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MONEY IN THE MILITARY COMMUNITY IN THE EARLY EMPIRE

Source data that permit us today to attempt at least a partial answer to the problem posed in the title come mostly from excavation projects done over decades in numerous places where the legions used to have their camps and in castles where smaller units, such as cohorts, were stationed. The numismatic material discovered during such excavations, often – though not always – published, reflects the ways in which money was used in the military community of the time and illustrates processes involved in monetary circulation and exchange and with thesaurization of money in this politically and socially important group of the Empire's inhabitants.

For the purpose of this paper, it would be difficult to analyze the whole of the available numismatic material obtained from numerous archaeological stations of the kind in question. Apart from the infeasibility of any such research, it would be pointless since obtaining basic information in our field is possible on the ground of a sample analysis of selected stations providing, however, that they are suitably differentiated both in territorial provenance and character, as well as in chronology of operation.

The present article analyzes published numismatic material from excavations – and surface discoveries – in several locations which, at the time of Early Empire, seated Roman garrisons of varying sizes and placed on various frontiers.

We will consider the following garrisons.[1]

– On the Rhine border.

Legionary camp in Novaesium (now Neuss, Germany), in the Early Empire (until 93), seat of legion VI Victrix;

The Haltern camp in Westphalia, Germany, operational briefly from the time of Augustus in the late first century B.C. up to the Roman defeat in the Teutoburg Forest in 9 A.D. and loss of territories east of the Rhine;

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1 For more details on the units stationed at respective camps, see E. Ritterling, "Legio" in: *Real-enzyclopädie der klassischen Altertumswissenschaft*, vol. 23 (Stuttgart: 1924), cols. 1211–1328, vol. 24 (Stuttgart: 1925), cols. 1329–1829; see also e.g. H.M.D. Parker, *The Roman Legions* (Cambridge: 1961); G. Webster, *The Roman Imperial Army of the First and Second Centuries A.D.* (London: 1969); on Danube garrisons, see e.g. G. Alföldy, "Die Truppenverteilung der Donaulegionen am Ende des I. Jahrhunderts," *Acta Archaeologica Academiae Scientiarum Hungaricae* (1959), pp. 113–141; and recently, T. Sarnowski, *Wojsko rzymskie w Mezji Dolnej i na północnym wybrzeżu Morza Czarnego* {*Roman Armies in Moesia Inferior and on the North Coast of the Black Sea*} (Warszawa: 1988), Novaensia, vol. 3.

Legionary camp in Vindonissa (now Windisch, Switzerland), successively manned (from the time of Tiberius) by legions XIII, XXI, and finally XI Claudia Pia Fidelis, unit early in Trajan's reign, when it was abandoned.

– On the Danube border.

Legionary camp in Carnuntum (now Deutsch Altenburg-Petronell, Austria), where many legions came and went: I Adiutrix, II Italica, X Gemina, XIV Gemina Martia Victrix, XV Apollinaris, XXX Ulpia Victrix;

Legionary camp in Aquincum (now district of Budapest, Hungary), garrisoned by legion II Adiutrix from the Flavian time;

Legionary camp in Brigetio (now Szöny, Hungary), used by legion I Adiutrix from circa 100, previously an auxiliary unit castle;

Legionary camp in Novae (now Svishtov, Bulgaria), station of legion VIII Augusta and from the year 70, I Italica.

– On the Parthian border, unfortunately, no suitable numismatic material is available from excavations on military sites. The only exception is Dura Europos on the Euphrates, a center under Roman domination from the second century A.D., where a Roman force was stationed, and from where comes copious and interesting numismatic material.

Numismatic discoveries on the above sites – both as hoards and as multiple small finds – are impressive and provide a credible and representative research basis.

However, there is a serious difficulty. As a rule, military outposts were gradually surrounded by civilian settlements which could even grow into towns. From the way numismatic materials are published, it is often impossible to distinguish precisely whether the finds come from the military compound or from the civilian settlement or town as the case might be. Generally speaking, however, we are able to disperse these doubts to some extent and isolate material actually deriving from the military community.

Our subject implies a need to deal with the problem of money influx into the Empire's frontier provinces, its fringe areas, for they were where the Empire's legions and other units – with few exceptions – were deployed to guard the borders and man their fortifications. These frontier armies – just as the selected units stationed inside the state, such as the pretorians or city cohorts – were paid by the state's ruler generously and, for the most part, regularly.

There is, of course, evidence of delays in troop payment occasionally resulting in conflicts and even mutinous behavior. For example, Tacitus' interesting testimony in the introductory part of his *Annals*[2] tells of long delays in paying the soldiers in the Rhineland and Pannonian legions late in Augustus' reign which were one important reason for those legions to mutiny in the first months of Tiberius' reign in 14 A.D. It took the diplomatic talents of Germanicus, Drusus the Younger, and others around them and of course considerable sums of money

2 Tac. Ann. I 16–30 (Pannonian legions), I 31–45 (German legions), also cf. Suet. Tib. 25.

delivered and even more promised to quell the rebellion. A similar crisis happened under Nero, when outstanding sums owed to frontier legions mounted, resulting in unrest.[3] Such situations must have happened more often, even though we do not have much source evidence on this.

It should be quite obvious that it was the army that served as a conveyer for great masses of money (and we are talking of noble metal coin, specifically silver) pouring into frontier provinces as it was paid out to the legionaries. These spent the money – for this was what they earned it for – and it entered economic circulation in the host province and neighboring regions. Money paid out to soldiers – taken globally, it amounted to great sums – constituted a stream of funds steadily flowing into a given area and through the economic system of the province and neighboring regions. Then it was drained into the state's treasury – in this case it was fiscus Caesaris – by means of all sorts of taxes levied on individuals, community institutions or local self-government in those imperial provinces as most Roman frontier troops were stationed in them.

It is not our intention to question the importance of other economic processes, mainly long-distance and local exchange, in the influx of money into particular territories in the Empire, frontier provinces in their number, or in the further redistribution of this money. Nevertheless, it is quite unquestionable that money paid to soldiers in frontier units (basic pay was not unusually raised to include donativa in hard coin) was a bountiful supply of financial means regularly supplying a given territory and, consequently, it was a crucial stabilizing factor in monetary circulation and in many other forms of economic activity there.

About the magnitude of monetary influx into the military community we learn from antique sources quoting soldiers' pay levels. Suetonius tells us that the base pay of a low-grade legionary man was 225 denarii per annum under Augustus and 300 from Domitian on.[4] Under Augustus, this annual sum was paid out in three instalments, 75 denarii each (called stipendium). From Domitian on, it was paid four times, or quarterly. Higher rates were paid to cavalrymen and officers, but significantly lower to rank-and file soldiers in auxiliary cohorts

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3 Suet. Nero 32.

4 Suet. Dom. 7, 3; cf. Tac. Ann. I 17, 6. The subject is generously treated in literature: see e.g. P.A. Brunt, "Pay and Superannuation in the Roman Army," *Papers of the British School at Rome*, vol. 18, 1950, pp. 50–71; R. Marichal, "La solde des armées romaines d'Auguste à Septime Sévère, d'après les P. Gen. Lat. 1 et 4 et le P. Berlin 6866," in: Mélanges L. Levy, *Annuaire de l'Institut de Philologie et d'Histoire Orientales de l'Université Libre de Bruxelles*, vol. 13, 1953, pp. 399–421; G. Watson, "The Pay of the Roman Army. Suetonius, Dio and the Quartum Stipendium," *Historia*, vol. 5, 1956, pp. 332–340. Of more recent literature, see E. Lo Cascio, "Spesa militare, spesa dello stato e volume delle emissioni nella tarda repubblica, *Annali dell'Istituto Italiano di Numismatica* (henceforth referred to as *AIIN*), vol. 29, 1982, p. 75–97; H.C. Boren, "Studies Relating to the Stipendium Militum," *Historia*, vol. 32, 1983, pp. 427–460; H. Zehnacker, "La solde de l'armée romaine de Polybe à Domitien," *AIIN*, vol. 30, 1983, pp. 95–121; J. Jahn, "Zur Entwicklung römischer Soldzahlungen von Augustus bis auf Diocletian" in: *Studien zu Fundmünzen der Antike*, vol. 2 (Berlin: 1984), pp. 58 ff.; E. Lo Cascio, "Ancora sullo stipendium legionario dall'età polibiana a Domiziano," *AIIN*, vol. 36, 1989, pp. 101–120.

and sailors in the navy. These individual sums multiplied by thousands of legionaries in a province (sometimes tens of thousands as in some provinces on the Rhine, the Danube, or the Parthian border) yield a high total streaming into a province from the treasury regularly every three or four months. Usually though, some of the funds must have already been raised locally from taxes due to the state. We should take it for granted, however, that many well manned frontier provinces not enjoying the benefit of a developed urban background were shipped the coin directly from the center as their economies did not generate enough tax money.

All this brings up a fundamental question: What money was used to pay the Roman legionary and, consequently, what money flowed into the camp and then spilled out of it through exchange into the province and neighboring territories?

It seems obvious that the coin used to pay the legions and auxiliary forces in the first and second centuries was – at least in the Empire's European provinces – silver, i.e. the denarius. This much is clear for a number of reasons. It is understandable that for a common soldier exchanging his pay for small daily purchases or little pleasures, gold coins with their high purchasing power would have been inconvenient (in the Early Empire, one aureus was equal to 25 denarii), while the denarius was good enough as a tender, even though it had to be supplemented by small value bronze pieces.

Therefore, except for special instances of imperial donations or extraordinary gratuities in the form of perhaps a dozen pieces of gold, aurei were probably used only to pay the senior officers' earnings, or perhaps only some of them. Through those, the aurei entered the circulation in the province, but by the same token the process was highly limited as the individuals who transmitted the gold coin to the province's economy were few (at least in the military community), though they were well paid.

This seems to account for the seemingly surprising fact that excavations on the sites of legionary camps or other military establishments produced very few aurei.[5] To some extent, it must also be because gold coin, as more precious, was better watched than silver denarii – and because there could have been cases of excavation workers pocketing the finds. Still, the disproportion is too pronounced not to be accepted as largely objective.

Secondly, a payment of the troops in bronze coin was practically infeasible at the time. Considering the metrology and the relations between denominations, we must agree that a sum in bronze coin – e.g. the copper asses – would have weighed 50 times more than the same sum in denarii. Since Nero's monetary reform of 64,[6] the denarius weighed theoretically 3.41 g and was still equal in value to 16 copper asses theoretically weighing 10.91 g each, a total of almost

5 For more on this, see below.

6 Of many sources on the subject, see e.g. V. Picozzi, *La monetazione imperiale romana* (Rome: 1966), pp. 10–11.

175 g of copper, or 51 times more than the weight of one denarius. Since the annual pay of a legionary, after Domitian, weighed little more than one kilogram in denarii, it would have been over 50 kg in copper asses. Given the thousands of soldiers posted on the borders, it would have been contrary to logic, the time's transportation capabilities, and security considerations to ship such vast quantities of metal over long distances. As we know – A.H.M. Jones and Michael Grant pointed it out decades ago[7] – transporting money over long distances at that time, especially on land, was difficult, costly, and risky. It was therefore important for the rulers to move minting establishments as close to their frontier armies as possible and to use coin that would be the least troublesome to deliver, i.e. silver for gold was practically out of the question. Cargo weight had to be kept to a reasonable minimum – which meant making payments to the legions in silver, and practically in denarii as the only silver denomination mass-produced at the time. Of course some heavy bronze coin was probably also transported to the Empire's European provinces to be put into circulation there (eastern regions were supplied almost exclusively by local mints). Nevertheless, long distance bronze transportation could not, for reasons mentioned above, have been widespread and besides, most bronze currency arrived in an area presumably by means of normal trade. Thus, sums in bronze could not be used to settle sizeable and regular obligations, i.e. the pay of the armies stationed in a province.

The need to bring minting centers to distribution areas was seen by the rulers, but the problem was difficult to solve, what with the few state mints and the necessity to keep them on safe territory, thus further into the country and away from ever insecure borders. Yet, it was the desire to move the central mint to the deployment area of the powerful Rhine and upper Danube army (making up almost a third of all legionary forces) that helped emperor Augustus decide in 15 B.C. to establish in the Gallic Lugdunum an imperial mint, protected by a city cohort stationed there, striking gold and silver coin. Some years later, he discontinued these emissions in the capital mint.[8]

In the Early Empire, the silver coin for the Parthian border army was struck in Antioch. For a long time it was Syrian tetradrachms based on the Hellenistic monetary system which dominated the economic life of those territories at the time. A similar role was played by silver emissions in the Cappadocian Caesarea.[9] Later, toward the end of the second century, the oriental mints – first of all Antioch, but also periodically Laodicea and Emesa – began to strike silver coin

7 A.H.M. Jones, "Inflation under the Roman Empire," *Economic History Review*, vol. 5, 1953, p. 295; M. Grant, "The Mints of Roman Gold and Silver in the Early Principate," *Numismatic Chronicle*, ser. VI, vol. 15, 1955, pp. 49 f.; see also the recent R.P. Duncan-Jones, "Mobility and Immobility of Coin in the Roman Empire," *AIIN*, vol. 36, 1989, pp. 121–137.

8 Cf. M. Grant, "The Mints...," pp. 49 f.; A. Kunisz, *Recherches sur le monnayage et la circulation monétaire sous le règne d'Auguste* (Wrocław: 1976), p.27.

9 For more on this coinage, see e.g. W. Wruck, *Die syrische Provinzialprägung von Augustus bis Traian* (Stuttgart: 1931); E.A. Sydenham, *The Coinage of Caesarea in Cappadocia*, 2nd ed. (New York: 1978).

according to the national standard, i.e. denarii, then antoniniani[10] – and that was the coin that was used to pay the army guarding the eastern border not too far away.

A review of numismatic material from the sites listed above will permit us to make general observations about all these legionary camps and find location-specific traits.

The Haltern finds go back to the earliest stage, the turn of eras, and reflect to some extent the proportion in denominations and metals of the coins in common use by soldiers in this short-lived garrison. All the coins analyzed were, of course, recovered in small finds rather than hoards.

Of 1644 Roman coins in individual finds, there were only 104 silver pieces.[11] This proportion is characteristic for the mass of coins in use at the time, though there is also the factor of silver, let alone gold, being better looked after than the petty bronze.

Among those 104 silver coins, mostly of the late Republican period, there were 89 denarii and 15 quinarii. Such a high percentage of quinarii could only occur in the beginning of the Empire (and the Haltern finds date back to that period) and resulted from the fact that late-republican quinarii were still in circulation. We need to remember that small finds are more objective in illustrating the actual proportions of denominations in the entire circulation for hoards include a conscious selection of coin for thesaurization in favor of denarii which make up all or almost all of such deposits.

Found in Haltern were 9 Mark Antony's legionary denarii, while the last silver issues were 27 Augustus' denarii (including 23 from Lugdunum, of which 17 belong to the mass-produced emission featuring Gaius and Lucius caesares on the reverse which was issued for years on end and ran into millions of pieces). Five of the denarii were plated (including three Augustus' pieces from the Lugdunum mint). Individual finds in Haltern also yielded 3 aurei, of which only one can be identified as Augustus' coin from Lugdunum.

The Haltern camp finds throw especially interesting light on how bronze coin was used in the soldiers' community on the Rhine border at the time of Augustus. The size of the discovery permits use of statistical methods and ensures a high degree of objectivity in proportion and plausibility of conclusions.

Identifiable among the Haltern finds are 1046 whole bronze pieces and 344 halves. As many as 77 percent are imperial bronzes struck by Augustus in Lugdunum, practically only asses (with possibly one sestertius) with the characteristic rendering of the Lugdunum altar to goddess Roma and Augustus on the reverse. Almost all the rest – and it could only be Augustus' bronzes as in the late Republic the striking of this kind of coin had been virtually discontinued –

10 See H. Mattingly, *Roman Coins from the Earliest Times to the Fall of the Western Empire*, 4th ed. (London: 1967), pp. 112–116; cf. V. Picozzi, *La Monetazione...*, pp. 60–61.

11 B. Korzus, "Münster" in: *Die Fundmünzen der römischen Zeit in Deutschland. Abt. VI: Nordrhein-Westfalen*, vol. 4 (Berlin: 1971), No. 4057, pp. 61–111; also cf. A. Kunisz, *Recherches...*, p. 103, 112–113.

were senatorial bronzes from the Rome mint (13 percent) and colonial pieces from the not-so-distant Gallic Nemausus (8 percent). These three kinds of coin – besides the still used petty Celtic pieces, copiously found here – were thus the small change on these territories in the brief period discussed here. As the Romans held this area late and only temporarily, the coin that found its way here was of current emission and mostly produced in nearby mints (Lugdunum, Nemausus). It was only sporadic that bronzes appeared from the Gallic Vienna or some Spanish cities.

In denominations, there is an overwhelming majority of asses. Higher denominations, sestertii and dupondii, occur virtually exclusively among Roman senatorial bronzes, making up about a third of these coins. Compared to the total of Roman bronzes discovered, it is a trace amount. Lower denomination bronzes are represented by only two quadrantes from Lugdunum. Of course the smallest change could be, and probably was, Celtic bronzes, still common in Haltern when the military camp was in operation.

A high proportion of the Haltern bronzes were pieces cut in half. Against 1156 whole bronze coins (the figure includes pieces beyond recognition), there were as many as 474 halves. These half-asses, as they mostly were, made up almost 30 percent of all bronzes in circulation and served as lower units, semisses, which were practically not supplied as original coins – and could not have been supplied to these areas – and were thus accepted as substitute currency for want of a missing denomination.[12]

The Haltern finds deserved special attention by virtue of the fact that the site was occupied very briefly and then deserted and forgotten. Hence, the coins unearthed here present an unusually clear picture of monetary circulation. An analysis brings out the characteristic qualities of the use of money in soldiers' community on the Empire's German frontier at the turn of the era.

Phenomena observed in the short life of the Haltern camp in Westphalia are confirmed by an analysis of monetary finds in Novaesium on the Rhine and Vindonissa at the conjunction of the upper Rhine and upper Danube. As both these sites were manned not only under Augustus, but into the late first century, their contents provide us with an insight into further stages of monetary circulation in the soldiers' community in these frontier regions under successive Julian-Claudian rulers and then the Flavians.

Coins discovered in Novaesium[13] come in their majority from the time of Augustus, Tiberius, and Caligula (more than 1000 pieces). The 1.5 percent denarii

12 The question of halved pieces used in some provinces of the Empire as substitute currency in the late first century B.C. and early first century A.D. is treated in detail in A. Kunisz, *Pieniądz zastępczy i jego rola w ekonomice państwa rzymskiego w początkach Cesarstwa (27 r. p.n.e–68 r. n.e.)* {*Substitute Coin and Its Role in the Roman Economy of the Early Empire (27 B.C.–68 A.D.*} (Katowice: 1984), pp. 91–130.

13 See H. Chantraine, *Die antiken Fundmünzen der Ausgrabungen in Neuss* (Berlin: 1968), Novaesium, vol. 3.

among them (17 pieces) are almost all plated. It is interesting that four silver quinarii were identified, which were struck only on occasion. In the mass of bronzes, 95 percent are asses, frequently halved. More than half of Augustus' bronzes were emissions from the nearby Lugdunum, a third were senatorial from Rome, the rest were colonial bronzes from Nemausus. Quite a number of bronze coins bear a countermark authorizing further use of a piece despite its wear.

Among coins struck under Claudius and Nero (approximately 120 in all), a certain quantitative balance is seen between dupondii and asses, with far fewer sestertii and scant semisses.

In the infrequent coins of the Flavians (48 pieces), only one denarius was identified (plated at that), and among bronzes, asses were again predominant. Yet, due to the low number of coins, the proportions can be accidental (as can those for bronzes of Claudius and Nero as mentioned above).

The discovery at Vindonissa on the upper Rhine are much richer.[14] It yielded 5,000 Roman coins dating from the times of Augustus up to Nerva. The virtual exclusiveness of bronze coin, observed in Haltern in just one phase of Augustus' reign, here spans the whole Julian-Claudian epoch. The total number of these rulers' denarii (54), together with three rather incidental aurei, comprises only about 1.5 percent of all coins found, all the rest being bronze. Of course in the Julian-Claudian period, Republican denarii were still circulating and some of them must have been in the possession of soldiers stationed there, which should reduce the disproportion in metals. Nevertheless, it is important to realize the undeniable fact that for obvious reasons the current ruler's coin was preferred in paying the armed forces as it carried a more appropriate ideological charge. As in Haltern and Novaesium, in Vindonissa, a large proportion of the denarii (almost a half) were plated and thus substandard.

In small change, we see again in Vindonissa practically only asses for the reigns of Augustus and Tiberius (sestertii, dupondii and the fewest though not negligible quadrantes combined comprise a mere 6 percent of total bronzes) and a decisive predomination of asses under following Julian-Claudian rulers (almost 75 percent). Among Augustus' asses, halves are again many (about 20 percent), primarily in the Lugdunum emissions, less so in senatorial, Rome-minted issues. Bronze halves, mainly asses, were also perceptible under Tiberius and his successors all the way to Nero. As in Novaesium, several dozen Julian-Claudian bronzes bore countermarks authorizing their further use.

A visible change in monetary circulation at Vindonissa is seen under the Flavian dynasty; it is in fact a continuation, though speeded up, of the change begun slowly as far back as Caligula and Claudius. The changes are discernible on two levels. First, it is a percentage growth of silver coin (under the Flavians about 8 percent, with the proportion of plated positively going down). Secondly, it is the gradually falling proportion of asses in all bronze supplied to the market in

14 See C.M. Kraay, *Die Münzfunde von Vindonissa (bis Trajan)* (Basel: 1962).

those reigns. Asses add up to a half of bronzes of the time. Of course the evolution in the structure of bronze currency (a shift away from the exclusive and then dominant status of the as) should be treated as delayed – by about a quarter century – in respect to coin denominational proportion changes for individual reigns. Massively circulated, there were still earlier emissions, in denominations shaped by previous reigns. Introduction of a new structure of denominations into bronze circulation meant a slow evolution in this category. This slowness – in effect causing the proportions between denominations to be unrepresentative of actual circulation at a given stage – also applies to other camps that supplied data for our analysis.

Vindonissa provides an example that under the Flavians the practices of halving and countermarking bronzes had virtually ceased.

Our study of monetary usage in the soldiers' community on the Pannonian frontier on the central Danube can draw from discoveries in Carnuntum, Aquincum, and Brigetio. The legions were stationed there not only in the first century: in Carnuntum as in Aquincum – in the latter, by the way, only from the time of the Flavians – they stayed on until the decline of Roman rule. On those territories – as opposed to Haltern, Vindonissa, and Novaesium – we can study these problems with reference to the second century. Although Thomas Pekáry article back in the fifties making an inventory of coins from Aquincum supplies fewer broken-down figures[15] than the detailed listings available for Carnuntum[16] and Brigetio[17] it still permits plausible conclusions to be drawn.

For the first century, the finds in relevant centers, Carnuntum and Aquincum, basically corroborate the phenomena and the picture of evolving monetary circulation that we saw demonstrated in previous camps. Aurei are as rare as in the west: in Carnuntum they are three Nero's pieces and singles of Tiberius, Galba, Vespasian, and Domitian Caesar; in Aquincum a single aureus of Nero. Julian-Claudian silver emissions are scant in Carnuntum, making up 6 percent of all coins found. Again, they are denarii besides two quinarii, an Asia Minor cistophorus of Augustus, a Caesarean drachm, and individual tetradrachms of Nero: a Syrian piece and a billon from Alexandria, Egypt.

Under the Flavians, the percentage of silver emissions is definitely greater than at the earlier stage and reaches almost 30 percent in Carnuntum and about 25 percent in Aquincum. These figures – and they seem unduly high to us – are probably slightly exaggerated by being considered jointly with some denarii from scattered hoards which were doubtless discovered in both centers. But even assuming these proportions of the Flavians' silver to their contemporary bronze to be true, we can see that the latter predominates in circulation (and yet there

15 T. Pekāry, "Aquincum pénzforgalma," *Archaeologiai Ertesitö*, vol. 80, 1953, pp. 106–114.

16 W. Hahn, "Carnuntum" in: *Die Fundmünzen der römischen Zeit in Österreich*, Part III: *Niederösterreich*, vol. 1 (Vienna: 1976).

17 K. Biró-Sey, *Coins from Identified Sites of Brigetio and the Question of Local Currency* (Budapest: 1977).

were still many earlier bronzes from reigns registering hardly any denarii), which follows logic and the observations made in other camps as discussed earlier. Among the denarii, there is still a noticeable proportion of plated coins and imitations, usually cast in light bronze and then probably silver-plated, but most of them are presumably much later than respective original emissions.

Bronze currency at Carnuntum has a denominational structure similar to that seen in Haltern, Novaesium, and Vindonissa. In Carnuntum, too, the majority are asses (74 percent, or 251 pieces), in this case almost exclusively struck in the capital mint in Rome, and not Lugdunum; 8 percent (28 pieces) are sestertii, 6 percent (19 pieces) are dupondii. Much more numerous than on the Rhine are the lowest quadrantes (29 pieces, or almost 9 percent of all bronzes), which arrived in this area, relatively close to Italy, in much greater volume than in more distant provinces. The remaining Carnuntum bronzes of the Julian-Claudian period are merely occasional semisses (4 pieces, or slightly more than 1 percent) and single colonial bronzes of several cities, mainly in the eastern half of the Empire. Carnuntum also had a large share of countermarked bronzes, but virtually no halves.

Under the Flavian dynasty, bronze nominal proportions in Carnuntum shift toward the highest denominations: sestertii up to 15 percent (32 pieces), dupondii up to about 21 percent (44 pieces); asses drop to about 63 percent, while quadrantes almost entirely disappear.

Analyzing the mass of coin belonging in the second century, this time in all the three camps, Carnuntum, Aquincum, and Brigetio, we can establish certain characteristic regularities no doubt faithfully reflecting the situation on the Pannonian frontier in the Antonine period.

Among over 1500 second-century coins in Carnuntum, there were again only 4 aurei; of nearly 450 in Aquincum, there was only one; of over 300 in Brigetio, no gold was found. Incidentally, on this last site, near the legionary camp, a hoard was discovered of 114 aurei dating from that epoch and spanning reigns from Nero's to early Septimius Severus'.[18] Obviously, the hoard has a significance of its own which is irrelevant to the small finds.

The percentage share of silver coins in small finds is about 26 percent in Carnuntum, 22 percent in Brigetio, and only 11 percent in Aquincum. In the most numerous finds, i.e. in Carnuntum, besides 400 denarii, there were as many as 31 silver quinarii (almost exclusively of Trajan and Hadrian), 4 Caesarean drachms, 2 Alexandrian tetradrachms, and one each of cistophorus and Lycian drachm. Predictably, some of the denarii were plated.

The structure of second-century bronze coinage is clearly different from that of the first century, and especially in the Julian-Claudian period. In Carnuntum, Brigetio, and Aquincum alike, the three most common bronze denominations,

18 *Ibid.*, pp. 127–131. The numbers of coins given in the present article as dating from the second century apply only until the death of Commodus, but they include early Trajan's emissions.

the sestertius, dupondius, and as, are represented by similar number of pieces. Besides, occasionally found are semisses (under Trajan) and quadrantes (up to Antoninus Pius), plus some more numerous than previously colonial bronzes, mostly from Thracian and Minor Asian cities. By then, there are virtually no countermarked bronzes, so characteristic for the first century, and halved pieces are fewer still.

Very interesting material for our analysis is provided by the discoveries on the site of the legionary camp in Novae on the lower Danube. For full credibility, we will only consider coins found during excavations carried out on this site in 1960–1986 by a Polish-Bulgarian archaeological team.[19] The number of coins is so big that their chronological and metallic proportions can safely be assumed as representative.

The Julian-Claudian period is represented in Novae by 86 bronzes and a single denarius of Tiberius. Almost all bronze coins represent the senatorial coinage of Rome, while only three pieces are autonomous emissions, mainly of Balkan origin. Again, senatorial bronzes register a definite domination of asses (78 percent of all specimens) over sestertii and dupondii. Halved bronzes practically do not occur (the Novae camp was set up relatively late, and besides, the practise of cutting bronze coins in half was far less widespread in the eastern than western provinces), while countermarked bronzes are merely sporadic.

For the Flavian period, much as was the case in camps discussed above, proportions in circulating coin are not so clear-cut. In Novae, too, denarii occur more frequently than before, while in bronzes – senatorial only – the domination of asses is visibly less pronounced, though it is still there (68 percent of all bronzes), a single quadrans is also registered.

For the Antonine period, the share of silver denarii rises to more than ten percent, which, again, should be treated as a rule. By contrast, the proportions within bronze coin are peculiar owing to this species having been localized in eastern Balkan Peninsula. Although Rome mint coinage prevails, the proportion of autonomous bronzes – almost exclusively of Balkan origin – climbs to 11 percent for the period in question, grows further after mid-second century, eventually to claim definite majority or even monopoly of autonomous bronzes from Lower-Moesian and Thracian cities during third century.

Among Rome-struck second-century bronzes, also in Novae asses do not make up a majority (41 percent of all bronzes) while sestertii have 33 percent and dupondii 26 percent. The above proportions should be treated as approximations, even though the picture here is parallel to the proportions observed in the other legionary camps.

For the Empire's eastern provinces we do not have such extensive material as that supplied by legionary camp discoveries on the Rhine and Danube. Some

19 A list of those is to be found in another work: A. Kunisz, *Obieg monetarny na obszarach Mezji i Tracji w I i II w.n.e.* {*Monetary Circulation in Moesia and Thracia in the First and Second Centuries A.D.*} (Katowice: 1992), pp. 134–135, 161–162.

idea of monetary use in the soldiers' community in the Early Empire can be obtained from published reports on the abundant monetary finds during excavations in Dura-Europos on the Euphrates.[20] Here, however, we are dealing with a peculiar situation. First, the city was captured by the Romans as late as the beginning of the second century A.D. and not for long. Roman military presence became marked only with the Parthian war fought under the reign of Mark Aurelius. Secondly, though the Roman garrison was admittedly strong, right next to it was a civilian city. Consequently, the actual character of coin in use here – and its proportions – does not fully reflect the situation in the military community. Nevertheless, owing to the strategic importance of this center, the army probably had a decisive influence on the local economy, which we must take into consideration in our analysis.

Dura was captured by the Romans under Trajan during the Parthian campaign of 115–117. To quote Arthur R. Bellinger's observation, Dura witnesses then an influx of bronzes from the Roman capital mint and an unprecedented number of bronzes from the cities of the Greek-Roman Orient, such as Antioch, Syria, even though emissions from the last-named mint are relatively few.[21] Naturally, some of the coins were brought in by soldiers from wherever it was that they came from. There were also contemporary silver coins, among them 16 Trajan's denarii. According to Bellinger, soldiers were usually paid in denarii.[22]

Like the rest of the country, Dura was deserted by the Romans shortly after Trajan's death. Following Mark Aurelius' reign, however, Roman rule is restored. The city must have been captured by the Romans around 165. At that time, there arrived some coins of Antoninus Pius, but also 22 bronzes of Vologases III issued in Seleucia on the Tigris. Thus, these different monetary units coexisted in circulation, although some Parthian coins might have already reached these parts during the war.

Among Antoninus Pius's coins, there are no Syrian tetradrachms as this ruler did not strike them. Antoninus' denarii (15 pieces in small finds) are as numerous as Trajan's, as are Antoninus' bronzes of Rome and Antioch. On the other hand, however, there were, as under Trajan, copious colonial coins from many cities: Laodicea, Caesarea, Antioch, Hierapolis, Seleucia Pieria, Samosata, Zeugma, Cyrrhus, Bostra, and many others, 101 bronzes in all. At that time, currency came primarily from the west, but mostly from places other than Antioch.

The 165 Roman conquest of Dura, therefore, did not significantly increase its contacts with Antioch, just as the 117 withdrawal did not markedly decrease them. For Mark Aurelius' reign, in addition to 17 denarii, there are still numerous colonial bronzes of Minor Asian and Syrian cities (predominantly from Hiera-

20 A.R. Bellinger, "The Coins" in: M.I. Rostovtzeff, A.R. Bellinger, F.E. Brown, N.P. Toll, C.B. Welles, eds., *The Excavations at Dura-Europos Conducted by Yale University and the French Academy of Inscriptions and Letters. Final Report* (New Haven: 1949).

21 *Ibid.*, p. 204.

22 *Ibid.*

polis: 33 pieces, and Cappadocian Caesarea: 22, beside e.g. six pieces from Zeugma and only five from Antioch), and virtually no bronzes from the capital mint in Rome (only one sestertius). For the reign of Commodus, there is no coin from Antioch, and apart from eight denarii, the only distinct groups are the 55 small bronzes from Carrhae and 15 small bronzes from Edessa, which prove that a need was felt to begin striking local small change in Upper Mesopotamia. The region needed small coin as it had before when it was supplied by Seleucia on the Tigris. Additionally, Dura provided only a few autonomous bronzes of that reign, mostly coming from nearby cities, and a single sestertius from Rome.

A highly interesting phenomenon strictly connected with use of bronze coin by the military community – the coin in this case being mainly autonomous emissions of eastern imperial cities – was the practice of countermarking bronzes with the number of a specific legion.[23] Many such stamped specimens have been recorded, for the most part, of course, pieces that had suffered considerable wear and had been rendered illegible. The majority were bronzes emitted in the first century A.D., up to the reign of Domitian. The practice of impressing the legion stamp on coins dated back to Trajan's Parthian war when combatant legions applied the procedure to the more fatigued bronzes in their disposal. Particularly frequent are the stamps of Legio X Fretensis; they are encountered on Syrian Antioch bronzes as well as on autonomous emissions of many Asiatic cities: Sebaste, Ascalon, Caesarea (Samaria), Nysa-Scythopolis, Gadara, etc. and even on the bronzes of the Jewish dynast Agrippa II. Far less frequent are the stamps of other legions involved in the war: III Cyrenaica, VI Ferrata, XII Fulminata, and XV Apollinaris.

Later the practice became much less widespread. For second-century bronze emissions, only sporadic instances of countermarking were recorded. These mainly apply to the legions XII Fulminata (bronzes of Hadrian and Antoninus Pius of Cappadocian Caesarea) and XV Apollinaris (bronze emissions of Hadrian, Mark Aurelius, and Lucius Verus from Cappadocian Caesarea, of Trajan from Aradus and Nicopolis in Pontus, and of Antoninus Pius from Tyana). We may suppose that this stage of stamping coins had to do with the Parthian war waged early in Mark Aurelius' reign.

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23 See data on this in C.J. Howgego, *Greek Imperial Countermarks. Studies in the Provincial Coinage of the Roman Empire* (London: 1985), esp. pp. 17–31, where a number of statistical data are given; also cf. D. Barag, "The Countermarks of the Legio Decima Fretensis" in: A. Kindler, ed., *The Pattern of Monetary Development of Phoenicia and Palestine in Antiquity* (Tel-Aviv: International Numismatic Convention, Jerusalem, 27–31 December 1963, 1967), pp. 117–125; and M. Rosenberger, *The Coinage of Eastern Palestine and Legionary Countermarks, Bar-Kochba Overstrucks* (Jerusalem: 1978). G.G. Brunk, "A Hoard from Syria Countermarked by the Roman Legions," *American Numismatic Society Museum Notes*, vol. 25, 1980, pp. 63–76 informs of a highly interesting hoard having been discovered in an unknown place in Syria containing 164 bronzes from the Syrian Antioch and from Commagene – up to the reign of Domitian inclusive; more than a half of those coins bore countermarks of several eastern legions probably dating from Trajan's Parthian War.

In western provinces, the practice of countermarking coins never achieved this scope. Among the legions that marked their coins at the time were the Spanish-stationed VI Victrix and X Gemina, the latter subsequently moved to Pannonia.[24]

It is time for a summary. Lets us begin by stating that monetary finds in a variety of military camps are sufficiently numerous and representative to permit plausible conclusions to be drawn on the structure of coin used by the military community and observation of changes in this respect. It is a seeming paradox that while the army was paid practically exclusively in silver, the finds – at least for the Early Empire period – reveal an overwhelming predominance of bronze. This is due to monetary processes taking place on the microeconomic scale in a given local community. The bronzes were drained from the local market and found their way to soldiers' purses in the course of small-scale exchange as the military brought their custom to the market, received change for their silver, etc.

It was undoubtedly silver and practically only silver – possibly with a small amount of gold – that served the purpose of thesaurization in the military community. Such savings could not have been massive and they usually took on a peculiar form. We know that the Roman army practice at the time was for soldiers to deposit their savings at the legion's headquarters. While individual deposits could not have been too impressive, they added up to a sizeable cache. Suetonius tells us that emperor Domitian prohibited soldiers amassing in the military store more than 1000 sestertii.[25] Which was equal to 250 denarii, or almost of legionary's annual pay. Domitian was supposedly afraid that commanding officers might have too much money at their disposal, which could facilitate their possible rebellion against the emperor. That an imperial order imposed such a restriction on official legionary savings indicates that earlier the peaks exceeded this number, even if it was not exactly low.

Observing the transformations in the use of silver coin in the military community, we note – in addition to the banal assertion that silver traditionally and almost exclusively stands for denarii – that in the first century A.D., and especially under the Julian-Claudian dynasty, much of the coin used by the military was Republican denarii. It was only Flavian and then Antonine lavish denarius emissions that put many imperial denarii in the hands of the military and increased the silver-to-bronze ratio in soldiers' daily use of coin.

We need to remember that early in the Empire a sizeable proportion of silver coin found in legionary camps was plated: to some extent official, but deficient in value. In early camps such as Novaesium and Vindonissa, plated pieces con-

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24 C.J. Howgego, *Greek Imperial Countermarks...*, p. 17. On the same subject also cf. A.M. de Guadan, "Sobre una contramarca inedita de la Legio VI en un sextercio de Claudio," *Numisma*, fasc. 32 (V–VI 1958), pp. 13–19; D.W. Mac Dowall, "Two Roman Countermarks of A.D. 68," *Numismatic Chronicle*, ser. VI, vol. 20, 1960, pp. 103–112.

25 Suet. Domit. 7, 3.

stitute a large share in all silver. As the monetary market stabilized, this situation improved and from the time of the Flavians, plated denarii practically disappear from finds – up until the late second century when certain conditions would produce change.

Transformation in the structure of bronze are also clear enough. Under the Julian-Claudian dynasty we register a clear preponderance of the as against higher denominations (sestertii and dupondii). In these peripheral outposts we also find a protracted shortage of small bronze change used in everyday business. Attempted remedies varied. In Haltern, for example, small Celtic bronzes were used as a substitute. In all camps active in the first half of the first century A.D., halved asses served as petty denominations. In addition, old, worn, and illegible bronzes were retained in circulation by being countermarked with the name of the current emperor.

Evolution is also discernible in bronze currency. It involved a gradual lessening of the as predomination and a levelling of proportion between the three basic bronze denominations (sestertius, dupondius, as) and abandoning the use of substitute or irregular pieces. The fact was, of course, due to the gradual market recovery, also felt in bronze circulation, especially during the reigns of second-century rulers. Nevertheless, even then denominations lower than the as were not fully restored, which, to some extent, must have been caused by rising prices and reduced demand for the smallest change.

One more phenomenon, alluded to in literature,[26] deserves a mention. Quite frequent in the finds were exotic pieces coming from remote mints. These coins, possibly with a few exceptions, did not arrive at the place they were later found by means of normal commercial exchange. The pieces referred to are mostly autonomous bronzes from cities in the Empire's eastern half – especially second-century emissions – present in finds in all the camps active at the time. We cannot but agree with Adrien Blanchet's proposal and we must accept that these coins were brought in by soldiers fighting wars in the east, or else they were traces of units being transferred to other parts of the Empire.

It would be instructive to compare the above characteristics of monetary use in the military community in the Early Empire with parallel processes and transformations in civilian centers. This question, however, would require a fuller compilation of available material and further studies.

26 See A. Blanchet, "Monnaies provinciales de l'Empire romain, trouvées en Gaule," *Numismatische Zeitschrift*, vol. 46, 1913, pp. 193–202; also cf. M.R. Alföldi, "Der Geldverkehr von Intercisa" in: *Intercisa (Dunapentele-Sztālinvaros). Geschichte der Stadt in der Römerzeit*, vol. 1 (Budapest: 1954), p. 146.

Andrzej Kunisz

Pieniądz w środowisku żołnierskim w epoce Wczesnego Cesarstwa

Streszczenie

Omawiane zjawiska, oraz zachodzące w nich z biegiem czasu przemiany, poznajemy przede wszystkim drogą analizy bardzo obfitego materiału numizmatycznego, odkrywanego na terenie rzymskich obozów legionowych oraz stanic wojskowych, rozrzuconych wzdłuż rozległych granic Imperium.

W artykule zjawiska te zanalizowano na przykładzie bardzo znaczących, a przy tym najlepiej znanych, stanowisk z różnych prowincji Cesarstwa, a mianowicie obozów w Novaesium, Haltern, Vindonissie, Carnuntum, Aquincum, Brigetio, Novae oraz z Dura Europos. Właśnie armia stanowiła przekaźnik, za którego pośrednictwem rzymska masa monetarna pod postacią żołdu napływała do odległych prowincji. Pomimo iż armia opłacana była praktycznie pieniądzem srebrnym, w owych znaleziskach rejestrujemy w zdecydowanej większości monety brązowe. Wynikało to z przebiegających w mikroskali procesów związanych z funkcjonowaniem rynku pieniężnego w danym środowisku. Owe brązy były drenowane z miejscowego rynku i dostawały się do rąk żołnierzy w procesie drobnotowarowej wymiany. Natomiast właśnie pieniądz srebrny był przez środowisko żołnierskie używany w procesie tezauryzacji, rozumianej najczęściej w sposób dość specyficzny.

Śledząc przemiany w użytkowanej w środowiskach żołnierskich srebrnej masie pieniężnej – reprezentowanej wówczas praktycznie wyłącznie przez denary – stwierdzić można, że w I w.n.e., a szczególnie za rządów dynastii julijsko-klaudyjskiej, w masie owej niemałą część stanowiły denary republikańskie. Dopiero obfite serie denarów Flawiuszy i następnie Antoninów wyraźnie zwiększyły proporcję monet srebrnych w stosunku do użytkowanej przez legionistów na co dzień masy monety brązowej.

W zakresie pieniądza brązowego za władców dynastii julijsko-klaudyjskiej rejestrujemy wyraźną przewagę asów w stosunku do wyższych nominałów brązowych. Stwierdzamy jednak także systematyczny brak brązowej drobnicy, potrzebnej w codziennej wymianie, któremu starano się zaradzić różnymi sposobami. W zakresie użytkowanej masy pieniądza brązowego zauważalna jest jednak ewolucja. Polega ona na stopniowym załamywaniu się preponderancji asa oraz wyrównywaniu proporcji liczbowych między trzema podstawowymi nominałami brązowymi (sesterc, dupondius, as), z drugiej zaś strony – na zaniechaniu użytkowania monet zastępczych czy nieregularnych w rodzaju sztuk przepołowionych czy kontramarkowanych. Było to związane z występującą, zwłaszcza w II w.n.e., sanacją rynku pieniężnego w Imperium.