and M. Thirion have demonstrated clearly that the activity of the local Gallic mints extended mainly from 273 to 283,³ even though in 274 Aurelian decreed that the poor quality antoniniani should be withdrawn, and even though the Lyon mint was issuing, in fairly large quantities, it would seem, the aureliani of the Aurelian reform.

In the fourth century the phenomenon resulted from different circumstances. We propose to study here the counterfeit coinage of silvered bronze and bronze from 318 to 363,⁴ confining ourselves to imitations that were struck. Cast imitations, based on official coins or on other copies, must not be neglected. They form an appreciable proportion of the counterfeit coinage, but, being fairly simple to produce, are probably the work of private individuals. Struck copies, on the other hand, are more plentiful and come from well organized workshops, the only ones capable of putting into circulation substantial quantities of coinage. However, it should be noted that in some inventories cast and struck imitations are not always separated, doubtless because it is not always easy to distinguish between them. This is a source of error which can alter certain statistics.

From 318 to 363 there were several *epidemic* outbreaks of imitations. The first follows the monetary reform of Constantine in 318 and reproduces the prototypes issued from 318 to 330: *Victoriae laetae* (Plate 41, 1), *Virtus exercit* (Plate 41, 2–3), *Besta tranquillitas* (Plate 41, 4), *Vota* (Plate 41, 5–6), *Sarmatia* (Plate 41, 7) and *Providentiae* (Plate 41, 8).

A second wave of imitations began in the last few years of Constantine's reign and went on up to a date which is difficult to determine precisely, between 342 and 348. It copies the types *Gloria exercitus* with both two standards (Plate 41, 9–11) and one (Plate 41, 12–15),

³ J. Lallemand and M. Thirion, *Le trésor de Saint-Mard I, Étude sur le Monnayage de Victorin et des Tétricus*, Numismatique Romaine 6 (Wetteren, 1970), pp. 55–59.

⁴ The considerable bibliography dealing with this period naturally cannot be used in its entirety. We have had to make a choice of references. This explains why certain works, sometimes important ones, are not cited.

Urbs Roma (Plate 42, 16–19), *Constantinopolis* (Plate 42, 20–24), *Pax publica* and *Pietas romana*, in modules which decrease in size and end up in minimissimi of 0.30 g and 7 mm and even less. The striking of imitations of the type *Victoriae Dd Auggq Nn* issued by the official mints from 342 to 348 seems to have been on a smaller scale and it is probable that it coincided for some time with that of copies of the preceding series (Plate 42, 25–26).

The third substantial issue of imitations followed the reform of 348 which created the maiorina. The new types *Fel temp reparatio* depicting galley (Plate 42, 27–28), hut (Plate 42, 29–30), fallen horseman (Plate 43, 31–32) and two captives, were to be copied with a module often close to the normal one.

Magnentius's usurpation in 350 provoked in Gaul and Britain a fourth eruption of imitations with the reverses *Felicitas Reipublice* (Plate 43, 33–34), *Gloria romanorum* (Plate 43, 35–36) and *Victoriae Dd Nn Aug et Caes* (or *Cae*) (Plate 43, 37–42). The coins of Magnentius's reform bearing the inscription *Salus Dd Nn Aug et Caes* were imitated less often (Plate 43, 43–44).

After the usurper's fall, when the maiorinae were suppressed in 354 in favor of the half maiorinae, a fifth flare-up of imitations occurred. Copies with the inscription *Fel temp reparatio* and depicting the fallen horseman were put into circulation in considerable numbers and constantly declining modules, down to tiny minimi (Plates 43–44, 45–49).

The appearance of the small bronze coins *Spes Reipublice* in 358 produced hardly any imitations, but Julian's introduction of new bronze coins with the inscriptions *Vot X Mult XX* and *Securitas Reipub* produced a rather more substantial counterfeit coinage, which seems to have been only *endemic* in character (Plate 44, 50–51).

Before studying the problems raised by these different series of imitations it will be useful to have a look at the mints which produced them. Unfortunately our knowledge of these workshops is very imperfect. We have no idea of their precise sites, but it is reasonable to suppose that they were situated in the center of the areas in which their products circulated. A study of dies based on the material found in hoards and of the coins from various sites would make a better geographical approach possible, but such an investigation, which would be long and difficult, has thus far not been attempted. However, it

can be accepted for the moment that imitations of the period 318–363 were produced in local workshops in Britain, and Gaul, mainly in areas north of the Seine, in the Rhineland, Illyria, the Iberian peninsula and Egypt.

ALLOYS

What metal was used in these local workshops? It is very unlikely that the forgers produced their own alloys. They must have melted down either the bronze in everyday objects or ingots, or coins withdrawn from circulation. The second hypothesis is confirmed in a number of different circumstances. J. N. Barrandon and C. Brenot have analyzed 12 imitations of the *Victoriae laetae* coins by neutron activation revealing silver content varying from 0.10 to 2.5%, with an average of 1.53%. In four imitations of the *Vota* type the percentage lies between 1.63 and 1.95, with an average of 1.79%.⁵ These copies, put into circulation shortly after the reform of 318 were doubtless made from the discredited folles. After the reform of 348 the proportion of silver in certain imitations of the *maiorinae* inscribed *Fel temp reparatio* is by no means negligible. A. Ravetz finds 0.7% of silver in a counterfeit *maiorina* of the galley type⁶ and L. H. Cope and H. N. Billingham find 0.36, 0.43 and 0.42% in similar specimens.⁷ It is the same with two Magnentian copies of the *Victoriae* type which have recently been subjected to a complete chemical analysis. They contain 0.54 and 0.59% respectively of the precious metal.⁸ And imitations of the *Fel temp reparatio* coins with the fallen horseman later

⁵ J. N. Barrandon and C. Brenot, "Analyses de monnaies de bronze (318–340) par activation neutronique à l'aide d'une source isotopique de Californium 252," *Les "dévaluations" à Rome, époque républicaine et impériale* (Rome, 1978), p. 135, 226–41.

⁶ A. Ravetz, "Neutron Activation Analysis of Silver in Some Late Roman Copper Coins," *Archaeometry* 6 (1963), p. 50, 117.

⁷ L. H. Cope and H. N. Billingham, "The Compositions of 35 Roman Bronze Coins of the Period A.D. 284–363," *BullHistMetalGroup* (1967), p. 5, 19–21.

⁸ P. Bastien, *Le Monnayage de l'atelier de Lyon, 337–363*, Annexe (in preparation), Imitations I 92 and I 102.

than 354 can show an appreciable proportion of silver: 1.2, 0.8, 0.9 and 0.9% according to A. Ravetz.⁹

However, in all series we find specimens with a very small proportion of silver or none at all. Such is the case with the imitations issued at the end of Constantine's reign or after it: *Gloria exercitus* have 0.2 and 0.3%, *Urbs Roma*, 0.4, 0.2 and 0.2%, and *Constantinopolis*, 0.2%, according to A. Ravetz.¹⁰ In another series of analyses C. E. King puts the percentages of silver in imitations from the period 335–41 between 0.0 and 0.4.¹¹ And after the reform of 348 some imitations contain no silver at all. Such is the case with a maiorina of the fallen horseman type analyzed by L. H. Cope and H. N. Billingham,¹² with another, later than 354, examined by A. Ravetz,¹³ and with three maiorinae of the two Victories type of Magnentius.¹⁴ In the latter cases there was no melting down of official coins; doubtless nonmonetary bronze was used.

The other components of the alloys used in imitations are less well known. So far as tin is concerned, C. E. King notes that 41.4% of the types from 330–41 contain only 0.0 to 0.4% of this metal, 20.7% between 0.5 and 0.9% and 19.5% between 1.0 and 1.4%.¹⁵ During the same period the percentage of lead varies between 9 and 13 in 40% of the specimens. This large proportion of lead tends to increase in counterfeits of the *Fel temp reparatio* type of 348. L. H. Cope and H. N. Billingham in fact report percentages of 22.98, 16.91 and 23.55 in the analysis of the specimens previously cited.¹⁶ And the five specimens of Magnentius mentioned above contain 22.71, 21.49, 28.10, 17.00 and 15.40% respectively of lead.¹⁷ This increase in the percentage of lead is also to be observed in the alloys of official coins and thus has no particular signi-

⁹ Ravetz (above, n. 6), p. 50, 118–20 and 122.

¹⁰ Ravetz (above, n. 6), p. 50, 111–16.

¹¹ C. E. King, "The Alloy Content of Folles and Imitations from the Woodeaton Hoard," *Pact* 1 (1977), pp. 96–97.

¹² Cope and Billingham (above, n. 7), p. 5, 26.

¹³ Ravetz (above, n. 6), p. 50, 121.

¹⁴ P. Bastien, *Le Monnayage de Magnence* (350–353), 2nd ed. (Wetteren, 1983), p. 111.

¹⁵ King (above, n. 11), p. 100.

¹⁶ Cope and Billingham (above, n. 7), p. 5, 19–21.

¹⁷ Bastien (above, n. 8), I 92 and I 102, and (above, n. 14), p. 111.

fificance so far as imitations are concerned,¹⁸ but it poses a metallurgical problem which demands study.

We have no analyses at our disposal for imitations of the bronze coins with the inscription *Spes Reipublice* or the silvered bronze coins with the inscription *Securitas Reipub.* To sum up, the file on alloys used in copies issued from the reform of 318 to the death of Julian turns out to be fairly thin and numerous analyses would be needed to complete it.

METROLOGY

The metrology of imitations of the period 318–63 encounters various difficulties. First, there is the lack of documentation, since most of the publications of hoards and of coins from particular sites do not mention the weights of the specimens cited. Then, to judge by the details known to us, it looks very much as if the weights of copies of the same period and of the same module can vary from one region to another. And when the module decreases, as it does in the second *epidemic* series after 330 and the fifth after 354, the averages would be only of interest if they were determined according to the diameter of the specimens. It is, however, possible that in the case of the *minimi* in particular, coins with different modules were issued together. In any case, the *minimi* and the *minimissimi* pose a problem that is difficult to solve. Did they represent divisions of heavier imitations? What was their exchange value? These questions remain unanswered for the moment.

Imitations of the coinage of 318 to 330 almost always show a module quite close to that of the original. The study of weights remains to be carried out for the local Gallic workshops. Publications rarely provide details and a census of specimens in public collections would be extremely useful. We shall take account here of two groups of imitations: the 21 specimens of the Chavannes hoard,¹⁹ the average weight of which

¹⁸ For analyses of official coins, see Bastien (above, n. 14), p. 77: 16.4, 16.4, 20.4, 8.0, 10.3, 11.1 and 9.8% for coins of the four Gallic mints, and Cope and Billingham (above, n. 7), pp. 5–6; 24, Constantius II: 17.41%; 29, Gallus: 13.08%; 31, Constantius II: 12.78%, type *Spes Reipublice*; 32, Julian: 21.82%; 33, Constantius II: 24.54%; 34, Julian: 34.36%.

¹⁹ L. Chaurand, "Le trésor de Chavannes," in *Mélanges de travaux offerts à M^e Jean Tricou* (Lyon, 1972), pp. 73–101 (revised figure).

is 2.46 g, and the 70 specimens bearing the Lyon mark which we have recently collected, the average weight of which is also 2.46 g.²⁰

The documentation is much more ample for the Danubian region. A. Alföldi studied 232 specimens (revised figure) of these copies, most of which bear the Siscia mark.²¹ From the weight of 180 of them an average of 2.63 g has been deduced. If we add the imitations described by K. Biró-Sey,²² C. Brenot²³ and M. R. Vasič,²⁴ we reach a total of 252 specimens, with an average weight of 2.64 g. In comparison, the average weights of the official nummi of the period 318–30 vary between 2.99 and 3.24 g for the mints at London, Trier, Lyon and Arles²⁵ and, for Lyon, on the basis of 1,435 specimens, from 2.99 to 3.15 g according to the issue.²⁶ The averages are slightly higher in the Balkan mints: 3.06 to 3.24 g for issues from Siscia, 3.11 to 3.19 g for those of Sirmium, on the basis of 6,659 specimens.²⁷

The imitations put into circulation from 330 onward are, as is well known, extremely numerous and of very varied modules. J.-P. Callu and J.-P. Garnier have established the corpus.²⁸ This was a substantial bibliographical task and one that is very valuable for the study of the circulation of the local coinage, but it reveals the lack of interest in metrology in most publications. We shall therefore confine ourselves to mentioning a few averages based on our personal documentation and some inventories of sites where weighing the coins was not excluded.

²⁰ P. Bastien, *Le Monnayage de l'atelier de Lyon, 318–337*, Numismatique Romaine 13 (Wetteren, 1982), p. 114.

²¹ A. Alföldi, "Materialien zur Klassifizierung der gleichzeitigen Nachahmungen von römischen Münzen aus Ungarn und den Nachbarländern," *Numizmatikai Közlemény* (1926), pp. 37–43, pls. 1–6.

²² K. Biró-Sey, "Contemporary Roman Counterfeit Coins in the Niklovits Collection," *Folia Arch* 28 (1977), p. 100, 15–23.

²³ C. Brenot, "Le trésor de Bikič-Do (environs de Šid, Voïvodine)," *Sirmium* 8 (Rome-Belgrade, 1978), pp. 97–98 (28 specimens).

²⁴ M. R. Vasič, "A IVth and Vth Centuries Hoard of Roman Coins and Imitations in the Collection of the National Museum in Belgrade," *Sirmium* 8 (Rome-Belgrade, 1978), pp. 119–26 (35 specimens, cast imitations not being taken into account).

²⁵ Bastien (above, n. 20), pp. 66–67.

²⁶ Bastien (above, n. 20), p. 75.

²⁷ Brenot (above, n. 23), pp. 23–24.

²⁸ J.-P. Callu and J.-P. Garnier, "Minimi constantiniens trouvés à Reims, Appendice II: Corpus des imitations," *NumAntClas* 6 (1977), pp. 300–315.

We examined 28 imitations of the types *Gloria exercitus*, *Urbs Roma* and *Constantinopolis*, ranging from 13 to 17 mm in diameter and weighing between 1.06 and 2.49 g (average 1.50); and 13 imitations of the same reverses, ranging from 9 to 12 mm in diameter and from 0.66 to 1.53 g in weight (average 0.92).²⁹ J. Lallemand, in her study of the coins found in the Sambre at Namur, enumerates 5 imitations of 13 to 17 mm weighing between 0.97 and 2.06 g, with an average of 1.36 g and 16 imitations of 7.8 to 12.9 mm from 0.25 to 1.38 g with an average of 0.75 g.³⁰ At Brunehaut-Liberchies, where the diameters are not specified, 11 copies weigh between 1.14 and 1.74 g, with an average of 1.36 g, and 31 weigh from 0.28 to 0.99 g, with an average of 0.64 g.³¹ At Dourbes the imitations which bear Lyon marks and the weights of which are known divide as follows: *Gloria exercitus* (two standards), 5 specimens of 0.73 to 1.36 g, average 1.07 g; *Gloria exercitus* (one standard), 14 specimens of 0.39 to 1.01 g, average 0.65 g; *Constantinopolis*, 22 specimens of 0.27 to 1.27 g, average 0.77 g; *Urbs Roma*, 20 specimens of 0.33 to 1.18 g, average 0.82 g; hybrids, 9 specimens of 0.39 to 0.82 g, average 0.63 g.³²

The material from three French sites listed by J.-P. Callu and J.-P. Garnier brings other figures for different geographical areas.³³ At Saclas (Essone) 42 specimens weigh on average 0.60 g; at Entrains (Nièvre) 39 specimens weigh on average 0.77 g. Les Bolards (Côte d'Or) discloses 26 specimens weighing on average 0.74 g. Apart from two minimi of 8 mm, the diameters vary from 10 to 14 mm, with an average of 11.5 mm. The 24 specimens from Camp Ferrus (Tarn) have been described by G. Depeyrot.³⁴ Their average weight is 0.60 g, with diameters varying from 7 to 17 mm. At Segontium, G. C. Boon has listed 20 imitations of the type *Gloria exercitus* with two standards, weighing from 0.48 to 2.01 g, 22 *Urbs Roma* of 0.39 g to 1.29 g, 27 *Constantinopolis*

²⁹ Bastien (above, n. 8), 33 of these imitations are illustrated, I 1–I 33.

³⁰ J. Lallemand, "Monnaies antiques trouvées dans la Sambre (Namur, abords du pont de Sambre)," *RBN* 1956, pp. 78–79.

³¹ J. Lallemand, "Les monnaies du castellum du Bas-Empire de Brunehaut-Liberchies," *RBN* 1974, pp. 53–63.

³² Dourbes, Roche à Lomme (prov. de Namur). Unpublished documentation of J. Lallemand.

³³ Callu and Garnier (above, n. 28), pp. 306–7.

³⁴ G. Depeyrot, "Inventaire des monnaies de Camp Ferrus (commune de Loubers, Tarn, France)," *Bull. Féd. Tarnaise de Spéléoarchéologie* (1978), p. 15, 406–29.

between 0.40 and 2.15 g, 1 *Pietas Romana* of 0.30 g, 1 *Pax publica* of 0.67 g and 20 *Gloria exercitus* with one standard weighing from 0.32 to 1.22 g. The diameters are not specified. Of 87 specimens weighed, the average is 0.91 g.³⁵

Finally, the little hoard of Rheims provides us with a particularly useful publication, in which all the coins are illustrated and well described, with their weights and diameters.³⁶ In spite of the differences in the modules, this collection gives us the impression of homogeneity. The diameters of 38 specimens vary from 7.5 to 12 mm and the weights from 0.26 to 1.12 g with an average of 0.61 g. It will be noted that the averages of the batches previously cited vary, but the majority of them lie between 0.61 and 0.75 g.

Imitations of the type *Victoriae Dd Auggq Nn* are much less numerous than the preceding ones. They must have appeared after 342 and were probably struck at the same time as the imitations of the *Gloria exercitus*, *Urbs Roma*, etc. types for some time. But by themselves they should not be classed as part of the *epidemic* phenomenon. The relative rarity of the *Victoriae* becomes apparent when we compare their number with that of the *Gloria exercitus*, *Urbs Roma* and *Constantinopolis* in the batches examined above: Lyon (4 specimens, 0.80, 1.22, 1.06, 2.02 g),³⁷ Namur (3 specimens, 1.74, 1.34, 0.63 g),³⁸ Brunehaut-Liberchies (6 specimens, 0.92, 0.60, 0.86, 0.53, 0.50, 0.83 g),³⁹ Saclas (5 specimens), Les Bolards (5 specimens, 0.83 g on average), Entrains (5 specimens, 0.64 g on average).⁴⁰ Thus from the metrological point of view those imitations are very close to the preceding ones.

The creation of the *maiorina* with the reverse *Fel temp reparatio* in 348 unleashed a third substantial series of imitations, though smaller in volume than the second. The Heslington⁴¹ and Oldcroft⁴² hoards

³⁵ G. C. Boon, "Segontium Fifty Years On, The Coins," *Archaeologia Cambrensis* 125 (1976), pp. 68-72.

³⁶ Callu and Garnier (above, n. 28), pp. 297-99.

³⁷ Bastien (above, n. 8), I 34-I 37.

³⁸ Lallemand (above, n. 30), p. 79.

³⁹ Lallemand (above, n. 31), p. 69.

⁴⁰ Callu and Garnier (above, n. 28), pp. 306-7.

⁴¹ R. A. G. Carson and J. P. C. Kent, "A Hoard of Roman Fourth Century Coins from Heslington, Yorkshire," *NC* 1971, pp. 221-25.

⁴² J. F. Rhodes, "The Oldcroft (1971-2) Hoard of Bronze Coins and Silver Objects," *NC* 1974, p. 73.

buried about 358 give some idea of the relative proportions of the last four outbreaks of counterfeits that we are studying here, and in particular of the two different series of *Fel temp reparatio*.

<i>Types</i>	<i>Heslington</i>	<i>Oldcroft</i>
<i>Gloria exercitus, Urbs Roma, Constantinopolis</i> etc.	22	6
<i>Victoriae Dd Auggq Nn</i>	3	0
<i>Fel temp reparatio</i> (348–50)		
Galley	45	41
Phoenix	0	2
Magnentius (350–53)	372	250
<i>Fel temp reparatio</i> (354–58)		
Fallen Horseman (and some reverses of Magnentius for Constantius II and Gallus)	844	1123
Various, overstrikes	300	222

The *Fel temp reparatio* imitations issued from 348 to 350 in Gaul, Britain, the Danubian provinces and Egypt respect on the whole the module of the originals, but their average weight is less than the official coins. The type with galley is the one most often reproduced, while imitations with the hut are relatively rare.⁴³ As for the type showing the fallen horseman, the specimens with a big module belong to this period of imitations, at any rate so far as the ones circulating in Gaul and Britain are concerned. They ceased in fact to be issued as soon as Magnentius seized control and were replaced by imitations of the new types created by the usurper. But in the Balkan regions and in Egypt the situation is not the same and copies of *maiorinae* with the fallen horseman on the reverse continued to be produced for some years, probably until 353, with a tendency toward smaller modules and lower weights. A few imitations of 348–50 bearing the Lyon mark give an idea of their

⁴³ The *Fel temp reparatio* coins with the hut are in fact 5/6 of *maiorinae*, which explains why they are imitated much less often.

weight and diameter, which were very close to those of the originals: galley type, 14 specimens, between 20 and 22 mm and between 3.56 and 7.50 g, average 5.17 g; hut type, 2 specimens, 20 mm, 3.25 and 4.08 g; fallen horseman type, 4 specimens, 21 and 22 mm, between 4.63 and 7.42 g, average 5.99 g.⁴⁴ Obviously we are dealing here with a selection of imitations, and the average weight of a larger number of specimens would probably lie below the standard of the *maiorina*, which is about 5.20 g. This is the case in a series of imitations of *maiorinae* published by M. R. Vasič, some of them coming from the Boljetin hoard.⁴⁵ We have put aside the specimens described as being cast, although their number does not coincide with what the author writes in his publication of the hoard: "It should also be noted that all these specimens are cast, as everywhere else in the Roman empire."⁴⁶ We cannot accept this statement, the majority of imitations of this period being well struck. Moreover, all the imitations from Boljetin reproduced on pl. 30 are of different obverses and reverses. If they had been cast, they would have been based on a large number of struck imitations. There is a problem here that can only be resolved by a fresh examination of the material. However that may be, if we follow M. R. Vasič's catalogue we can count three specimens of the galley type, weighing 5.20, 4.80, and 3.30 g, and one of the hut type, weighing 3.90. The 18 specimens of the fallen horseman type have diameters varying between 19 and 22 mm and weights of 2.80 to 6.00 g, with an average of 4.54 g. Five imitations of the *Fel temp reparatio* fallen horseman type from the hoard at Luxor in Egypt may date, like those of Illyria, from the period 348–53. With a module slightly smaller than the normal one, they weigh 1.55, 2.99, 3.15, 4.88 and 5.68 g, that is, an average weight of 3.65 g.⁴⁷

Imitations of the coins of Magnentius are extremely numerous. They can be divided into two groups, one consisting of copies approximating the module of the *maiorina*, the other to that of the half *maiorina*. Imitations of standard coins generally weigh distinctly less

⁴⁴ Bastien (above, n. 8), I 38–I 57.

⁴⁵ Vasič (above, n. 24), pp. 127–30, pl. 30.

⁴⁶ M. R. Vasič, "Le trésor de Boljetin (iv^e siècle)," *Sirmium 8* (Rome-Belgrade, 1978), p. 143.

⁴⁷ P. Bastien, "Imitations *Fel temp reparatio* en Egypte (trouvaille de Louxor)," *BSFN* 10 (1982), pp. 258–59, 1–5.

than official coins, as is shown by the table below, which lists both the variations in the average weights in the various mints for the first six phases of the coinage⁴⁸ and the average weights of imitations bearing the Lyon marks.⁴⁹

<i>Average Weights from Official Mints</i>		<i>Average Weights of Imitations</i>
First phase:	5.09–5.17	
Second phase:	4.95–5.02	13 specimens: 4.30
Third phase:	5.01–5.30	10 specimens: 3.71
Fourth phase:	4.72–5.05	
Fifth phase:	4.44–4.73	29 specimens: 4.02
Sixth phase:	3.88–4.46	

The progressive decline in the weight of the official maiorina was thus followed by the imitations. In addition, the average weights of these copies are excessive, for they are based on specimens chosen for illustration. For the fourth to sixth phases we had obtained a much lower average: 3.17 g, based on 131 specimens from the hoard in the Lyon region.⁵⁰ Imitations of half maiorinae, generally the Victories type, are frequently discovered in excavations and also occur in hoards. The hoard of Les Fontaines-Salées, which we shall take as an example, includes specimens of the two principal types of these imitations. The first, with the reverse of the two Victories, approximates the module of the half maiorina and the 7 copies of 15 to 17 mm weigh from 1.02 to 1.81 g, with an average of 1.46 g.⁵¹ The second, with the same reverse, is represented by 54 specimens, with the same dies often recurring. The diameter of these copies varies from 12 to 14 mm and the weights range from 0.33 to 1.51 g. The average weight is 0.86 g and a histogram shows a regular curve for this homogeneous batch, with the peak at

⁴⁸ Bastien (above, n. 14), pp. 222–23, table 3.

⁴⁹ Bastien (above, n. 8), I 60–I 82, I 84–I 109, I 115.

⁵⁰ P. Bastien, "Trésor de monnaies de bronze de Magnence et Décence," *RBN* 1962, pp. 59–65, 328–458.

⁵¹ G. Fabre and M. Mainjonet, "La trouvaille monétaire des Fontaines-Salées (Yonne)," *Gallia* 23, 1 (1965), pl. 4, 79–85.

0.80 g.⁵² The authors regarded this collection as regular coinage from the Lyon mint, but these coins can only be imitations, because of their very light weights, the style of the portraits and the gross errors in the inscriptions. The figure of 0.86 g approximates the average weight of small imitations of the types *Gloria exercitus*, *Urbs Roma*, *Constantinopolis* and *Victoriae Dd Auggq Nn*.

Imitations of the bronze coins of Magnentius's reform inscribed *Salus Dd Nn Aug et Caes* are far less numerous than imitations of the maiorinae and half maiorinae issued from 350 to 352. They copy the modules of the coins of the first issue and of the two reductions which followed it. In *Le Monnayage de Magnence* we reproduced two copies with a large module weighing 12.80 and 6.96 g, a copy of the first reduction, 5.59 g, and two with the module of the second reduction, weighing 3.92 and 3.00 g.⁵³ We add 4 new specimens with a large module, 10.13 and 6.31 g, with that of the first reduction, 6.98 g, and with that of the second, 3.68 g.⁵⁴ Two imitations with a large module from a hoard of 120 coins of Magnentius's reform weigh 7.53 and 9.09 g.⁵⁵ These few metrological indications suggest that the forgers cannot have departed far from the weights of the prototypes.

The fifth *epidemic* series of imitations followed the reign of Magnentius and copied the half maiorinae *Fel temp reparatio* of the fallen horseman type which in 354 replaced the maiorinae. A very large number of these counterfeits was produced. Their circulation covered Gaul, Britain, where they are particularly numerous, the Iberian peninsula, Egypt and possibly to a lesser extent the Danubian provinces and Asia Minor. Diameters vary from that of the half maiorina to that of the minimissimi. As with the series *Gloria exercitus*, *Urbs Roma* and *Constantinopolis*, it looks as if the module was progressively reduced during the four years or more in which this coinage circulated. A few publications demonstrate the great variety in module and weight of these copies. Eight imitations bearing the Lyon marks have diameters between

⁵² Fabre and Mainjonet (above, n. 51), p. 159, 113–66 and pl. 5.

⁵³ Bastien (above, n. 14), p. 217, pl. 18, 59–60, 58, 61 and 62 respectively.

⁵⁴ Bastien (above, n. 8), I 116–I 118 and I 120.

⁵⁵ R. Weiller, "Ein Münzschatzfund aus der Zeit des Kaisers Magnentius," *APA* 1 (1970), pp. 187–89, 119–20.

10 and 17 mm and weights ranging from 0.90 to 2.70 g.⁵⁶ Among the coins from the Sambre at Namur J. Lallemand counts 3 *Fel temp reparatio* imitations of 15 to 17.1 mm, weighing 1.35, 1.96 and 2.68 g. Five others weigh between 0.31 and 0.80 g, with an average of 0.57 g for diameters of 7.5 to 11.5 mm.⁵⁷ At Saclas 58 imitations of the same type have an average weight of 0.59 g.⁵⁸ At Les Fontaines-Salées 8 imitations of 8 to 17 mm weigh from 0.57 to 1.31 g, with an average weight of 1.05 g.⁵⁹ A very substantial number come from Camp-Ferrus.⁶⁰ The 141 specimens, with diameters varying from 5 to 18 mm but forming, to judge by the photographs, a homogeneous group, weigh between 0.05 and 1.63 g; only three exceed 1 g. The average weight works out at 0.36 g. At Segontium, 7 other specimens range between 0.80 and 1.26 g.⁶¹ Finally, a homogeneous batch of 11 Egyptian imitations, with a diameter slightly smaller than that of the half maiorina, weighs on the average 1.96 g.⁶² Overstrikes of the *Fel temp reparatio* type, generally discovered in Britain, cannot be used in a metrological study, but they pose interesting problems to which we shall return.

The creation in 358 of the *Spes Reipublice*, weighing under 2.00 g, provoked only a limited production of imitations. Many catalogues of coins from sites and hoards do not list any at all or mention only one or two specimens. In this respect Camp Ferrus is worth noting, for 20 copies of this type were discovered there, one of 13 mm weighing 1.52 g and 19 of 5 to 11 mm and 0.07 to 0.83 g, with an average of 0.33 g.⁶³ It is certain that the wide circulation of reduced siliquae, the striking of which began at the same period, reduced the role of bronze, which it was less profitable to copy. Forgers were going to turn their attention at this point to the imitation of silver coins.

Imitations of the bronze coins inscribed *Vot X Mult XX* and *Securitas Reipub* are relatively rare. J. P. C. Kent thinks that "the Julian 'Bull' type attracted a great deal of imitations during its short ca-

⁵⁶ Bastien (above, n. 8), I 121–I 128.

⁵⁷ Lallemand (above, n. 30), p. 79, 269–72 and 275–78.

⁵⁸ Callu and Garnier (above, n. 28), p. 306.

⁵⁹ Fabre and Mainjonet (above, n. 51), pl. 5, 167–74.

⁶⁰ Depeyrot (above, n. 34), pp. 15–16, 441–581.

⁶¹ Boon (above, n. 35), p. 74, 743–49.

⁶² Bastien (above, n. 47), pp. 258–59, 6–16.

⁶³ Depeyrot (above, n. 34), p. 16, 582–601.

reer,"⁶⁴ but it does not look as if the phenomenon was very widespread. We have not in fact found any substantial series of imitations of Julian's bronze coins in the inventories of sites and hoards, and we shall confine ourselves to giving weights and diameters of copies of the Lyon mint, 3.23 to 8.35 g for modules of 21 to 25 mm,⁶⁵ and of two others with an illegible mark, 6.64 g and 22 mm, 7.33 g and 24 mm.⁶⁶

In conclusion, the metrological problem of the imitations of 318–63 needs to be reconsidered as a whole, on the basis of a substantial number of coins weighed, measured and photographed. However, a certain number of observations can be offered from the preceding data for the five principal series of imitations. Imitations of the nummi of the reform of 318 are usually struck on disks with a module close to the normal one, and the average weight represents about 4/5 that of the originals. Imitations of the late Constantinian *Gloria exercitus* and similar types at first reproduce the official coins with a diameter near the models and a weight below the normal. The copies then grow progressively smaller and end up as minimissimi of 7 mm or less. Homogenous batches of minimi like that from Rheims have an average weight of 0.61 g, while others, comprising specimens with a module of less than 12 mm, vary in average weight from 0.60 to 0.92 g. Imitations of the maiorinae *Fel temp reparatio* of the reform of 348 are characterized by a weight and diameter close to those of the prototypes. Certain copies distinctly exceed the maiorina in weight but the average weights tend to fall below those of the regular coins. Imitations of the Magnentius maiorinae have in general a good module, but weigh roughly a gram less than the official coins. Imitations of the half maiorinae are of two types. Either they are close to their model with an average weight of about a gram less, or they have a smaller module, from 12 to 14 mm, and weigh less than a gram. They rarely evolve toward the module of minimi. Imitations of the half maiorinae *Fel temp reparatio* of the fallen horseman type, issued since 354, at first reproduce the originals, with a good module and a slightly lower weight, but, as with copies of the second series, weights and diameters diminish and end up as minimi weighing

⁶⁴ *RIC* 8, p. 90.

⁶⁵ Bastien (above, n. 8), I 129–I 132.

⁶⁶ P. Bastien, "Imitations du monnayage des Tétrarques et de la famille constantinienne," *BCEN* 2 (1981), pp. 37–39, 30–31.

on average less than 0.40 g in the case of a substantial lot such as that of Camp Ferrus. Compared with these five substantial outbreaks of imitations, copies of *Victoriae Dd Auggq Nn*, *Spes Reipublice*, *Vota* and *Securitas Reipub* play only a secondary role. By and large, during this long period there were imitations which approximate in weight and module to the official coins and a vast production of small copies whose weights vary between 0.30 and 0.90 g.

ENGRAVERS

One of the problems which confronts the numismatist is that of defining the imitation, that is, tracing the limits which make it possible to distinguish an official coin from a copy of it. This is not always easy, especially for imitations of the nummi of the reform of 318 and those of the Magnentian period. During these two periods the forgers sometimes engrave portraits of a quality close to that of the originals and some reverses cannot be distinguished from those of the regular coins. The good imitation can be recognized either by a portrait that is well executed but in a style differing from that of the official portraits, or else by small defects of engraving or anomalies in the *ductus* of the letters. But, after all, the imperial coinage also offers examples of abnormal manufacture. Thus in the absence of objective criteria everyone interprets the coin subjectively. One person will regard it as official, another as only a counterfeit. Long practice makes it possible to be more confident in diagnosing an imitation, but in some cases it is quite simply impossible to make up one's mind. Consequently we find scholars introducing into a corpus of official coins issues described as "irregular," a term which reflects the author's doubt. If there is any doubt, the coins should not figure in the corpus. This is the case with P. M. Bruun when he writes about the coinage of 318–25.⁶⁷ For the same period others content themselves with reproducing the suspect coin and classifying it as an official series, while expressing their uncertainty.⁶⁸ And so far as the Magnentian period is concerned one must part com-

⁶⁷ *RIC* 7 (Trier), pp. 200–201, 416–28; (Siscia), pp. 436–37, 100–108; pp. 440–41, 134–39.

⁶⁸ Bastien (above, n. 20), nos. 81, 107, 155, 156, 176, 191a–191b.

pany with *RIC* 8, which describes specimens that are certainly copies.⁶⁹ From the abundant evidence at our disposal we shall choose two cases which will lead us to various reflections on the engraving of the dies and their employment in irregular workshops.

The first is a copy of a nummus of Constantine II from the Lyon issue *Beata tran-quillitas*. The prototype depicts a bust of the emperor with cuirass and *paludamentum* seen from back, and the inscription **CONSTANTINVS IVN NOB C** (Plate 44, 52).⁷⁰ The imitation has a quite well engraved portrait but one very different from the usual type. As is often to be observed in this type of copy, the part of the *paludamentum* resting on the left shoulder is badly interpreted by the engraver, who transforms it into a sort of hook in front of the bust. The inscription **CONSTANTINVS IVN N CAES** is quite abnormal. On the other hand, one can make no criticism of the reverse (Plate 44, 53).⁷¹

The second is an imitation of a Magnentian maiorina. On the obverse one sees an excellent portrait of the emperor and a correct inscription, but behind the bust a very unexpected **B** instead of an **A**, mark of the maiorina. The reverse, the two Victories with cippus, is of extremely awkward execution. Beyond a doubt, it is an imitation (Plate 44, 55).⁷² For comparison, we reproduce an official coin of the same type (Plate 44, 54):⁷³ the portraits on these two coins indeed seem to come from the same hand.

Numerous similar cases exist and from them we can deduce two facts: first, that reverse dies could temporarily be taken away from the imperial mints to be utilized in counterfeiters' workshops, and second, that some official engravers were clandestinely working in these workshops. In the case of the Magnentian imitation the *sculptor* realized an excellent portrait, but by ignorance the one who reproduced the letters transformed an **A** into a **B**.

We have never seen imitations made with an official obverse die and a counterfeit reverse die. This is explained by the fact that obverse dies

⁶⁹ Bastien (above, n. 14), 2nd ed. (Wetteren, 1983), nos. 150, 156–58, 174a; pl. S7, *RIC* 8, 111, 113 (2), 114, 127.

⁷⁰ Bastien (above, n. 20), 149.

⁷¹ Bastien (above, n. 20), pl. 24, I 46.

⁷² Bastien (above, n. 8), I 88.

⁷³ Bastien (above, n. 8), no. 153.

showing the imperial effigy were kept under lock and key after use, whereas the reverse dies remained in the officinae.⁷⁴

The clandestine activity of official engravers was well known at the time imitations of nummi were issued following the reform of 318, as is evidenced by a law of emperor Constantine, dated November 20, 321: "*Quoniam nonnulli monetarii adulterinam monetam clandestinus sceleribus exercent . . .*"⁷⁵ After E. Babelon, some have deduced from this law that the *monetarii* were working at home for official mints.⁷⁶ In fact nothing of the kind is mentioned by ancient writers. Even the text of Sozomen is not explicit on this point. Recently J.-P. Callu⁷⁷ reinterpreted this text and agrees with the opinion of E. Babelon and the more recent one of J. H. W. G. Liebeschuetz.⁷⁸ But can we be sure that *monetarii* living in Cyzicus with their families were really working at home? The number of coins they had to provide each year according to the status of their corporation could certainly have been produced at the mint itself. One cannot see the monetary administration giving its workers the use of obverse and reverse dies without any control. This latitude would have allowed clandestine fabrication of *official* coins, easy to put in circulation. Several laws of the fourth century express the constant preoccupation of the imperial administration with its coinage and it is hard to believe in widespread and more or less unverified minting.

So it seems that in the illegal workshops there were good engravers, certain of them employed in the official mints and others of poor ability or quite inexperienced. For the tetrarchic period we have already established this association. Of two folles struck with the same reverse die the first has an obverse die of good quality and the second is quite unskillful.⁷⁹

⁷⁴ P. Bastien, "Folles de l'atelier de Lyon frappés avec le même coin d'effigie dans deux officines distinctes," *SM* 39 (1960), p. 75–77.

⁷⁵ Cod. Theod., 9, 21. 2, in Th. Mommsen, *I*₂ (Berlin, 1954), p. 471.

⁷⁶ E. Babelon, *Traité*, vol. I, col. 870; J. Maurice, *Numismatique constantinienne*, 1 (Paris, 1908), p. 372.

⁷⁷ J.-P. Callu, "Sozomène, V, 15 et la corporation des monétaires," *BSFN* 7 (1972), p. 271–73.

⁷⁸ J. H. W. G. Liebeschuetz, *Antioch, City and Imperial Administration in the Later Roman Empire* (Oxford, 1972), p. 57–58.

⁷⁹ P. Bastien, "Imitations de folles de la première tétrarchie," *RIN* 1980, p. 127–28.

In our opinion this makes less convincing the classifications by degree of quality proposed by some numismatists. P. V. Hill, to whom we are indebted for extensive research on the irregular coinage of the third and fourth centuries, divides those of the fourth century into three categories: the first includes well-reproduced specimens but with some errors in the inscriptions, the second those with degenerated portraits with an occasional tendency toward stylization and the third, barbaric coins.⁸⁰ M. R. Vasiè sees four groups in the imitations of the period 318–330⁸¹ and G. C. Boon reduces them to two in the first two *epidemic* series of imitations.⁸²

We believe that a statistical study of dies for a given issue would show that the various categories proposed are in fact mixed. Even on minimi we observe good portraits and others of barbaric style. In a homogeneous hoard such as the one found at Rheims, busts of nos. 22, 27 and 29 are skillfully engraved while those of nos. 7, 18 and 35 are particularly clumsy.⁸³

In mints of counterfeiters as in official mints, dies can be reengraved. A good example of this practice can be seen in the homogenous lot of *Fel temp reparatio* imitations in the Luxor hoard. An obverse die was modified twice: first by suppressing a great part of the diadem and replacing it by the letters CONST, and second by trying to suppress this inopportune inscription on the imperial head (Plate 44, 56–58).⁸⁴

There is a special problem about some inscriptions. There are imitations, almost always of the *Fel temp reparatio* fallen horseman type (there is one exception of the galley type), that bear the inscriptions DOMINO CARAVSIVS CES (and variants) or CENSERIS. Some British numismatists propose the existence of a usurper, Carausius II. These imitations, even if they refer to an actual personage, must be classified as copies struck after 354.⁸⁵

⁸⁰ P. V. Hill, "Barbarous Imitations of Fourth-century Roman Coins," *NC* 1950, p. 234.

⁸¹ M. R. Vasiè, "Les imitations de la monnaie romaine des iv^e et v^e siècles," *Frappe et ateliers monétaires dans l'antiquité et le moyen-âge* (Belgrade, 1976), p. 80.

⁸² Boon (above, n. 2), p. 129.

⁸³ Callu and Garnier (above, n. 28), p. 297.

⁸⁴ Bastien (above, n. 47), p. 258–59.

⁸⁵ See J. P. C. Kent, "Carausius II—Fact or Fiction?" *NC* 1957, p. 78–83; Boon (above n. 2), p. 134–35.

OVERSTRIKES

Use of official or imitated coins for striking new types is an old practice in counterfeiters' workshops. The bronze coinage of Postumus provides numerous examples of it. During the fourth century it happens chiefly in Britain. J. W. E. Pearce has observed that 64 imitations of the *Fel temp reparatio* fallen horseman type were overstruck on the following official coins: *Gloria exercitus* two standards (7 specimens), one standard (17 specimens), *Urbs Roma* (5 specimens), *Constantinopolis* (3 specimens), *Pietas Romana* (1 specimen), *Victoriae Dd Augqq Nn* (17 specimens), *Fel temp reparatio* of various types (6 specimens), unidentified (8 specimens).⁸⁶ C. H. V. Sutherland and J. P. C. Kent returned to this problem several times⁸⁷ and G. C. Boon, studying it with more material, was able to confirm that overstrikes from this period are above all a British phenomenon.⁸⁸ The Heslington hoard gives us a particularly clear example of that. It contains 297 overstrikes made in irregular mints. One of them, of the *Fel temp reparatio* fallen horseman type, is struck on an imitation of the *Victoriae Dd Augqq Nn* type, the remaining 296 being struck on official coins. The latter are: 1 *Felicitas Reipublice* of Magnentius on a *Gloria exercitus* with two standards, 1 *Victoriae Dd Nn Aug et Caes* of Magnentius on a *Gloria exercitus* with one standard and 294 *Fel temp reparatio* fallen horseman of Constantius II on 1 Tetricus, 1 *Requies*, 52 *Gloria exercitus* with two standards, 29 *Gloria exercitus* with one standard, 28 *Urbs Roma*, 19 *Constantinopolis*, 6 *Pax publica*, 1 *Pietas Romana*, 68 *Victoriae Dd Augqq Nn*, 1 *Fel temp reparatio* phoenix, 22 *Fel temp reparatio* fallen horseman and 66 of uncertain identification.⁸⁹

Compared to this important British coinage, overstrikes from the continent and the east are rare. J. W. Pearce has noted three

⁸⁶ J. W. E. Pearce, "Barbarous Overstrikes Found in Fourth-Century Hoards," *NC* 1939, p. 270, pl. 15.

⁸⁷ C. H. V. Sutherland, "Carausius II, Censorius, and the Barbarous *Fel Temp Reparatio* Overstrikes," *NC* 1945, p. 125-33; Kent (above, n. 85), p. 81-82, and "Barbarous Copies of Roman Coins: Their Significance for the British Historian and Archaeologist," *Limeskongress* (Rheinfelden-Basel, 1957), p. 65.

⁸⁸ Boon (above, n. 2), p. 131.

⁸⁹ Carson and Kent (above, n. 41), p. 224.

Fel temp reparatio fallen horseman overstruck on *Fel temp reparatio* with two captives from an eastern hoard.⁹⁰ From a previous period R. Delmaire has reported an overstruck radiate with a *Constantinopolis* obverse and an *Urbs Roma* reverse.⁹¹

This abundance of overstrikes of the *Fel temp reparatio* fallen horseman type in Britain can be explained by a law enacted by Constantius II on March 8, 354.⁹² This rescript, so important in many respects and once again severe against counterfeiters, cites several types of coins for which J. W. E. Pearce,⁹³ followed by other scholars such as J. P. C. Kent⁹⁴ have proposed the following interpretation: 1) the *pecuniae in usu publico constitutae* were the legal coins (namely, the half *maiorinae Fel temp reparatio* fallen horseman of the 354 reform); 2) the *pecuniae maiorinae* represented the *maiorinae* of the 348 reform which had been struck until 354 and were no longer valid currency; 3) the *centenionales communes* comprised the *nummi* issued from 318 until 348 (these were no longer valid currency either); and 4) the *pecuniae vetitae* were prohibited coins and had to be those of Magnentius.

So the demonetized coins were gathered by British counterfeiters and overstruck with the new *Fel temp reparatio* reverse, the only one henceforth in use. Why did these overstrikes occur chiefly in Britain? Probably because a great number of the demonetized *nummi* were still in circulation in this part of the Empire.

GEOGRAPHY-CHRONOLOGY

We shall confine ourselves to the five *epidemic* issues, these being the only ones related to an economic phenomenon whose causes, still poorly understood, will be discussed in the next section.

⁹⁰ J. W. E. Pearce, "Barbarous Overstrikes found in Fourth-Century Hoards: Some Additional Evidence from the East," *NC* 1940, p. 162–63.

⁹¹ R. Delmaire, "Monnaies romaines des fouilles de la cathédrale de Thérouanne (Pas-de-Calais)," *Revue du Nord* 239 (1978), p. 780, 65 = p. 785, 360.

⁹² Cod. Theod., 9. 23, 1, Mar. 8, 356, I₂, p. 475; date corrected by *PRLE* 1, p. 783.

⁹³ Pearce (above, n. 86), p. 282–83.

⁹⁴ *RIC* 8, p. 65.

Imitations of the types following the reform of 318 do not present serious problems concerning their geographical distribution. They circulated chiefly in Gaul, in the Danubian provinces and in Britain. We have already drawn attention to the rather small percentage of these imitations in hoards buried after 318.⁹⁵ But these percentages are likely to be biased on the low side, hoarders having probably eliminated imitations of poor style or low weight. In addition, good imitations may have been classified as official coins when the inventories of these hoards were made. The percentages obtained for some of these hoards are as follows: *Gaul*, Ermsdorf, 2,764 specimens, 65 imitations (2.35%), Nodebais, 465, 1 (0.21%), Neuss, 1,021, 1 (0.49%), Chavannes, 1,037, 21 (2.02%); *Danubian provinces*, Nagytétény, 10,585, 21 (0.20%), Bikiš-Do, 10,590, 30 (0.28%), Flavia Solva, 639, 5 (0.79%), Petronell, 231, 1 (0.43%),⁹⁶ *Bulgaria*, 74, 0,⁹⁷ *Britain*, Freston, 2,624, 2 (0.08%),⁹⁸ Llanbethery, 814, 2 (0.25%),⁹⁹ Warsop, 341, 6 (1.76%),¹⁰⁰ Bentford, 67, 1 (1.49%).¹⁰¹

As far as the chronology of these imitations is concerned, it is clear that their manufacture followed issues of official coins, as is proven by analyzing hoards from before and after the reduction of 330. A small hoard found in northern France begins with *Victoriae laetae* and ends with *Providentiae* from Trier and London and *Virtus Augg* from Arles; this hoard contains 84 specimens including two imitations of *Sarmatia* and *Providentiae*.¹⁰² The Chavannes hoard stops with emissions of types *Providentiae*, *Securitas*, *Salus* and *Spes* and the imitations copy contemporary *Providentiae* and *Virtus Augg* from Arles.

⁹⁵ Bastien (above, n. 20), pp. 108–11.

⁹⁶ Bastien (above, n. 20), pp. 108–11.

⁹⁷ B. Overbeck, "Ein Schatzfund von Folles aus Bulgarien," *Chiron* 1 (1971), pp. 407–17, pls. 7–11.

⁹⁸ E. Owles, N. Smedley and H. Webb, "A Hoard of Constantinian Coins from Freston, Suffolk," *NC* 1972, pp. 156–57.

⁹⁹ G. C. Boon, "A Constantinian Hoard from Llanbethery, near Barry, Co. Glamorgan," *NC* 1960, p. 264.

¹⁰⁰ R. F. Bland and R. A. G. Carson, "Warsop (Notts.) Treasure Trove of Constantinian Folles," *NC* 1974, pp. 53–64.

¹⁰¹ J. Casey, "A Hoard of Constantinian Reduced Folles from Bentford, Middlesex," *NC* 1972, pp. 141–42.

¹⁰² P. Bastien, "Trouvaille de monnaies constantiniennes (317–328)," *RBN* 1964, pp. 53–68, pls. 5–6.

In the Bikič-Do hoard 10,581 of the specimens were issued until 324; the latest coins, of the *Vota* type, also appear as imitations. The Nagytétény treasure closes after the reform of 330 and imitations copy types issued between 318 and 330 but do not copy nummi issued after 330. That is not the case for Warsop, where the hoard is made up of coins issued between 318 and 330, with the exception of a *Soli invicto comiti* preceding 318 and of 8 nummi struck after 330 (4 *Gloria exercitus*, 2 *Urbs Roma* and 2 *Constantinopolis*); yet, of the 7 imitations, 6 are of *Beata*, *Vota* and *Virtus Augg*, whereas the last one is an *Urbs Roma* from Trier. This is a particularly good example of the contemporaneity of imitations, which proves that counterfeiters immediately abandoned the 1/96 pound nummi for 1/132 nummi as soon as circulation of the latter began.

Imitations of the types following the reforms of 330 and 336 are abundant. From the evidence gathered from hoards and from coins found on sites, we know that they circulated mainly in Gaul and Britain. The corpus by J.-P. Callu and J.-P. Garnier clearly demonstrates this, and also shows that these copies did not circulate very much in the rest of the Empire. A few specimens have been discovered in northern Italy, the Iberian peninsula, Algeria and Egypt.¹⁰³ Two recent publications attest to the rarity of imitations of this period in Syria and Asia Minor. At Apamea (Syria) were found 59 *Gloria exercitus* and 5 *Urbs Roma* and *Constantinopolis*,¹⁰⁴ in Sardis 224 *Gloria exercitus*, 25 *Urbs Roma* and 32 *Constantinopolis*.¹⁰⁵ In both cases, there are no imitations of these types.

In Gaul and Britain the geographical distribution of irregular coinage is deduced from analyses of hoards and inventories of sites. In addition to the study by J.-P. Callu and J.-P. Garnier we shall cite some recent publications. In Gaul the Traben-Trarbach hoard consists of 5 official coins struck before 348, 1 imitation *Virtus exercit*, 345 imitations *Gloria exercitus* (one or two standards), *Urbs Roma*, *Constantinopolis*, *Pax publica*, *Pietas romana*, one imitation *Victoriae Dd Augg*

¹⁰³ Callu and Garnier (above, n. 28), p. 300–315.

¹⁰⁴ J.-P. Callu, *Fouilles d'Apamée de Syrie*, 8, 1, *Monnaies antiques (1966–1971)*; 2. *Les monnaies romaines* (Bruxelles, 1979), p. 15.

¹⁰⁵ T. V. Buttrey, *Greek, Roman and Islamic Coins from Sardis: 2, The Roman Coins* (Cambridge, Mass., 1981), p. 141–60.

Nn and approximately 650 *minimi*. It also contains 67 coins struck after the reform of 348, most of them of Magnentius and the others of *Salus Aug nostri*, struck at Trier for Constantius II by Poemenius.¹⁰⁶ At Camp Ferrus, on the opposite side of Gaul, were found 140 specimens of *Gloria exercitus*, *Urbs Roma*, etc. and 24 of their imitations (14.70%).¹⁰⁷ In the Woodeaton hoard from Britain, out of a total of 1,565 coins (8 struck before 330 and the remainder from 330 to 341) there are 90 imitations of the same types (5.78%).¹⁰⁸ The small Bancroft hoard is made up of 76 *nummi*, 1 struck before 330 and 75 struck between 330 and 341; 19 of these are imitations of *Gloria exercitus*, *Urbs Roma*, etc. (25.33%).¹⁰⁹

Since Britain and Gaul were widely supplied with Constantinian imitations between 330 and 341, is it possible that local phenomena played a role in this circulation and even prolonged it in certain areas? When publishing the Cologne fountain treasure, which contains an *Urbs Roma* and several *Fel temp reparatio* imitations, M. R. Alföldi, using the historical and archaeological context, dated the filling in of the fountain in 360 and saw in this treasure a sample of the circulation between 355 and 359, the imitations being probably struck during that period.¹¹⁰ W. Binsfeld, adopting this hypothesis, proposes that the imitations and *minimi* of the Traben-Trarbach hoard were struck after the reign of Magnentius.¹¹¹ J.-P. Callu and J.-P. Garnier have since suggested that the issues of this irregular coinage occurred between 353 and 361, years troubled by Germanic incursions in Gaul.¹¹² R. Delmaire also reports issues of *minimi* of this type after 350.¹¹³ Recently,

¹⁰⁶ W. Binsfeld, "Eine Zerstörungsschicht des Jahres 353 in Traben-Trarbach," *Trier Zeitschrift* 36 (1973), pp. 119–25.

¹⁰⁷ Depeyrot (above, n. 34), nos. 54–255.

¹⁰⁸ C. E. King, "The Woodeaton (Oxfordshire) Hoard and the Problem of Constantinian Imitations, A.D. 330–341," *NC* 1978, pp. 38–65, pls. 12–16.

¹⁰⁹ C. E. King, "The Bancroft Roman Villa (Milton Keynes) Hoard of Folles, A.D. 330–341," *CH* 6 (1981), pp. 40–49, 175.

¹¹⁰ M. R. Alföldi, "Die Münzen aus einer Brunnenverfüllung in Köln," *Kölner Jahr. f. vor-und Frühgeschichte* 5 (1960/1), pp. 80–84, pl. 18.

¹¹¹ Binsfeld (above, n. 106), p. 119.

¹¹² Callu and Garnier (above, n. 28), pp. 287–96.

¹¹³ R. Delmaire, "Notes sur la circulation monétaire au IV^e siècle dans la Région du Nord," *BSFN* 6 (1983), p. 342.

C.-F. Zschucke was even more specific: according to him, imitations of the last Constantinian coins as well as those of the *Fel temp reparatio* type were struck between 355 and 364, at a time when the Trier mint did not issue bronze coinage.¹¹⁴ Indeed the only *Spes Reipublice* described in *RIC* 8 is dubious and would require confirmation.¹¹⁵ Bronze coinage was resumed at Trier under the reign of Valentinian I.

It is difficult to concede that imitations of *Gloria exercitus*, *Urbs Roma* and *Constantinopolis* occurred at such a late date. It is conceivable that *Fel temp reparatio* imitations could have been produced as late as 358, the date at which the *Spes Reipublice* began to circulate¹¹⁶ but it seems unlikely that they were issued until 334. Between 358 and 363, counterfeiters should have imitated in substantial quantities the new *Spes Reipublice*, *Vot X Mult XX* and *Securitas Reipub* coinage. That they did so in small quantities is because starting in 358 massive issues of siliquae reduced the role of bronze. And it seems probable that the Trier region was supplied with silver and bronze coinage by the Lyon and Arles mints while the Trier mint was closed: soldiers and bureaucrats had to be paid.

In the final analysis, the difficult problem is to date the end of the production of imitations of *Gloria exercitus* and similar issues. Copies of the *Victoriae Dd Auggq Nn* are somewhat less numerous than imitation *Gloria exercitus*; this could be explained by the continued issuance of that irregular coinage. J. P. C. Kent confines official *Victoriae Dd Auggq Nn* to 347–48 and then considers that the absence of regular coinage between 340 and 346 favored continuation of the irregular *Gloria exercitus*, *Urbs Roma* and *Constantinopolis* coinage.¹¹⁷ This theory is attractive, but the existence of a six to seven year monetary vacuum must be demonstrated.

Be that as it may, it would appear that the minting of *Gloria exercitus* and similar issues does not go beyond 348, and in fact probably

¹¹⁴ C.-F. Zschucke, *Die römische Münzstätte Trier (von der Münzreform der Bronzeprägung unter Constans und Constantius II 346/348 n. Christus bis zu ihrer Schliessung im 5 Jh.)* (Trier, 1982), p. 15.

¹¹⁵ *RIC* 8 (Trier), p. 168, 361.

¹¹⁶ R. Delmaire, "Un trésor d'aes 4 au musée de Boulogne-sur-Mer," *Trésors Monétaires* 5 (1983), p. 178, 91, cites a *Fel temp reparatio* reverse associated with a Julian Augustus obverse.

¹¹⁷ *RIC* 8, p. 90.

stops before that. In the Heslington and Oldcroft hoards, probably buried before 358, the proportion of *Gloria exercitus* and similar issues is very small compared to Magnentian and *Fel temp reparatio* imitations, proof that minting of imitations of the 330–41 types was abandoned in favor of types put into circulation following those years.

In the very special case of Traben-Trarbach where nearly 1,000 imitations were hoarded together with 72 official coins, one can date burial toward the end of 353 or beginning of 354, the irregular coinage having been assembled in a previous period.

From the module of the *Gloria exercitus*, *Urbs Roma* and *Constantinopolis* we can deduce some chronological data. The average weights obtained for the Lyon (1.50 g) and Liberchies (1.37 g) specimens with 13 to 17 mm modules are far from those of the year 330 reduction to 1/132 of a pound (2.44 g), but close to those of the year 336 reduction to 1/192 of a pound (1.68 g).¹¹⁸ It is therefore probable that the great outbreak of imitations started closer to 336 than to 330, although the first copies of *Gloria exercitus* with two standards must have followed closely the reform of 330 and are usually more abundant in the hoards than those with one standard. In other words, the *epidemic* outbreak would have been preceded by an *endemic* period. Eventually the modules shrink to between 12 and 7.5 mm, sometimes even less, removing a discernible distinction between the high diameter imitations and the *minimi*. It would also appear, based on the Rheims hoard, that imitations of different modules were issued at the same time. The Traben-Trarbach treasure gives us a good view of these two phases, the first being represented by 345 specimens and the second by about 650 *minimi*.

The imitations created after the reform of 348 of the *maiorinae* *Fel temp reparatio* ship, hut, fallen horseman and two captives types and of the half *maiorinae* ship and phoenix types circulated, as we have said earlier, in Gaul, Britain, the Danubian provinces and Egypt. These imitations are fairly numerous and more frequent in hoards than on sites. As for other periods of *epidemic* imitations between 318 to 363 we have little information about their circulation in Asia Minor, Syria and Africa. It seems likely that they were rare in those areas. For example,

¹¹⁸ Bastien (above, n. 20), pp. 67–68.

the little Algerian hoard published by P. Salama, composed of 58 maiorinae of Constantius II and Gallus issued between 351 and 354, does not contain a single imitation.¹¹⁹

Concerning the chronology of the issues, it is certain that *Fel temp reparatio* copies of large module were no longer produced in the territories controlled by Magnentius, immediately after his usurpation. But in the territories under the control of Constantius II and Gallus, fabrication of imitations follows that of official coins until 354. We have seen that this is the case in Illyria and Egypt, where copies of maiorinae are rather abundant.

Imitations of Magnentius's coinage circulate mostly in the territories under his control, especially Britain and Gaul, but also in the Iberian peninsula where hoards and isolated coins originating from official mints are common.¹²⁰ Occasionally, Magnentian copies are found in other parts of the Empire, for example on the western side of the Danube¹²¹ or in Africa.¹²²

Chronologically, copies are struck very soon after the official issues. We have various proofs of this contemporaneity. For example, there is a small German hoard containing 23 maiorinae, all with *Gloria romanorum* reverses two of which are imitations;¹²³ also a hoard from the Lyon area made up of 458 maiorinae *Victoriae Dd Nn Aug et Caes* (or *Cae*), with or without cippus or with chrism, of which 131 are imitations of the first two types.¹²⁴

¹¹⁹ P. Salama, "Petit trésor monétaire romain découvert à Affreville (Chéelif)," *BSFN* 8 (1960), p. 465–67.

¹²⁰ I. Pereira, J.-P. Bost and J. Hiernard, *Fouilles de Conimbriga*, 3: *Les Monnaies* (Paris, 1974), pp. 106–11, nos. 2438–81 (44 official coins) and 2483–96 (13 imitations).

¹²¹ K. Biró-Sey, "A Hoard of Roman Coins from Perbál," *Folia Arch.* 16 (1964), p. 76 and fig. 2; an imitation of type *Felicitas* together with 525 official coins.

¹²² Unpublished documentation of P. Salama. Chérégas hoard: 31 coins ending with Gallus, one Magnentian imitation with a Lyon mark. Cherchell hoard (1960): coins of Constantius II and Julian Caesar, one Magnentian imitation with a Trier mark (Plate 43, 40). See P. Bastien (above, n. 14), pp. 110 and 149.

¹²³ P. Bastien, "A propos de quelques maiorinae de Magnence," *Münstersche Numismatische Zeitung*, 11, 3 (May 1981), pp. 31–33.

¹²⁴ P. Bastien, "Trésor de monnaies de bronze de Magnence et Décence," *RBN* 1962, pp. 49–65, pls. 2–4.

Some imitations in the Fontaines-Salées hoard associate an obverse of Constantius II and a reverse depicting two Victories with a votive shield, Magnentian type, but with the inscription *Victoriae Dd Auggq Nn* and the mark (?) CON.¹²⁵ J.-P. Callu and J.-P. Garnier see in this evidence that imitation coinage of 330–48 continued to be issued after the fall of Magnentius.¹²⁶ It is certain that these imitations, which constitute a very unusual use of a reverse inscription of 342–48, a Magnentian monetary type, with an obverse of Constantius II bearing a mark later than 354, could have been struck only after the death of the usurper. Another imitation is even more convincing on this subject since it associates a Magnentius obverse of very good style and a *Fel temp reparatio* reverse with the mark SPLG¹²⁷ which imitates the mark CPLG of the half-maiorinae of Constantius II, Gallus and Julian Caesar (Plate 43, 45).

From these cases, which are rare, one cannot conclude that the imitations of *Victoriae Dd Auggq Nn* and *Gloria exercitus* and similar types continued after 353. Posthumous Magnentian copies also raise another problem: either these counterfeiters were nostalgic about Magnentius, or, despite the rescript of March 8, 354, *pecuniae vetitae* were still circulating and were used as models for imitations. In either case this would be a violation of the laws of Constantius II and striking of copies must have ceased soon after the end of Magnentius's reign.

Imitations of the half maiorinae *Fel temp reparatio* fallen horseman type constitute without a doubt the most important of the five *epidemic* series. Their diffusion is considerable in Britain, substantial in Gaul and somewhat reduced in the Danubian provinces. They also circulated in the Iberian peninsula: for example, at Conimbriga, there are 190 coins of Constantius II and 30 of their imitations (15.79%)¹²⁸ and in addition some imitations of Gallus and Julian have been cited. In Asia Minor, the Izmir hoard (2,257 specimens) includes 13 imitations in the 1,195 specimens that have been examined (1.09%).¹²⁹ In Egypt,

¹²⁵ Fabre and Mainjonet (above, n. 51), pl. 4, 86–89.

¹²⁶ Callu and Garnier (above, n. 28), p. 288.

¹²⁷ Bastien (above, n. 8), I 121.

¹²⁸ Pereira, Bost and Hiernard (above, n. 120), pp. 126–29, 2853–3042 and 3043–72.

¹²⁹ R. A. G. Carson and J. P. C. Kent, "A Hoard of Fourth-Century Roman Bronze Coins from Izmir," *JNG* 21 (1971), p. 134–54.

the unpublished Luxor hoard shows the existence of well-organized irregular mints, whose activity continued to increase during the last half of the fourth century and the early part of the fifth century.

Imitations of the half *maiorinae Fel temp reparatio* fallen horseman type follow the reform of 354. Despite this *terminus a quo* one could argue that some copies of the fallen horseman *maiorinae* may be earlier, but with a reduced module. If this in fact happened, it should have been a rare occurrence. H. Mattingly proposes delaying the issuance of the *Fel temp reparatio* copies until the Pict invasion under Valentinian I. He bases this proposal on the barbaric character of many of these imitations and on the fact that Constantinian coins, having circulated in Britain over a long period of time, must have been overstruck with the *Fel temp reparatio* reverse at that time.¹³⁰ G. C. Boon, from the data gathered in the excavation of the Brean Down temple, which was in use 340–45 and 367–68, estimates that the *Fel temp reparatio* imitations and especially the *minimi* must have been struck between those dates.¹³¹ This would mean that such imitations were struck at a time prior to the estimate of H. Mattingly, before the campaign of Count Theodosius against the Picts in 368–69.

In conclusion, we do not have enough information to date with certainty the *terminus ad quem* of this important irregular coinage. It should have stopped or been reduced noticeably after the bronze monetary reform of 358, but it is possible that it may have continued in regions particularly affected by the lack of bronze coinage such as Britain. It is also possible that while fabrication stopped around 358, circulation continued for some time after that.

ETIOLOGY

Can we determine the cause of the *epidemic* waves of imitations between the Constantinian reform of 318 and the death of Julian? The generally accepted answer is that there was a shortage of official coinage. Indeed, each new series of imitations follows a monetary re-

¹³⁰ H. Mattingly, "Barbarous Overstrikes Found in Fourth-Century Hoards," *NC* 1939, pp. 280–82.

¹³¹ G. C. Boon, "The Roman Temple at Brean Down, Somerset, and the Dating of the 'Minimissimi'," *NC* 1961, p. 195, and (above, n. 2), p. 130–33.

form which may have caused a withdrawal of the previous coinage and a reduction in mint productivity due to reorganization. In 318 it is the creation of a new nummus and the demonetization of the folles, in 330 and 336 there occur two successive reductions of the nummus, in 348 the maiorina is created, in 350 Magnentius usurps power in the west and monetary types are changed completely, and in 354 all bronze coins are suppressed and replaced in the whole Empire by the half maiorina with the reverse *Fel temp reparatio* fallen horseman type.

According to J.-P. Callu and J.-P. Garnier military events played a large role in the monetary shortage between 353 and 361: the Chnodomar campaign in 352, the occupation of Cologne and many other cities by the Alamanni in 355, followed by their offensive toward the Channel, and Julian's expeditions in Alsace and on the banks of the Rhine between 356 and 360. By drawing a map of the 120 locations where imitations have been found, J.-P. Callu and J.-P. Garnier conclude that they follow the two main lines of attack of the Alamanni: Moselle, Sarre, the Parisian area, and Normandy on one side, Basel and Loire on the other.¹³² Certainly these events must have provoked or aggravated an undersupply of official coinage in these areas. On the other hand Britain without a mint since 325 and being dependent on the Gallic mints must have suffered restrictions in its ties with the continent. But war on both sides of the Rhine is not a sufficient explanation for the imitation phenomenon. From 318 to 352 Gaul enjoyed a period of peace and prosperity barely troubled by some localized operations: in 320, Crispus against the Franks, in 328 Constantine II against the Alamanni, in 341 and 342 Constans against the Franks. And it is during these particularly happy times, *fortunatus caeli temperie, fructuum proventu, nulla a barbaris formidine*, wrote the epitome about Constans,¹³³ that the first four *epidemic* waves of imitations occurred. Moreover, even during the invasion of the Alsace plain by Chnodomar in 352 the activity of the Trier mint seems not to have been disturbed.

War might explain the large quantities of imitations for the period 353 to 360, but cannot explain the first four *epidemic* series that we

¹³² Callu and Garnier (above, no. 28), pp. 288–93.

¹³³ *Epit. de Caes.* 41, 24, ed. F. Pichlmayr and R. Gruendel (Leipzig, 1966), p. 168.

are studying. Given this, one may question whether war is a valid explanation for the last *epidemic* series. Examination of hoards demonstrates the contemporaneity of the imitations and of their official counterparts. In the case of the *Gloria exercitus* as well as other imitations discussed above, the composition of certain hoards (Woodeaton, Bancroft, Llanbethery, etc.) shows that a number of these imitations were in circulation before 341. The *epidemic* phenomenon therefore existed during peacetime.

This brings us to the central question: why did the imperial administration limit production in the western mints and the Alexandria mint, whereas in the east, confronted with serious military problems on the Persian border, no such restrictions appear to have been imposed?

The argument for scarcity due to demonetization must be considered carefully: a monetary reform is prepared long in advance and the amount of necessary coinage can be anticipated and prepared over the period during which the exchange takes place. Furthermore, the official mints were quite capable of producing enough currency and surely could fulfill the work accomplished by the counterfeiters. Consequently, one must conclude that there was a long period of voluntary limitation in the western mints and especially those in Gaul. Why? The answer is probably a deflationary policy tied to economic problems specific to this part of the Empire. The aim may have been to prevent a rise in prices and to maintain the rate of exchange with coins of precious metal, that is to say to avoid a depreciation of the bronze coinage with respect to the gold and silver coinage. If the good imitations of the first, third and fourth *epidemic* series are sufficient to deceive even modern numismatists, that is not the case for the majority of counterfeit coins of light weight and small module. The latter can only have played a minor role and must have been used only for small transactions. Under no circumstances could these small coins have competed with official coinage; they must have been exchanged at rates that, while not known to us, were undoubtedly quite unfavorable compared to the regular issues.

Is it possible that the Imperial administration "tolerated" the activity of the irregular mints? To support this opinion, some have argued that the same phenomenon has occurred in modern times. For example, in the later part of eighteenth century in England the scarcity of bronze coins gave rise to the minting of numerous tokens;

these illegal issues were in practice accepted by the government.¹³⁴ During and for a time after World War I, the same scarcity of small coins prompted the minting of local issues by Chambers of Commerce and local institutions in Belgium and France. The same has recently been observed in Italy. Many scholars have thus been led to assume a "tolerance" or tacit agreement between the Roman administration and the counterfeiters. Let us cite some of their conclusions. W. Hagen assumes that despite the poor quality of the copies, they are officially accepted coinage, coming from an authorized public organization in close collaboration with the Imperial monetary administration.¹³⁵ K. Kraft studies the activity of an "auxiliary" mint in the Palatinate.¹³⁶ M. R. Alföldi also takes up the thesis of mints tolerated by the administration.¹³⁷ G. Fabre and M. Mainjonet attach some Magnentian imitations to the official monetary system as divisional series.¹³⁸ C. F. Zschucke endorses the opinion of H. J. Kann, according to which the barbaric imitations are an emergency, semi-official coinage.¹³⁹ These opinions are only hypotheses, contradicted by the various Imperial rescripts which, from 318 to 354, oppose counterfeiters and threaten them with severe punishment.¹⁴⁰ It is true that repression of counterfeiting took different forms during the Roman period. P. Grierson¹⁴¹ notes that under the Principate only counterfeiters who imitated gold and silver coins could be executed, but that there was no legislation against bronze imitations. But under Constantine I, the law of 318 states penalties ranging from perpetual banishment for a decurion to death for a slave. The law of 349 imposed capital punishment on those who extracted silver from *maiorinae* and the laws that followed tended to be even more severe. It does appear that sanctions were in general less

¹³⁴ Boon (above, n. 2), p. 95.

¹³⁵ W. Hagen, "Münzschatz von Metternich aus der Zeit des Kaisers Magnentius," *Bonner Jb* 145 (1940), p. 103.

¹³⁶ K. Kraft, "Ein Münzschatz der Zeit des Magnentius aus einer pfälzischen Nebenmünzstätte," *Pfälzer Heimat* 5 (1954), p. 2.

¹³⁷ Alföldi (above, n. 110), p. 82.

¹³⁸ Fabre and Mainjonet (above, n. 51), p. 160.

¹³⁹ Zschucke (above, n. 114), p. 15.

¹⁴⁰ Cod. Theod. (above, n. 75), 9.21.1–21.6, 23.1, I₂ p. 471–76.

¹⁴¹ P. Grierson, "The Roman Law of Counterfeiting," in *Essays Mattingly* (Oxford, 1956), pp. 240–61.

severe for bronze counterfeiting, and that in certain cases amnesties further decreased the penalties. Nonetheless, the official attitude was that there could be no understanding between the Imperial administration and counterfeiters, no matter what the circumstances.

The emperors of the fourth century did not “tolerate” an offense that their laws emphatically condemned, but rather demonstrated an inability to control it. For reasons that should be more thoroughly investigated, they restricted the production of bronze coinage in the western part of the empire and thereby provoked the creation of illegal mints whose production supplied a not-negligible parallel circulation. The importance of this circulation should not be overestimated, although special circumstances aggravated the phenomenon, particularly in Britain which was somewhat isolated during the 355–60 period and in the Trier area where the mint was closed for bronze coinage from 355 to 364; we must add that the composition of British hoards proves that the continental coinage did not cease to cross the *fretum gallicum* during that period.

Many uncertainties remain concerning the problem of fourth century imitations until 363. We must continue to study all aspects of this subject and to publish hoards and site coins with weights and photographs of the specimens. New material, scrupulously studied, would help resolve some of the uncertainties.

KEY TO PLATES 41–44

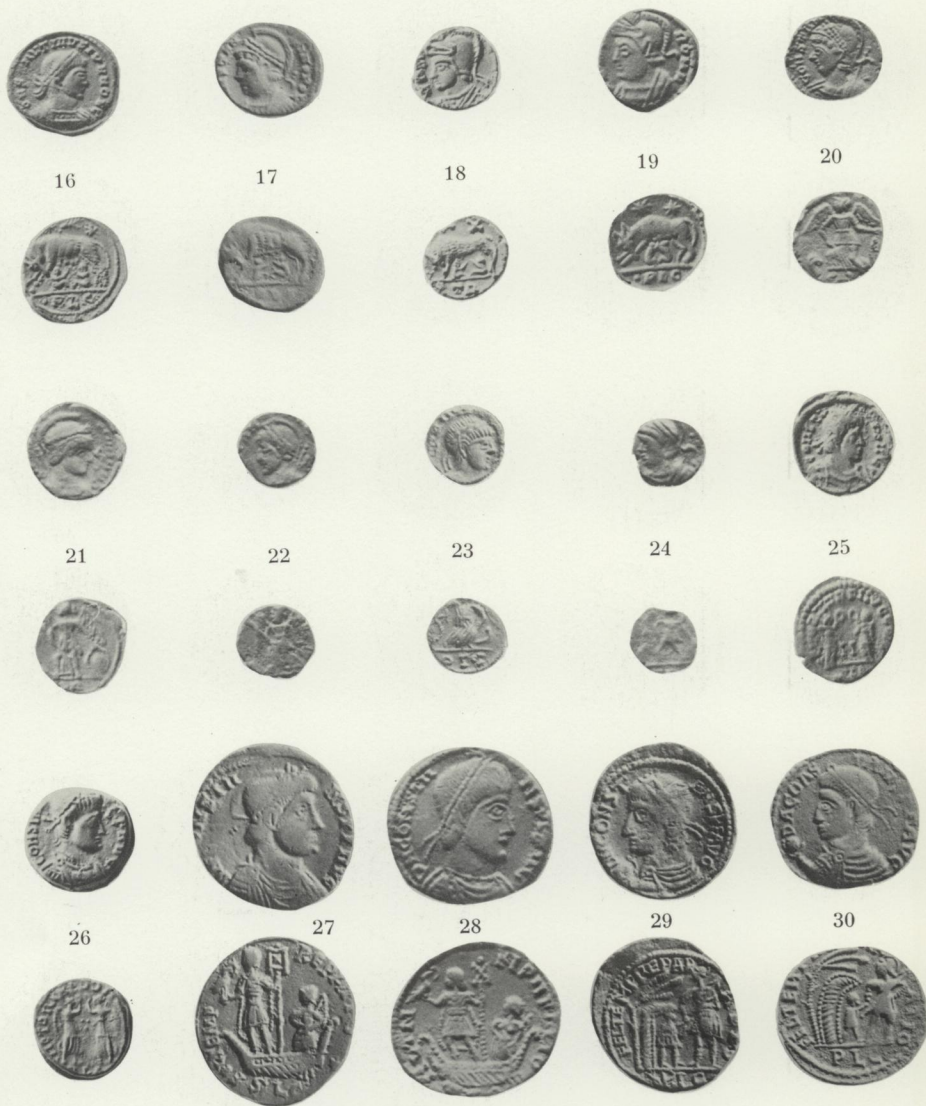
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11. 0.70 ↙ ANS
12. 2.49 ↓ Vienna

13. 1.51 ↓ ANS
14. 1.11 ↓ Belgium, Matagne-la-Grande
15. 0.65 ✓ ANS
16. 1.17 ↗ Vienna
17. 1.55 ↓ Vienna
18. 1.08 ← ANS
19. 1.73 ↓ Private coll.
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27. 5.18 ↓ Karlsruhe
28. 4.99 ↓ ANS
29. 4.08 ↓ ANS
30. 3.25 ✓ Paris
31. 5.58 ↑ Paris
32. 2.91 ↑ ANS
33. 3.11 ↓ Cambridge
34. 3.95 ↓ Munich
35. 4.70 ↓ Brussels
36. 2.51 ↓ Private coll.
37. 3.28 ↓ Private coll.
38. 3.46 ↓ Vienna
39. 2.50 ↗ The Hague
40. 1.66 ↘ Cherchell hoard (Algeria)
41. 1.47 ↓ Cherchell excavations
42. 1.26 ↑ Copenhagen
43. 6.31 ↓ Private coll.
44. 6.98 ✓ BM
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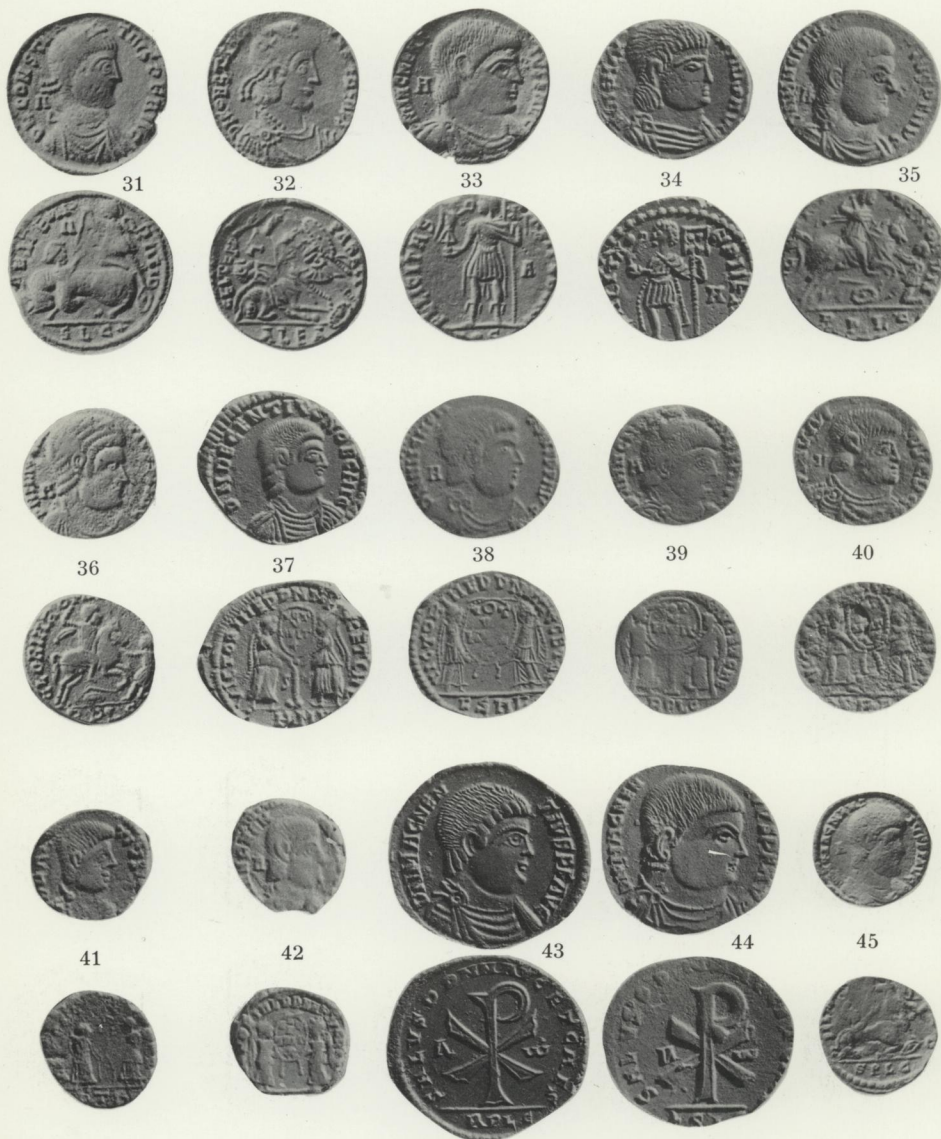
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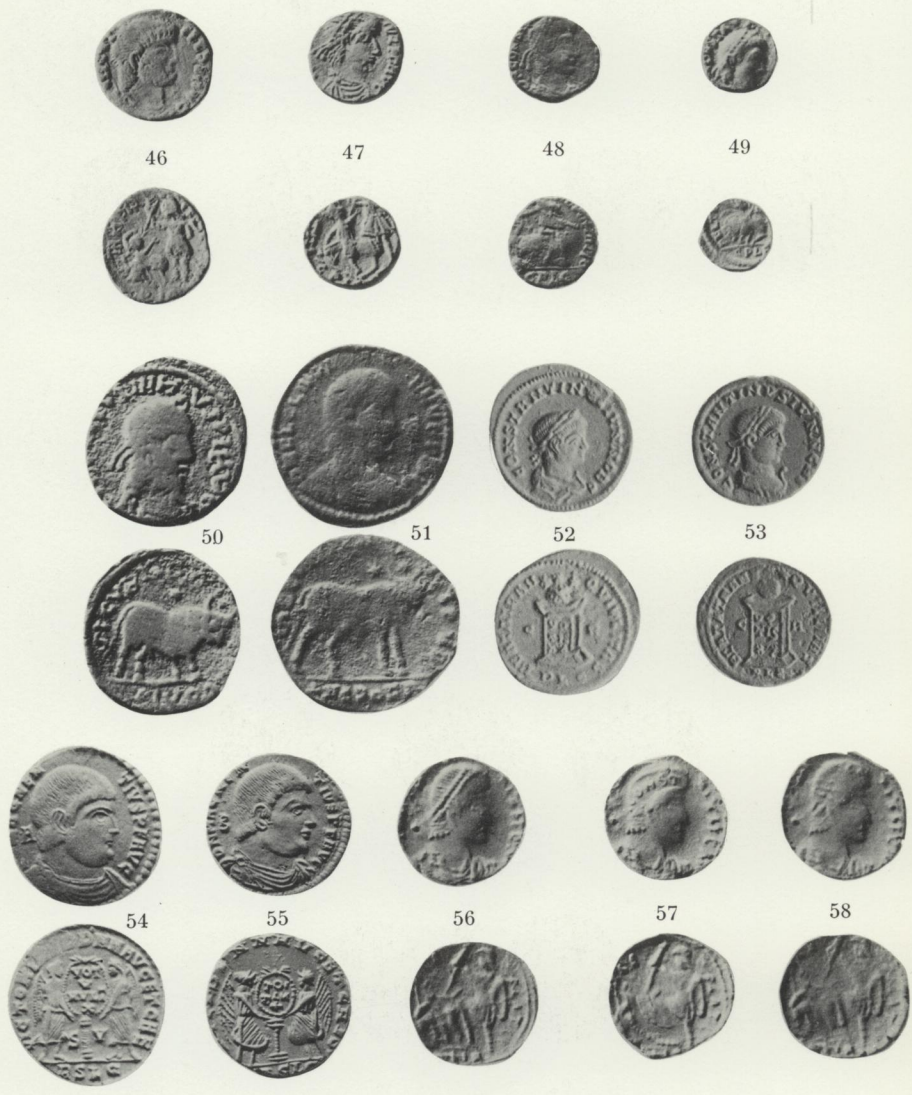
Imitations of Late Roman Bronze Coins



Imitations of Late Roman Bronze Coins



Imitations of Late Roman Bronze Coins



Imitations of Late Roman Bronze Coins