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Quantifying the impact of military payments on local economies: the case of Gaul in the 1st c. BC

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[p. 93] In the last decades, progress made by archaeological research has led to a much better understanding of the consequences of the military conquest of Gaul by Julius Caesar. In addition to the work carried out on major sites mentioned in Caesar's *de Bello Gallico* (Alesia, Gergovia, Uxellodunum, Bibracte), archaeologists have identified traces of military occupation in the decades following the war on a number of native *oppida* and, sometimes, on Roman-built camps. Different signs point to a diffuse presence of both auxiliary and legionary soldiers throughout the territory until the 30s or 20s BC. ¹

Only in later years, with the conquest of Germania, were troops concentrated along the Rhine in a small number of military camps. During this period, the impact of the military occupation on the coin supply is clear. At least until the second half of the first decade AD, Roman coins were sent first and foremost to troops stationed on the Rhine and gradually flowed towards Inner Gaul through the Meuse and Moselle valleys.²

But what happened before, in the years between the Caesarean conquest and the Augustan reorganisation? Since archaeology points to a loose web of military presence throughout the entire province of *Gallia Comata* (comprising the future *Aquitania*, *Lugdunensis* and *Belgica*), we can expect military payments to have impacted local economies around the garrison sites. However, in dealing with this subject we face several serious problems, the first of which is how to identify such payments. In the archaeological record, Roman coins are clearly linked to the military, but they remain scarce. We must turn to local coinages as our main source of

¹ The reader will find all the relevant literature in REDDÉ et al. 2006; POUX 2008; REDDÉ 2018; REDDÉ 2022a, 259 sqq; various chapters in REDDÉ 2022b.

² MARTIN 2015, 389–395.

information: indigenous silver coins are usually interpreted as hints of military presence. Available data do lend some support to this claim, but any attempt at quantification [p. 94] is hindered by several obstacles, among which a dearth of good archaeological context and the absence of die-studies. The aim of this paper is therefore to offer an overview of available data and identify some research avenues, rather than to provide definite answers. The focus of the analysis is on northern and eastern Gaul, where traces of military presence in the second half of the first century BC are most numerous.

Are Celtic *quinarii* linked to military pay?

Most scholars associate the numerous silver *quinarii* minted from the second c. BC in Gaul with military pay³. Is this true? I have tried to show in a previous paper that, down to the end of the first c. BC at least, it was customary for auxiliary soldiers to receive their pay in the local currency of their homeland.⁴ For Gaul, ancient texts are supported by archaeological evidence. Indeed, silver coins are generally overrepresented on sites with traces of post-conquest military occupation, such as La Chaussée-Tirancourt, Liercourt-Erondelle, Folleville or le Mont-Castel.⁵ We cannot be sure that these *quinarii* were intended primarily as military pay, but it is highly likely that they were used as such.

If we turn from site finds to coin hoards, we can also note a change in pattern between silver hoards dated before (Figure 1 and Table 1, p. 96-97),⁶ and after the Gallic Wars (Figure 2 and Table 2, p. 98-99).⁷

[p. 95] First of all, the number of hoards dated after the conquest is significantly higher: I have listed 18 hoards with either Celtic silver *quinarii*, Roman *denarii* or *quinarii*, or both, for the period between 150 and 60/50 BC (known as La Tène D1 and D2a), and 28 for the period from

³ These silver coins are generally called “*deniers gaulois*” in French because the prototypes are always *denarii* and some issues bear the typical X on the obverse; German- and English-speaking scholars refer to Celtic *quinarii* because they were struck on the weight standard of the Roman *quinarius*.

⁴ MARTIN 2014.

⁵ References and discussion in MARTIN 2017, in particular 67-69.

⁶ See appendix infra, p. 107-109, for the code hoards mentioned on Figures 1-2 and on the first column of Tables 1-3.

⁷ The list of hoards is based on the data gathered for MARTIN 2015, which I have updated since then whenever possible. The recent list published in GUIHARD 2023b catalogues only deposits containing Celtic *quinarii*; some hoards listed in MARTIN 2015 are missing. I have assigned a date to each hoard according to the coin-types it contains. Coin-types have been dated on the basis of finds from dated archaeological contexts, using an updated version of the database exploited in MARTIN 2015, with the help of existing numismatic literature, most notably HASELGROVE 1999. Roman coins, when present, generally give the *terminus post quem*; but it is not always the case. For instance, in the Pommiers hoard (POM), the latest known Roman *denarius* is dated 88 or 76-75 BC (RRC 345 or 393), much earlier than the Celtic TOGIRIX *quinarii* (at least two specimens in the hoard).

60/50 to c. 20 BC (La Tène D2b which merges with “early Augustan” in the last decades). Secondly, post-conquest hoards seem to be bigger than the older hoards: the largest known to date is Lavilleneuve-au-Roi (LAR), consisting of c. 15.000 *quinarii* of which 13.153 have been described. However, it must be remembered that numerous hoards are only partially documented, so that it is difficult to be certain that post-conquest hoards are significantly larger than pre-conquest ones. The recent discovery of Saint-Loup-de-Varennes (SLV) – 3023 *quinarii* recovered during an archaeological excavation, only summarily published so far– is proof that pre-conquest deposits could be very large⁸. Hoards from both periods could be associated with undetected or “natural” religious sites,⁹ but because of the intensity of the phenomenon after the war, I do not think this can be taken as the main explanation. Fig. 1 also makes clear that before the conquest silver hoards are mainly known in Eastern Gaul, where a silver standard is in use since the 2nd c. BC¹⁰, whereas after the war (fig. 2) silver hoards are also found in the Western region where gold remained the standard until the end¹¹. This is coherent with known archaeological traces of military occupation in Gaul during this period,¹² and I think we can associate, with some confidence, the post-conquest concentrations of silver coins with a military presence.

⁸ Teyssonnière et al. 2015, 70-73. The hoard was found during phase 7 of the settlement, dated to La Tène D2. Given its contents, the deposit is very likely to be pre-Gallic Wars. Two silver ingots were found with the coins.

⁹ Such is the explanation given for several coin deposits, in particular in Belgium: VAN HEESCH 2005.

¹⁰ On the “*zone du denier*”, MARTIN 2015, 68-91.

¹¹ SILLON 2014; 2016. I have tackled the problem of post-conquest gold coinages elsewhere: MARTIN 2023.

¹² POUX 2008; REDDÉ 2018. Of course, this is highly provisional and development-led archaeology, in particular, regularly adds to the corpus.

[p. 96]

Code hoard	Type	N Celtic quinarii	N Roman denarii	N Roman quinarii
ALE	Celtic	10		
AUJ	Celtic	c. 700		
COS	Celtic	59		
FUL	Celtic	300		
HDT-03	Celtic	48		
HSS	Celtic	150		
JHB	Celtic	47		
LAC	Celtic	8		
LAU	Roman	1	23	
LBE	Celtic	11		
LYO-01	Celtic	c. 1400		
MNZ-01	Roman		12	
NUN	Celtic	50+		
RSA	Celtic	c. 300		
SDR-01	Roman ?		?	
SLV	Celtic	3024		
SRO	Celtic	46		

Table 1. Composition of hoards of silver coins pre-dating the Gallic Wars (150-60/50 BC) in the study area.

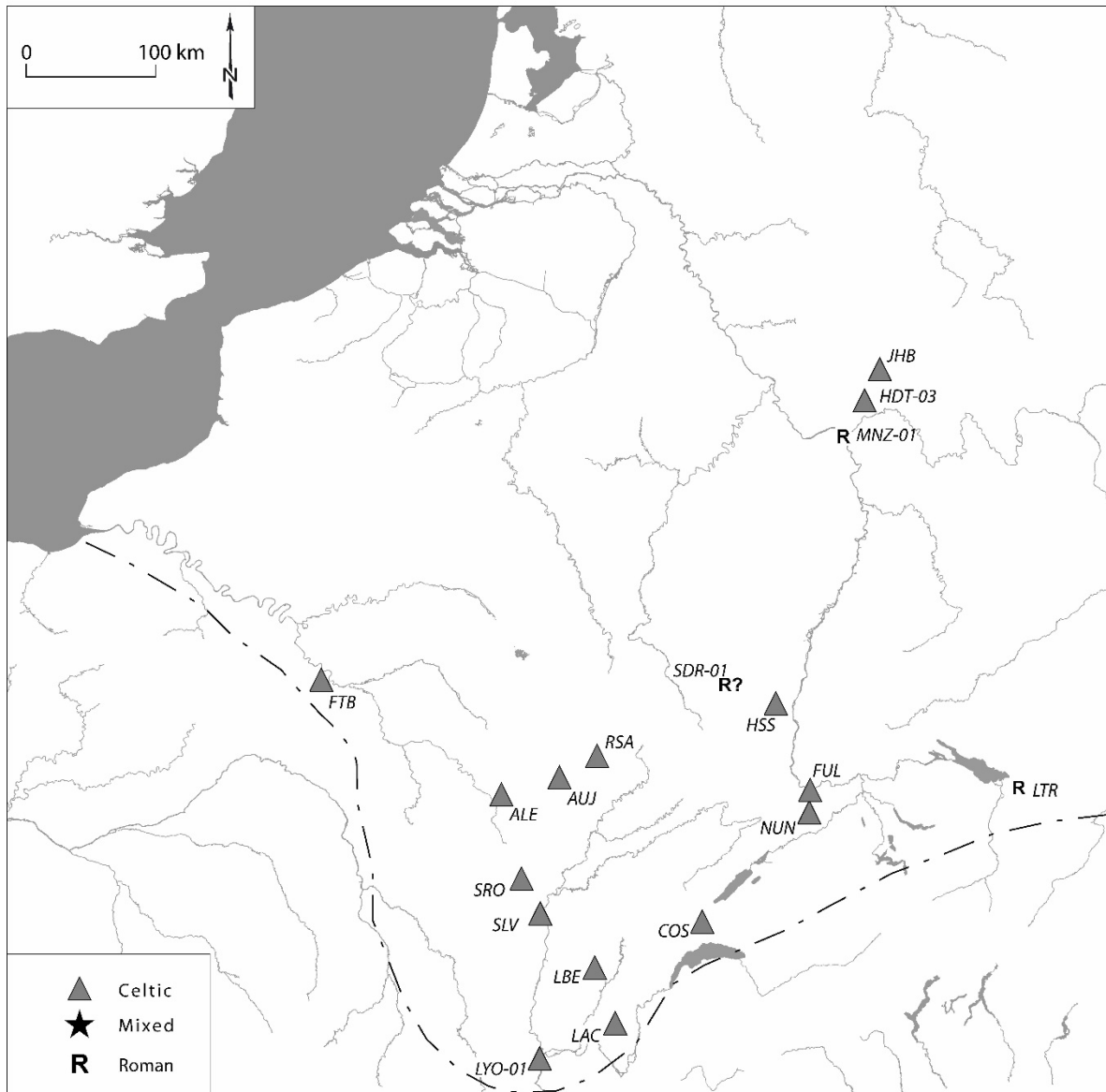


Figure 1. Hoards of silver coins pre-dating the Gallic Wars (150-60/50 BC) in the study area (north of broken line). Map created by S. Martin.

[p. 98]

Code hoard	Type	N Celtic quinarii	N Roman denarii	N Roman quinarii
BAL	Celtic	17+		
BAS	Celtic	1111		
BDD	Roman		70	1
BIB	Mixed	8	30	
BPB	Mixed	8+	11+	
CSI	Mixed	409	178	2
DAN	Celtic	6		
DEC	Celtic	37		
DUR	Mixed		c. 117	
FNT	Celtic	c.400		
KBL	Mixed	1	8	
KOL-01	Roman		20	
LAI	Celtic	2131		
LAM	Celtic	100+		
LAN	Celtic	59+		
LAR	Celtic	c. 15.000		
LGL	Roman		2	
LIM	Celtic	"a very large number"		
MTZ-01	Celtic	20		
NDL	Roman		61	1
NEF	Roman	65		
POM	Mixed	15+	5+	
PRS-02	Celtic	"a large number"		
SDR-02	Celtic	c. 3000		
STB	Celtic	c. 20		
STL	Roman		14	1
TIT-02	Mixed	7	2	
TRC	Celtic	14		

Table 2. Composition of hoards of silver coins dating to or later than the Gallic Wars (60/50-30/20 BC) in the study area.

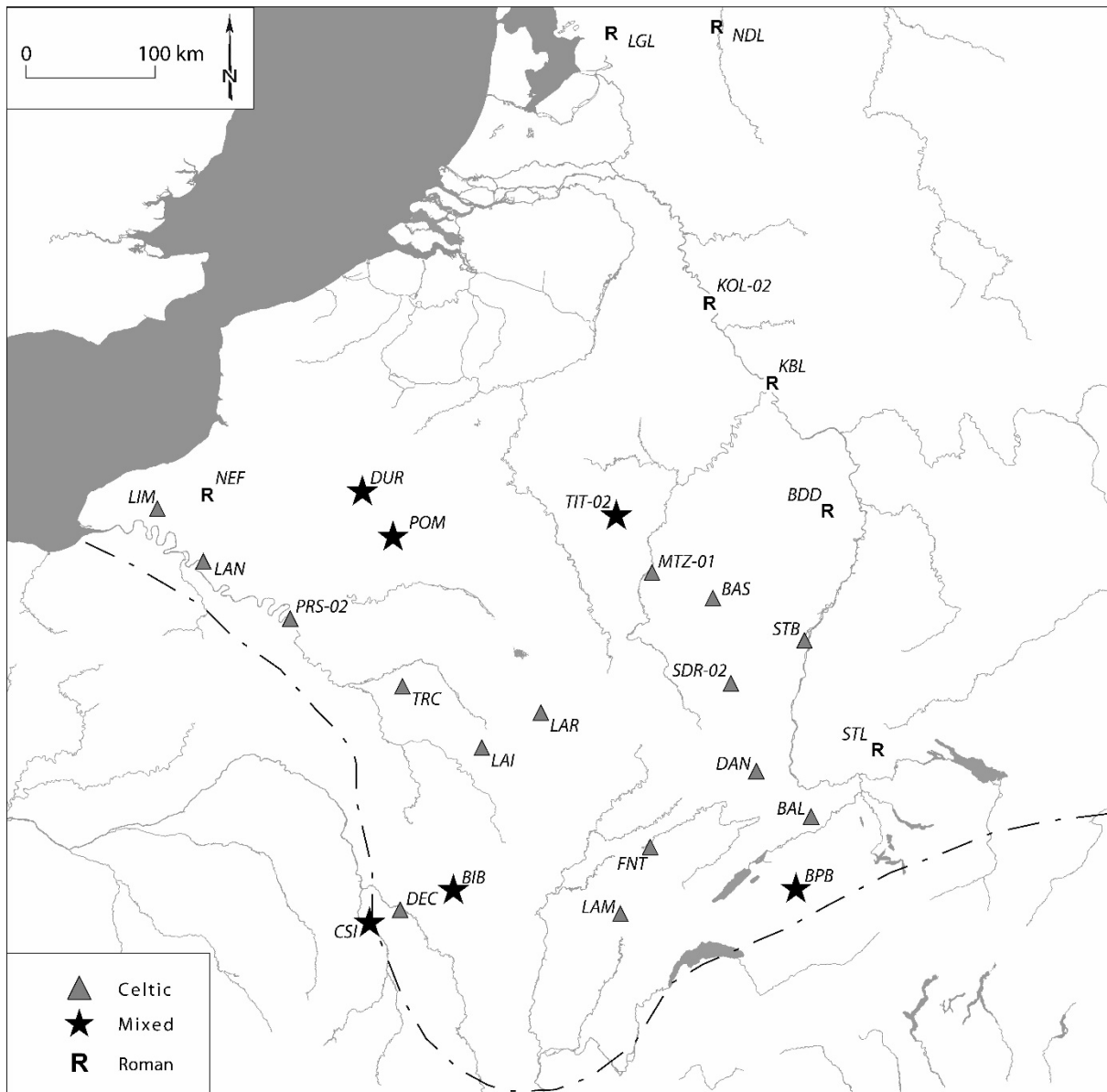


Figure 2. Hoards of silver coins dating to or later than the Gallic Wars (60/50-30/20 BC) in the study area (north of broken line). Map created by S. Martin.

[p. 100] Can we trace changes in coin production?

Does this surge in hoards reflect a surge in coin production? There is indeed an increase in silver coin-types after the conquest, with numerous small issues alongside the most famous and numerous *quinarii* bearing the names of TOGIRIX (*LT 5550*) or ATEVLA/VLATOS (*Scheers 41*). However, we have currently no way of estimating coin production for this period. Firstly, there is no die-study available for these coins, in particular for the larger series. Celtic *quinarii* are notoriously difficult to study in this respect: they are at the same time very numerous and small, the blank is generally smaller than the die so that the image is incomplete, and the quality of the striking is often quite low.¹³ Furthermore, the use of dies with multiple obverses needs to be taken into account.¹⁴ The scale of production of silver coins after the conquest was presumably quite high, but it remains very difficult to quantify.

It is interesting to note, however, that the proportion of pre-conquest *quinarii* in post-conquest hoards remains very high (Table 3).

Code hoard	Type	N Celtic quinarii	N Roman denarii	N Roman quinarii	% pre-Gallic War Celtic quinarii	% Gallic Wars or post-Gallic Wars Celtic quinarii
BAL	Celtic	17			52,94	47,06
BAS	Celtic	1111			44,73	53,64
BPB	Mixed	8	11		12,50	87,50
CSI	Mixed	409	178	2	43,03	25,43
DAN	Celtic	6			100,00	
DEC	Celtic	37			86,49	2,70
LAI	Celtic	2131			76,81	21,63
LAN	Celtic	59			5,08	64,41
LAR	Celtic	13.153			68,40	22,13
MTZ-01	Celtic	20				100,00
TRC	Celtic	14				100,00
KBL	Mixed	1	8		100,00	

Table 3. Ratio between pre-Conquest and Conquest/post-Conquest Celtic *quinarii* in a number of hoards dating to 60/50-30/20 BC (based on identified coins only).

¹³ See GEISER and GENECHESI 2011 for a preliminary study of the TOGIRIX series. Guihard et al. 2023, 21 fig. 16, offers a die-study of the IMIOCI/SAM series (*LT 5639*, with a new reading of the legend as JOΛMA/Q DOCI ΣΔΛ): there are 88 obverse dies for 123 specimens.

¹⁴ See LOPEZ 2017 for an overview, as well as the work of C. Bossavit in BOSSAVIT 2019 ; 2022 (*non vidi*) ; 2023 ; BOSSAVIT and NIETO-PELLETIER 2023 ; GUIHARD et al. 2023.

[p. 101] More often than not, older coins are more numerous than more recent ones. Take for instance the hoard from Lavilleneuve-au-Roi (LAR), with 13.153 coins known out of c. 15.000. The presence of 2.911 TOGIRIX coins make a date during or around the Gallic Wars certain, but almost two thirds of the total is made of pre-conquest coins. In the case of the hoard from Chantenay-Saint-Imbert (CSI), with a good *terminus post quem* of 32/1 BC¹⁵ given by a Roman *denarius*, at least one third of the 409 Celtic *quinarii* are pre-conquest. However, it is difficult to find a general rule. If we venture a little outside the study zone, the Jersey-6 hoard, a little earlier than Chantenay-Saint-Imbert with a *terminus post quem* of 39 BC, again given by a Roman *denarius*,¹⁶ has c. 20% *quinarii* that can be dated pre-conquest. But a later mixed hoard in Vernon, with a *terminus post quem* as late as 19 or 18 BC¹⁷, has c. 30% of the pre-conquest *quinarii*. Furthermore, as already stated, hoards are rarely known in their entirety and we do not know what is missing, whether pieces were lost before examination or recording was poor – regardless of when they were found: the four examples discussed here were all discovered and published in the second half of the 19th c. with rather high standards, not necessarily matched in more recent publications.¹⁸

All in all, it is very difficult to get a clear picture of a complicated situation: a large number of new series, but which were probably minted in small quantities, a few very large series which are not quantified at the moment, and the persistent use of older coins, sometimes in large quantities. There are probably regional variations, but the data are not good enough to try to map them out.

To this must be added a major question that cannot be solved at the moment, and probably never will be: the origin of the silver bullion. We face here a series of difficulties. To start with, reliable analyses of the metal contents of post-conquest *quinarii* have only recently been published. For a [p. 102] long time, all available data came from X-ray fluorescence (XRF) analyses, and it has been proven that this method does not give trustworthy results.¹⁹ According

¹⁵ And not 36 BC as written in SAULCY 1862. The last coin is COHEN 1857, *Antonia* no 46 = RRC 544/21.

¹⁶ BARTHÉLÉMY 1884; COHEN 1857, *Antonia* no 8 = RRC 529/3.

¹⁷ BARTHÉLÉMY 1873 gave a *terminus post quem* of 45 BC but he mentions on p. 508 a *denarius* from the *gens Durmia*. SCHEERS 1997 has rightly spotted that it cannot be Republican and must correspond to RIC I², Augustus, no 311-320, dated 19 (RIC I²) or 18 BC (KÜTER 2014, 62–63, reviving opinions expressed in previous literature). This goes to show the need to analyse this kind of data with circumspection. Incidentally the historical interpretation of mixed hoards proposed in ALLEN 1968, where the Vernon hoard was tentatively linked with unrecorded events in the *civitas Pictonum* during the 40s BC, should be treated cautiously.

¹⁸ GUIHARD 2023b offers an interesting rating of the quality of recording of *quinarii* hoards, checked in a table with discovery dates.

¹⁹ PONTING 2012; BLET-LEMARQUAND, GRATUZE and BARRANDON 2014.

to XRF, *quinarii* appeared to have a silver content of c. 90 to 95 %, post-conquest coins being apparently a little poorer in silver than pre-conquest coins.²⁰ Analyses made by the team of the IRAMAT-CEB (CNRS, UMR 5060, Orléans) via LA-ICP-MS have confirmed this high silver content;²¹ however there is no significant correlation between the chronology of the series and the silver content.²² This data just allows the beginning of research into bullion sources.²³ Furthermore, a recent paper by Ch. Parisot-Sillon and G. Sarah on Roman Republican, Iberian and South Gaulish silver in the last two centuries BC casts serious doubts on the possibility of identifying bullion sources. Indeed, recycling appears to have been widespread, so that chemical signatures of bullion sources are generally mixed up.²⁴

For Northern Gaul, although we do not yet have analytic data to prove it, recycling also seems to have taken place. Before the Gallic Wars, there are archaeological traces on some sites indicating that Roman coins may have been used as bullion, and it appears to have been the case also in Britain.²⁵ What is more, although some pre-conquest *quinarii* circulated after the war, some were also recycled. The clearest case is already pre-conquest, on the *oppidum* of Villeneuve-Saint-Germain: of the 57 silver coins (*Scheers* 50) produced on site and found during excavations, 23 were overstruck on other types.²⁶ More recently, an interesting TOGIRIX coin (LT 5550) has come to light, which had supposedly served as blank for a SOLIMA coin (LT 9025)²⁷. However, [p. 103] given that SOLIMA is older than TOGIRIX,²⁸ I would suggest that TOGIRIX overstruck SOLIMA: if I am right, we would have a clear case of a *quinarius* dating to or after the conquest overstruck on an older one. There are also two cases of hybrids from the period of the Gallic Wars, which suggest that striking may not have

²⁰ BURKHARDT, STERN and HELMIG 1994; BURKHARDT 2012; GUIHARD and QUERRÉ 2013.

²¹ For pre-conquest silver coinages, see GRUEL and BARRANDON 2000; for post-conquest series, see GUIHARD et al. 2023 (Bassing) and BOSSAVIT and NIETO-PELLETIER 2023 (Laignes). BOSSAVIT 2022 is still unpublished (*non vidi*).

²² S. Nieto-Pelletier writes, in GUIHARD et al. 2023, 29, that “à l’échelle des séries analysées dans le dépôt de Bassing, les variations de titres observées ne semblent pas corrélées, du moins de manière significative, à la chronologie des émissions.”

²³ S. Nieto-Pelletier in GUIHARD et al. 2023, 31-34.

²⁴ PARISOT-SILLON and SARAH 2018.

²⁵ See MARTIN 2015, 48 n. 47 for further references.

²⁶ DEBORD 1987. In eight instances the undertype was identified: LT 4097, LT 5138 (two), LT 5351, LT 5405-5411, LT 8178-8291 (three).

²⁷ GOUET 2004.

²⁸ One LT 9025 in structure G7, dated to La Tène D2a, on the Titelberg *oppidum*: METZLER 1995. So far no LT 5550 has been recorded in a context predating Alesia, where 90 specimens have been found: REDDÉ and SCHNURBEIN 2001.

been as organised as it used to.²⁹ However, at least two of these three coins are plated, so that their status is not very clear: contemporary forgeries or “emergency” issues? This leads me to the last point I would like to stress: we do not know how widespread plated coins were. What is more, in old publications such as the ones discussed above, authors do not mention plated coins; but I doubt that there was not a single plated coin among the 13.153 identified coins known from the Lavilleneuve-au-Roi deposit, even if a recent reappraisal of preserved specimens has not identified any³⁰. Plated coins are notoriously hard to notice if well made. For instance, in the recently studied deposit from Laignes, plated coins were only identified through LA-ICP-MS analyses (2 specimens).³¹ On the other hand, the 20 Roman Republican coins from the Cologne hoard (KOL-01) are all plated...

Can we quantify the impact of the monetary economy?

Given the rather pessimistic overview of the situation, is it possible to say anything at all on the impact of military pay, through the proxy of *quinarii*, on the monetary economy of Northern Gaul? Contrary to what the title suggests I think it is too early for quantification – if quantification is ever possible. Nevertheless, we can still come to a number of conclusions.

First, it is still possible to say that the number of coins in circulation did increase, so that more coins were available to the population. Available analyses of the metal contents do not show so far a drop in silver content [p. 104] between pre- and post-conquest issues. This leaves open the question of the supply in silver bullion. But even if we postulate massive recycling of pre-conquest coinages, a large number of these coins found their way into post-conquest contexts and hoards: this necessarily means that post-conquest minting did produce “new coins”. There is one source of fresh money that cannot be contested: Roman coins. It is only after the Gallic Wars that Roman coins started circulating significantly in Northern and Eastern Gaul and they meant a net increase in the coin pool. This is visible in hoards as well as in site finds.³² Finally, the question of plated coins needs to be addressed, for a surge in the production of plated specimens means that more coins can be minted with the same amount of bullion.

²⁹ DELESTRÉE and BEDEL 2005; MANIOS 2013. Unfortunately, without any archaeological context (nor for GOUET 2004). See however BOSSAVIT 2019: overstrikes and hybrids are actually rather rare on silver *quinarii* from the French “Centre-Est”.

³⁰ BOSSAVIT 2023. It should be noted that the preserved sample is very small: only 330 coins, 2.5% of the original total number of identified coins.

³¹ BOSSAVIT and NIETO-PELLETIER 2023; to these two, we must add six probable cases. If I am not mistaken, no plated coin is mentioned in the recent publication of the Bassing deposit (GUIHARD et al. 2023), although a previous paper mentioned at least two (GUIHARD and QUERRÉ 2013)

³² MARTIN 2015, 111-115 and fig. 28, 153–168.

Secondly, the existence of numerous hoards as well as the distribution of site finds of silver coins show that they were apparently not widely available to the whole population.³³ I think the data points to concentration of wealth in the hands of a small number of individuals. The recent find of the hoard of Bassing on a rich rural site with numerous metal finds offers confirmation of the connection between silver coins, the army and aristocracy.³⁴ This is also consistent with what we know of auxiliary pay in this period, with the famous text in Caesar's *Bellum civile* on the two brothers Ecus and Roucillus, who received coins to pay their troops from the Roman *quaestor*, but did the distribution themselves.³⁵

[p. 105] Thirdly, the period saw a growing number of people not engaged in agriculture or in any productive activity. Not only had a substantial part of the Gallic population died in the war,³⁶ but many men were fighting in Gaul or abroad as auxiliary soldiers to the Roman troops³⁷, some eventually to come back with accrued prestige and resources. Even if we account for some predation and looting in the years following the conquest, the combination of more money, more military and less producers must have had some effect on the economy. In the end, and in spite of the limitations I presented above, I think we can say that the changes we observe in the circulation of silver coinage after the Gallic Wars do imply an increased monetization in Northern Gaul. The presence of the military meant that there was a new market,

³³ I discussed this point with P. Nouvel (Université de Bourgogne), whom I thank for his insights. He thinks that improvement in excavating techniques and increasing use of metal detectors on archaeological excavations are currently showing, at least in Eastern Gaul, that during La Tène D2b silver coins were more diffused than previously thought, including in rural and urban settlements. I do think that silver coins were more numerous after the Gallic Wars, but for now my review of the data assembled for MARTIN 2015 does not lead me to the same conclusions. However, development-led as well as research-led archaeology are producing new data each day and the interpretations offered here will have to be put to the test.

³⁴ GUIHARD et al. 2023. 1111 *quinarii* were recovered scattered in the soil stripped from above the main building of the Augustan phase. It is likely that the deposit had already been scattered by agricultural ploughing. The site was already occupied during the Iron Age. *Militaria* dating from the mid-first c. AD have also been recovered.

³⁵ Caes. *BCiv.* 3.59.3-4: "There were with Caesar, among his horsemen, two Allobrogian brothers, Roucillus and Aecus, sons of Adbucillus, who had held the chieftainship in the state for many years, men of singular valour, whose very able and valiant co-operation Caesar had enjoyed in all his Gallic Wars. He had bestowed on them for these reasons offices of great dignity in their own homes, had arranged that they should be chosen on the senate out of due course, had assigned to them lands in Gaul taken from the enemy and large prizes of money, and had raised them from poverty to wealth. These men, on account of their worth, were not only held in honour by Caesar, but were also regarded with affection in the army; but, relying on Caesar's friendship and puffed up with stupid and barbarous arrogance, they began to despise their countrymen and fraudulently to appropriate the pay of the cavalry and to divert the whole of the plunder to their own homes. Deeply stirred by this conduct, the men approached Caesar in a body and openly complained of their wrongdoings, and added to their other complaints that they were in the habit of sending in a false return of the number of the cavalry in order that they might appropriate their pay" (Loeb translation).

³⁶ Vell. Pat. 2.47 gives 400.000 killed, Plut. *Vit. Caes.* 15 one million. The exact numbers are notoriously difficult to establish: see HENIGE 1998 on Caesar. But we cannot escape the fact that casualties must have been important.

³⁷ E.g. Caes. *BCiv.* 1.39 (Caesar chooses 3.000 Gallic cavalrymen); App. *BCiv.* 2.49 (10.000 Gauls with Caesar and some with Pompey); *ibid.* 3.88 (4.000 Gauls with Brutus at Philippi and 2.000 Gauls and Iberians with Brutus).

and, although we cannot quantify it, this was probably matched by an increase in the money supply. However, I do not want to suggest that the Gallic Wars triggered a booming market economy. This was first and foremost the result of a peculiar situation, ten years of internal warfare among the Gauls and external warfare between Gauls and Romans, followed by years of unrest and Roman civil wars. During my doctoral research, I also noticed a boom in the number of coins found in layers dating to the Gallic Wars or the decade immediately after. But the numbers went down again during the Augustan period, indeed suggesting that this surge was temporary, not structural.³⁸

[p. 106] A more lasting effect may have been the concentration of wealth mentioned above. A hoard such as Lavilleneuve-au-Roi, if indeed there were no plated coins in the deposit, would have amounted to c. 25 kg of silver, equivalent to more or less 7.000 Roman *denarii*. According to Augustan pay scales, this would be enough to pay 20 to 30 auxiliary cavalrymen.³⁹ Such hoards were certainly in the hands of local aristocrats, who were at the head of their own troops at that time.⁴⁰ Controlling military pay must have been either a way of reinforcing existing hierarchies, or establishing new ones. There is no doubt that the period under study here was of paramount importance for the making of the local Gallo-Roman elites. The minting and distribution of coins, notably through military pay, were certainly of great value in such a process.⁴¹

[p. 107] APPENDIX

Hoards mentioned in Figures 1-2 and Tables 1-3

ALE = Alesia (FR): MANGIN, M. and COLBERT DE BEAULIEU, J.-B. 1989. “Un dépôt monétaire de l’époque de la Guerre des Gaules sur l’oppidum du Mont Auxois (Alise-Sainte-Reine, Côte-d’Or),” *CahNum* 100–101, 490–497.

AUJ = Aujeurres (FR): THÉVENARD, J.-J. 1996. *La Haute-Marne* (Carte archéologique de la Gaule 52) ; GUIHARD 2023b, deposit GB 2.

³⁸ MARTIN 2015, 382–389; MARTIN 2016.

³⁹ SPEIDEL 2014 with previous literature.

⁴⁰ REDDÉ 2014.

⁴¹ I would like to thank E. Markou and P. Iossif for inviting me to contribute to the AIAC panel they organized in May 2018, as well as the other participants for their comments, and D. Wigg-Wolf for polishing my English.

BAL = Balsthal (CH): FREY-KUPPER, S. 1999. “Keltische Münzfunde aus Balsthal (Kanton Solothurn). Ein Depot mit Quinaren und einem silbernen Hirschgeweih und „Potin“-Münzen von der Holzfluh,” *SchwMbl* 49, 45–61; GUIHARD 2023b, deposit GB 3.

BAS = Bassing (FR): GUIHARD et al. 2023 ; GUIHARD 2023b, deposit GB 4.

BDD = Bad Dürkheim (DE): *FMRD* IV,2, 2232

BIB = Bibracte (FR): GRUEL, K. and POPOVITCH, L. 2007. *Les monnaies gauloises et romaines de l'oppidum de Bibracte* (Bibracte 13), Glux-en-Glenne.

BPB = Belpberg (CH): KAENEL, H.-M. von 1980. “Der Schatzfund von Republikanischen Denare und Gallischen Quinaren von Belpberg (Kanton Bern),” *SNR* 59, 15–40; GUIHARD 2023b, deposit GB 5.

COS = Cossonay (CH): GEISER, A. 2015. “KALETEDOY dans la forêt du Sepey. Un dépôt monétaire du second âge du Fer à Cossonay,” *Archéologie vaudoise* 2014, 96–105; GUIHARD 2023b, deposit GB 7.

CSI = Chantenay-Saint-Imbert (FR): *RRCH* 461; SAULCY, F. de 1862. “Lettres à M. A. de Longpérier sur la numismatique gauloise. Dixième article,” *RN. 2^e série* 7, 1–31, 89–103, pl. I; GUIHARD 2023b, deposit GL 26.

DAN = Dannemarie (FR): MÉRIEL, E. 2001-2002. “La circulation monétaire celtique en Alsace,” *RAEst* 51, 215–50.

DEC = Decize (FR): FISCHER, B. 1983. “Un trésor monétaire gaulois à Decize (Nièvre),” *CahNum* 75, 230–34; GUIHARD 2023b, deposit GL 28.

DUR = Dury (FR): *RRCH* 451; DELMAIRE, R. 1993. *Corpus des trésors monétaires antiques de la France. Tome VIII, Picardie. I, Somme*, Paris.

FNT = Fontain (FR): JOAN, L. 2003. *Le Doubs et le Territoire de Belfort* (Carte archéologique de la Gaule 25 et 90), Paris.

FTB = Forêt de Fontainebleau (FR): DHÉNIN, M. 1996. “Trésor gaulois trouvé dans le sud de la Seine-et-Marne (région de Fontainebleau),” [p. 108] in AMANDRY, M. (ed.), *Paris, cour Napoléon et autres trésors de l'Île-de-France* (Trésors monétaires XV), Paris, 13–17.

FUL = Füllinsdorf (CH): MARTI, R., NICK, M. and PETER, M. 2013. “Füllinsdorf, Buechlihu: ein spätkeltischer Münzhort und weitere Funde,” *Archäologie Baselland, Jahresbericht* 2012, 30–37; GUIHARD 2023b, deposit GB 8.

HDT-03 = Heidetränk (DE): *FMRD* V,1, 1148.

HSS = Houssen (FR): ALLEN, D.F. 1976. “The Houssen hoard at Colmar,” *RBN* 122, 79–85; GUIHARD 2023b, deposit GB 8.

- JHB = Der Johannesberg (DE): *FMRD* V,2,1, 2098
- KBL = Koblenz (DE): LIU, S. and GÜNTHER, S. 2017. “MFRP 19: Römische Republikdenare aus dem Koblenzer Stadtwald,” *Numismatisches Nachrichtenblatt* 2017, 327–30.
- KOL-02 = Köln (DE): *FMRD* V,1,1, 1006,3
- LAI = Laignes (FR) : BOSSAVIT and NIETO-PELLETIER 2023; GUIHARD 2023b, deposit GL 33.
- LAM = La Marre (FR): ROTHÉ, M.-P. 2001. *Le Jura* (Carte archéologique de la Gaule 39), Paris; GUIHARD 2023b, deposit GB 15.
- LAN = Les Andelys (FR): GUIHARD 2023a; GUIHARD 2023b, deposit GL 34.
- LAR = Lavilleneuve-au-Roi (FR): SAULCY, F. de 1866. “Nouvelles observations sur les médailles gauloises trouvées à la Villeneuve,” *CRAI* 10, 303–322 ; BOSSAVIT 2023; GUIHARD 2023b, deposit GB 14.
- LBE = La Balme d’Epy (FR): ROTHÉ, M.-P. 2001. *Le Jura* (Carte archéologique de la Gaule 39) Paris; GUIHARD 2023b, deposit GB 13.
- LGL = Langelille (NL): *RRCH* 354.
- LIM = Limésy (FR): GUIHARD 2023a; GUIHARD 2023b, deposit GL 35.
- LTR = Lauterach: OVERBECK, B. 1982. *Geschichte des Alpenrheintals in römischer Zeit auf Grund der archäologischen Zeugnisse. Teil 2 : Die Fundmünzen der römischen Zeit im Alpenrheintal und Umgebung* (Münchner Beiträge zur Vor- und Frühgeschichte 21), Munich.
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- [p. 109] NDL = Niederlangen (DE): *FMRD* VII,1, 1004
- NEF = Neuville-Ferrières (FR): LORiot, X. and SCHEERS, S. 1985. *Corpus des trésors monétaires antiques de la France. Tome IV, Haute-Normandie*, Paris.
- NUN = Nunningen (CH): FURGER-GUNTI, A. 1985. “‘Nunniger Ärbsli’ - 30 KALETEDOY-Quinare aus dem keltischen Schatzfund von Nunningen SO,” in *Circulus numismaticus*

Basiliensis (ed.), *Festschrift Herbert A. Cahn zum 70. Geburtstag* (Basel) 23–32, Taf. 3-5; GUIHARD 2023b, deposit GB 18.

POM = Pommiers (FR): VAUVILLÉ, O. 1882. “Notes sur les monnaies gauloises trouvées dans le camp de Pommiers (Aisne),” *Bulletin de la Société archéologique, historique et scientifique de Soissons. Série 2* 13, 80–91; GUIHARD 2023b, deposit GB 20.

PRS-02 = Paris (FR): FOUCRAY, B. 1994. *Corpus des trésors monétaires antiques de la France. Tome IX, Île-de-France*, Paris; GUIHARD 2023b, deposit GL 41.

RSA = Rosoy-sur-Amance (FR): THÉVENARD, J.-J. 1996. *La Haute-Marne* (Carte archéologique de la Gaule 52), Paris.

SDR-01 = Saint-Dié (1826) (FR): MICHLER, M. 2004. *Les Vosges* (Carte Archéologique de la Gaule 88), Paris.

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SLV = Saint-Loup-de-Varenes (FR): TEYSSONNEYRE, Y., CHAUVIN, S. and A. MAMIE, A. (eds) 2015. “Le site de la Corvée de Lux à Saint-Loup-de-Varenes (Saône et Loire): Périphéries de sites de plusieurs occupations datées entre le Néolithique final et le IV^e s. de notre ère,” in *Archéologie en Bourgogne 2014* (Dijon), 61–80 ; GUIHARD, P.-M. 2022. “Chronique des trésors (2010-2015),” *RN* 179, 401.

SRO = Saint-Romain (FR): PROVOST, M. 2009. *La Côte-d’Or* (Carte archéologique de la Gaule 21), Paris.

STB = Strasbourg (FR): MÉRIEL, E. 2001-2002. “La circulation monétaire celtique en Alsace,” *RAEst* 51, 215–250.

STL = Stühlingen (DE): *FMRD* II,2, 2321.

TRC = Trancault (FR): DENAJAR, L. 2005. *L’Aube* (Carte archéologique de la Gaule 10), Paris; GUIHARD 2023b, deposit GB 23.

[p. 110] Abbreviations

FMRD: *Fundmünzen der römischen Zeit in Deutschland*.

LT: LA TOUR, H. de 1892. *Atlas des monnaies gauloises*, Paris.

RIC: Roman Imperial Coinage (London 1923–).

RRC: CRAWFORD, M.H. 1974. *Roman Republican coinage*, Cambridge.

RRCH: CRAWFORD, M.H. 1969. *Roman Republican coin hoards* (Special publication - Royal Numismatic Society 4), London.

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