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# The Circulation of Gallic Empire Coins in Western Asia Minor in Light of Excavated Coins

Jérémie Chameroy

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SECOND INTERNATIONAL CONGRESS ON  
THE HISTORY OF MONEY AND NUMISMATICS  
IN THE MEDITERRANEAN WORLD  
5-8 JANUARY 2017

İKİNCİ ULUSLARARASI  
AKDENİZ DÜNYASINDA PARA TARİHİ VE  
NUMİSMATİK KONGRESİ  
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PROCEEDINGS BİLDİRİLER

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**AKMED**

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Suna & İnan Kırac

Research Center for

Mediterranean Civilizations

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## FOREWORD

Bringing together noteworthy scholars who study the monetary history and numismatics of the Mediterranean World and contribute to the field through the sharing of original studies, the second *International Congress on Monetary History and Numismatics in the Mediterranean World*, was held at AKMED on 5-8 January 2017. I am delighted to say that we have been able to publish the proceedings of the Congress in the following year. The thematic and chronological scope of this book covers the coins minted or circulated in the Mediterranean world from the emergence of the concept of money through the end of the Ottoman period.

Many people contributed to the preparation of the Congress. First of all is the support of Suna and İnan Kır a , the founders of AKMED. Additionally, Engin Aky rek, Michel Amandry, Stefan Heidemann, Lee Mordechai, Johannes Noll  and Gary Reger made great contributions both for its preparation as well as during the Congress. The Congress was successfully realized because of the collaboration with T rkiye İŐ Bankası. I would like to express my sincere gratitude to all the people and institutions mentioned above.

Hope to see you at the next Congress...

OĐuz Tekin

Editor

## ÖNSÖZ

Akdeniz dünyasına ilişkin para tarihi ve numismatik konularında çalışan değerli bilim insanlarının bir araya getirilerek özgün arařtırmalarının sonuçlarının paylařılması ve bu alana bilimsel bir katkı saęlanması amacıyla *Uluslararası Akdeniz Dünyasında Para Tarihi ve Numismatik Kongresi*'nin ikincisi, 5-8 Ocak 2017 tarihleri arasında AKMED'de gerçekleştirilmiřti. Kongre'de sunulan bildirilerin elinizdeki kitapta bir sonraki yıl yayımlanmış olmasının bizleri oldukça mutlu ettięini söylemeliyim. Kitapta yer alan bildirilerin tematik ve kronolojik kapsamını, para kavramının ortaya çıkışından Osmanlı Dönemi'nin sonuna kadar Akdeniz dünyasının para ve ekonomi tarihi ile bu coęrafyada basılmış veya dolařım görmüş sikkeler oluşturmaktadır.

Kongrenin düzenlenmesinde pek çok kiřinin katkısı oldu. AKMED'in kurucuları Suna ve İnan Kıraç'ın destekleri kuřkusuz her şeyden öncedir. Engin Akyürek'in yanı sıra, Bilim Kurulu üyeleri arasında benimle birlikte yer alan Michel Amandry, Stefan Heidemann, Lee Mordechai, Johannes Nollé ve Gary Reger gerek kongrenin hazırlık aşamasında gerekse kongre sürecinde değerli katkılarını esirgemediler. Kongre sürecinin başarılı bir şekilde tamamlanmasını, Türkiye İş Bankası ile yapılan iş birliğine borçluyuz. Yukarıda adlarını saydığım tüm kiři ve kuruluşlara teřekkür ederim.

Bir sonraki kongrede buluşmak dileęiyle...

Oęuz Tekin

Editör



# The Circulation of Gallic Empire Coins in Western Asia Minor in Light of Excavated Coins

Jérémie CHAMEROY\*

The Gallic Empire<sup>1</sup> emerged during one of the most severe political crises of the Roman Empire<sup>2</sup>. From 253 A.D. on the emperors Valerian (253-260) in the East and his son Gallienus (253-268) in the West worked hard to preserve the integrity of the Imperium Romanum against the Germanic tribes attacking the Rhine and Danube provinces, the devastating raids of the Goths into Thrace and Asia Minor, and those of the Persian king into Syria and Cappadocia. From Cologne, where he had set up his headquarters in the summer of 257, Gallienus defended the Rhine frontier against the Franks and Alamans until the situation on the *limes* seemed to be sufficiently stabilized for him to be able to leave Gaul. In 259 he left his son Saloninus Caesar in Cologne and moved to the Po Valley to stop the Juthungi and the Alamans plundering Raetia and northern Italy. But more than any event the news that Valerian had fallen prisoner to the Persian King Shapur I in a battle between Carrhae and Edessa in the early summer of 260 set off a series of political troubles in the whole of the empire. The usurpations of Ingenuus<sup>3</sup>, Regalianus in Pannonia inferior<sup>4</sup>, and Macrianus and Quietus in Syria within the same year 260 destabilized the power of Gallienus. Taking advantage of the situation, the barbarians overran the frontiers in order to plunder. The Franks crossed into the Gallic provinces of Germania and Belgica and pressed on as far as Spain. The Alamans entered Germania superior, Raetia, and the Agri Decumates, then into northern Italy, where they were defeated by Gallienus at Milan in 260.

Furthermore, in the late summer of the same year a violent dispute broke out in Gaul between the civil commander Silvanus and the military officer Postumus, who demanded the recovery of booty for his troops. In an attempt to stop the rebellion of the latter, who had been declared emperor by his soldiers, Silvanus had Saloninus proclaimed Augustus – the sixth Augustus for

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<sup>1</sup> It is a great pleasure for me to thank Christopher Howgego for his insightful comments on this paper, and Fabrice Delrieux and Dinçer Savaş Lenger for information about Gallic Empire coins found in Asia Minor. Clive Bridger improved my English.

<sup>2</sup> For the narrative account about the Gallic Empire, see König 1981; Drinkwater 1987, 19-44; Luther 2008. On the coinage of the Gallic usurpers, see Elmer 1941, who was the first to succeed in identifying the mints of Postumus and his successors; also Lafaurie 1975; Schulzki 1996. For epigraphical evidence, see König 1981, 189 ff.; Drinkwater 1987, 109-131, and Bakker 1993 for the first publication of the Augsburg Victory Altar, proving that under Postumus the Gallic Empire had spread as far as the province Raetia. For the reign of Valerian and Gallienus, see the synthesis of Goltz – Hartmann 2008.

<sup>3</sup> Goltz – Hartmann 2008, 262-263. No coin in the name of Ingenuus is known to date.

<sup>4</sup> The high concentration of the coin finds of Regalianus and his wife Dryantilla in or around Carnuntum suggests that the usurpation took place in Pannonia superior; see Dembski – Winter – Woytek 2007, 531.

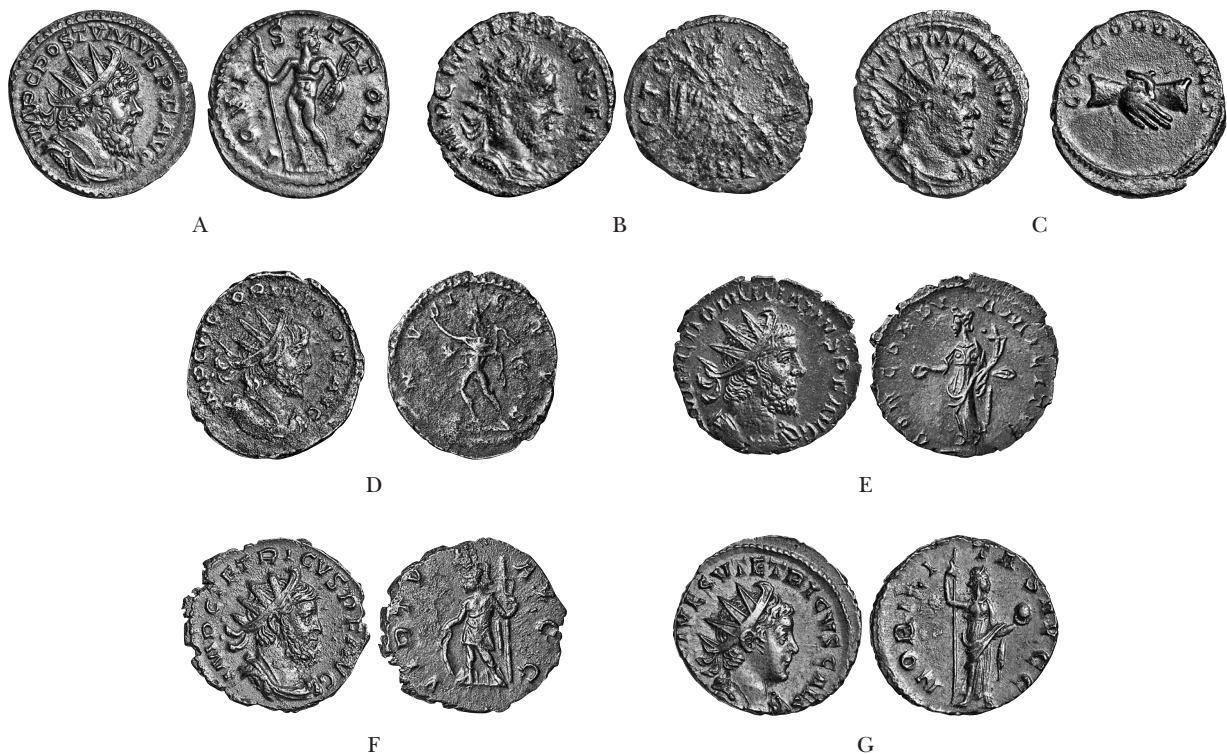


Fig. 1 *Antoniniani* of the Gallic usurpers struck in Trier or Cologne. A: Postumus (260-269) (RGZM O.32230); B: Laelianus (269) (RGZM O.44075); C: Marius (269) (RGZM O.34974); D: Victorinus (269-271) (RGZM O.44076); E: Domitianus (HCR6264 © Ashmolean Museum, University of Oxford) (ca. 271); F: Tetricus I (271-274) (RGZM O.44077); G: Tetricus II Caesar (273-274) (RGZM O.44078).

*The images are not to scale.*

the year 260! Under siege from Postumus's army the city of Cologne surrendered a few months later at the end of 260, and the defeated Silvanus and Saloninus were put to death. At that point Postumus (260-269) (Fig. 1-A) became the sole emperor west of the Alps, controlling an area called Galliarum Imperium by the 4th-century author Eutropius<sup>5</sup>.

We know from inscriptions that his sphere of power extended beyond the Gallic provinces to Hispania Tarraconensis, the Baetica, Britain, and Raetia, which recognized the authority of Postumus (Fig. 2)<sup>6</sup>. Although the reaction of Gallienus to the usurpation may have been quicker than argued by some historians, he achieved only a partial success by regaining the province of Raetia in the early 260s<sup>7</sup>. Similarly, it is not clear if Postumus and his successors were unwilling or just unable<sup>8</sup> to extend their power south of the Alps and to invade Italy – so far as we can judge from the outcome of the rebellion of Aureolus in 268. In that year, Gallienus' marshal of cavalry rebelled against the legitimate emperor and was pushed back to Milan where he made public his

<sup>5</sup> The passage of Eutropius dealing with the accession of Victorinus (*Victorinus postea Galliarum accepit imperium...* 9.9.3) opened wide discussions about the real political form of the power of the Gallic usurpers. König 1981, 186, 188 sees no "politische Sonderstellung" for Postumus and his successors who were only considered as usurpers by the legitimate emperors.

<sup>6</sup> Postumus controlled at least eleven provinces in the first years of his reign; see Eck 2012, 66-69.

<sup>7</sup> K. Dietz (2012) assumes an early offensive of Gallienus on Raetia which he would have reconquered very quickly at the beginning of the 260s; see also Schallmayer 1996, 16. For a later dating of the offensive in 266-267, see Goltz – Hartmann 2008, 274.

<sup>8</sup> Eck 2012, 81 draws attention to political instability in the Gallic and Germanic provinces controlled by Postumus.

position for Postumus by striking coins in the name of the Gallic usurper<sup>9</sup>. As Postumus himself failed to support the uprising of Aureolus, the latter first assumed the title of emperor, then surrendered to the legitimate emperor Claudius II Gothicus (268-270) and was finally put to death by the Imperial Guard. About one year later, Postumus was faced with the uprising of Laelianus (269) (Fig. 1-B) in Mainz that announced growing economic and political difficulties in the Gallic Empire. Despite the quick crushing of the revolt by Postumus, his refusal to let his troops plunder the rebel city made him particularly unpopular among his soldiers and caused his murder. The army elevated Marius (269) (Fig. 1-C), who reigned only a few months before he too was assassinated in the autumn of the same year. His successor Victorinus (269-271) (Fig. 1-D) controlled a significantly reduced empire (Fig. 3) after the provinces of *Tarraconensis*, *Baetica*, and *Narbonensis*<sup>10</sup> were lost during the years 269-270 to the central empire of Claudius Gothicus. It is not clear how much the murder of Victorinus in Cologne was related to the revolt of Domitianus (Fig. 1-E) still imprecisely dated. Nevertheless, his reign must have been very short<sup>11</sup> until the governor of Aquitania Tetricus (271-274) (Fig. 1-F) became emperor, without the agreement of the army as reported by Eutropius (9.9.10), outlining the difficulties of Tetricus to win the favor of his soldiers who revolted repeatedly. The political control that he shared with his son Tetricus II Caesar (273-274) (Fig. 1-G) may have rested on very shaky foundations.



Fig. 2  
Provinces  
controlled by  
Postumus  
(260-269).

<sup>9</sup> Aureolus crossed to the side of Postumus in early 268; see Alföldi 1967, 10. But his coinage struck in Milan for Postumus is not precisely dated within the year 268 but maybe in spring 268 as supposed by Bastien 1984, 140. On the coinage of Aureolus for Postumus, see Weder 1990, 61-71.

<sup>10</sup> CIL XII 2228. In 269 an expeditionary force under the command of Juli[an?]us Placidianus crossed the western Alps into *Narbonensis* and established its base in Grenoble. This proves that after that date the control of the Alpine passes must have passed from the Gallic usurper to the legitimate emperor; see Drinkwater 1987, 36, 120. Neri 1978, 92, 94 stressed the tactical importance of Placidianus and his men who controlled the main roads to Lyon to prepare the expedition of Claudius II against the Gallic usurper.

<sup>11</sup> To date only two coins of Domitianus are known; see Abdy 2004.



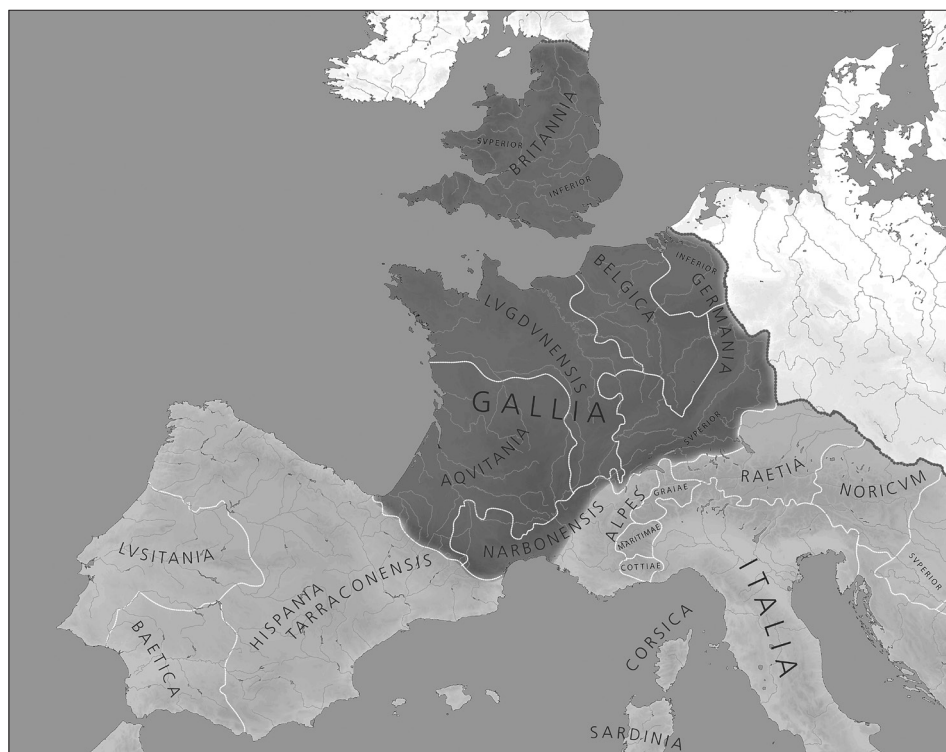


Fig. 3  
Provinces controlled  
by Victorinus  
(269-271) and  
Tetricus (271-274).

Instead, the legitimate emperor Aurelian (270-275) succeeded in restoring step by step the unity of the Imperium Romanum. After the destruction of the Kingdom of Palmyra, which had broken away from the legitimate emperor as Vaballathus usurped the title of Augustus in 272, Egypt and Syria were recovered by the central empire. Aurelian then turned to the West and fought in 274 against the army of Tetricus by Châlons-en-Champagne (F/dép. Marne). The Gallic usurper surrendered during the battle opening the way for the return of Gallia Belgica, Germania, and Britain to their allegiance to the legitimate emperor. Although Tetricus was displayed to the Roman public in Aurelian's triumph along with the defeated Queen of Palmyra Zenobia, he escaped the usual fate of the *victi* and was appointed to the post of corrector of Lucania, while his son kept his senatorial status.

### Official and imitative coinage in the name of the Gallic usurpers

Despite the great extent of the Gallic Empire in the first years of Postumus' reign, it is not certain that the area he really controlled was as extensive as suggested by the inscriptions. In fact, if we look at the hoards of the 260s from the northwestern provinces, it appears that the coins of Postumus were mostly buried in northern Gaul and Britain, but hardly appear in the hoards from southern Gaul and Spain, where the bulk of the coins belong clearly to the legitimate emperor Gallienus<sup>12</sup>. Obviously, the situation remained unchanged under Victorinus and Tetricus<sup>13</sup>, who reigned over a reduced Gallic Empire, as we have seen. Here is not the place to answer the question of whether the regional variation in the distribution of Gallic Empire coins implies that the authority or the interest of Postumus and his successors was stronger in Britain and northern

<sup>12</sup> Drinkwater 1987, 193 (site finds), 195 (hoards); Bourne 2001, 46; see the map in Chamero 2009, 331.

<sup>13</sup> See maps in Chamero 2009, 335, 338.

Gaul than in southern Gaul and Spain<sup>14</sup>. For the purpose of our study it is sufficient to point out that the coins of the Gallic usurpers struck in the mints of Cologne and Trier hardly reached the regions south of the Loire<sup>15</sup>.

After the victory of Aurelian over Tetricus, the coins of the former Gallic Empire stayed in use alongside the coins of the legitimate emperors. Their circulation area remains concentrated on the Belgian, Germanic, and Britannic provinces, becoming rarer among the single coin finds as one moves away from the frontier provinces of the former Gallic Empire of Tetricus<sup>16</sup>. Even after Aurelian had introduced in the spring 274 a new radiate billon coin – the *aurelianus* that was heavier than the *antoninianus* and had a higher silver content (ca. 5%)



Fig. 4 New billon radiate coin (*aurelianus*) introduced by Aurelian in 274 (RGZM O.38951 struck in Siscia).  
The images are not to scale.

than the coins of the last Gallic usurpers (ca. 1%) (Fig. 4) – its production had no appreciable effect on the coin circulation in Gaul because it was scarcely struck west of the Alps and hardly circulated in the entire western Mediterranean from Africa to Spain, Gaul and Britain. Furthermore, some historians have assumed that the *aurelianus* did not exactly replace the *antoninianus* (double *denarius*) but would have been tarified at a much higher value versus gold than the *antoninianus*<sup>17</sup>, leading to an unfavorable exchange rate between the *aurelianus* and the old *antoniniani* which were supposed to be partially (?) withdrawn from circulation<sup>18</sup>. The same historians see the introduction of the overvalued *aurelianus* as the cause of the unprecedented price inflation documented in the Egyptian papyri from the second half of the 270s onwards<sup>19</sup>.

If we accept this interpretation, it seems that the monetary economy in Gaul entered a period of a particularly severe monetary crisis because a vast amount of *antoniniani* (of the Gallic Empire and the legitimate emperors) were still in use in the late 270s and may hardly have been exchanged for the high tarified and rather rare *aureliani*. Moreover, the incursions of the Franks crossing the Rhine to make booty soon after the death of Aurelian may have deeply disturbed the coin supply of the Gallic provinces in the years after the reform of 274. The only way to maintain a monetary economy in a time of high price inflation seems to have been to produce small change locally. So a wide range of workshops set up in *villae* and small towns<sup>20</sup> began to

<sup>14</sup> The great variation observed in the circulation of the official coins of Postumus, Victorinus, and Tetricus raises the question of whether coin supply always has any political significance, but a full discussion of this complex issue cannot be attempted here; see e.g. Drinkwater 1987, 203.

<sup>15</sup> The rare occurrence of Gallic Empire coins in Italy does not support their wide circulation there; see Bourne 2001, 56; Crisafulli 2016.

<sup>16</sup> The official Gallic Empire coins make hardly more than 1% of the collected coins in hoards buried in the central empire. On the contrary, the coins of the legitimate emperors circulated in the Gallic Empire as early as the reign of Postumus. This is best shown by the composition of the Gallic hoards closed in the 260s-270s; see Chameroy 2009, 331, 335, 338.

<sup>17</sup> Among them see Lo Cascio 1984, 171-172; Carrié 1993, 291; Strobel 2002, 130-131.

<sup>18</sup> Zosimos (1.61.3) correlated the introduction of the *aurelianus* in 274 with the withdrawal of the *kibdelon argyriion* (old *antoniniani* of Gallienus, Claudius II, *Divo Claudio*?). However, if the withdrawal really took place, the composition of the hoards of the late 3rd century shows that this action must have been limited to certain regions (Italy, Danube provinces) but did not happen in Gaul or Africa, for instance.

<sup>19</sup> Among others see Carrié 1993, 291; Strobel 2002, 130-131, 144; Howgego 2011, 152, 154.

<sup>20</sup> See, for examples, the *officinae* 1 and 2 identified in the small town of Châteaubateau (F/dép. Seine-et-Marne) (Pilon 2016). Two workshops were located in the villa of the Heidenkopf at Sarreinsming (F/dép. Moselle) (Schaub 1986). Further



Fig. 5 Some imitations in the name of Gallic usurpers struck in Gaul. A: Victorinus; B: Tetricus I; C: associating an obverse of Tetricus with a reverse *Concordia Militum* of Aurelian; D: Tetricus I with a reverse type created by a local mint (P.-J. Jacquier, Auction 42, 16th September 2016, no 914, 929, 940, 930).

strike imitations of the coinage available in Gaul at the end of the 270s – that is, the *antoniniani* of Victorinus and above all of Tetricus I and Tetricus II Caesar<sup>21</sup>, while some coins of the legitimate emperors from Gallienus onwards were copied, too.

In most cases the imitations produced in Gallic workshops<sup>22</sup> can be clearly distinguished from the official coins they copy. Their diameter and weight are generally smaller (Fig. 5-A), and the style of the engraving of busts and legends is often careless (Fig. 5-B). Sometimes hybrid imitations associate obverse and reverse types of different emperors (e.g. an obverse of Tetricus with a reverse of the *Concordia Militum* of Aurelian, Fig. 5-C). Finally, the legends on most coins are corrupted, while many imitations show completely new reverse types (deities, legends) inspired from the official coins but created by workers from the local workshops (Fig. 5-D). In support of this, the non-official character of such imitations must have been obvious for the users of the late 3rd century.

However, the structure of the Gallic hoards suggests that a turning point was reached in the coin circulation at the beginning of the 280s. Indeed, Gallic hoards closing after ca. 283 show a sharp drop in the *official* coinage of the Gallic usurpers, implying that it was certainly demonetised during the reigns of Probus or Carus<sup>23</sup>. Probably from the late 280s on until the beginning of the 4th century<sup>24</sup>, many of the imitations in the name of the Gallic usurpers were also withdrawn from circulation by the State or by private users. Thus many impressive hoards like those from Evreux (F/dép. Eure)<sup>25</sup>, Troyes (F/dép. Aube)<sup>26</sup>, and Autun (F/dép. Saône-et-Loire)<sup>27</sup> (Fig. 6), including more than 100,000 radiate imitations, reflect the efforts to reduce the role of this

examples around Trier are to be found in Knickrehm 2014, 104. All have delivered remains of coin production (bronze rods, blanks) and sometimes die-linked imitations. See the overview of local workshops minting coins in Gaul and Britain in Doyen 2007, 288-290.

<sup>21</sup> By then the coins of Postumus, whose silver content was (except for his last emission) higher than the coins of his successors, had already been withdrawn from circulation and melted down to strike new debased coins.

<sup>22</sup> The imitations must be distinguished from the counterfeits that were produced in the name of the Gallic usurpers too. Counterfeit *antoniniani* were cast from molds, e.g. in the *officina* 1 from Châteaubleau (Pilon 2016). It was in theory not so easy to distinguish them from official coins because they bore exactly the same official types as the genuine coins. The only difference lay in their alloy which had no silver. About the complex definition of the terms “counterfeits” and “imitations” in different languages, see Peter 2004.

<sup>23</sup> As noted by Callu 1969, 348-350 who observes the decreasing number of Gallic Empire coins in hoards closed under Probus or Carus. The assumption of a demonetization of the official Gallic Empire coins around 283 is now supported by the composition of many hoards buried in Gaul; see Estiot 1998, 186. However, they continued to circulate in Britain.

<sup>24</sup> The dating of these hoards composed exclusively of imitations is particularly difficult. A closing date at the beginning of the 4th century cannot be excluded.

<sup>25</sup> Discovered in 1890, the coins seem to have been stored in ten bags enclosed in a wooden box. The total weight of about 340 kg comprised about 110,000 coins of which around 60% were in the name of the Gallic usurpers; see Cliquet 1993, 144.

<sup>26</sup> The 186,200 coins composing the hoard (about 102 kg) discovered in a *cella* were deposited in an amphora. From a study sample of 1502 coins, about 98% are radiate imitations, most of them in the name of Tetricus; see Denajar 2005, 570.

<sup>27</sup> Burgevin 2016, 280-282.



local coinage in the coin circulation of the Gallic provinces in the time of Diocletian. The hoarding of the imitations was certainly intended for recycling the metal, as suggested by the hoard from the Faubourg d'Arroux in Autun that came to light in a basket buried in a pit near a metal workshop. Nevertheless, this was a difficult task, as there was no alternative (official) small change broadly circulating in the Gallic provinces until the monetary reform of Diocletian in 294. This might explain why this action never quite reached completion, so that huge amounts of Tetricus imitations and other radiate imitations (e.g.



Fig. 6 Massive withdrawal of radiate imitations in the late 3rd century in Gaul: the hoard from Autun (F/dép. Saône-et-Loire) (C. Ruet, Inrap).

*Divo Claudio*) continued to be used as local small change in Gaul until the middle of the 4th century at the latest<sup>28</sup>. However, one of the most unexpected side effects of their partial withdrawal from the late 3rd century onwards is that Gallic Empire imitations occurred in regions far away from Gaul – more specifically in North Africa and Asia Minor.

## Gallic Empire imitations in North Africa

During the last decades of the 3rd century an impressive amount of Tetricus imitations must have been available in the provinces of Numidia and Proconsularis. This is best shown by the hoards buried in North Africa whose composition (Fig. 7) reveals a clear evolution of the circulation of small change<sup>29</sup>. Generally, the coinage circulating in North Africa came mostly from the Roman mint, but the illegal activities of mint workers in Rome and their following uprising under Aurelian brought a lot of poor billon coinage and imitations of the consecration coins of Claudius II into circulation. Very significant amounts of these coins were drained off to Africa<sup>30</sup> after the closing of the Roman mint (271-272) by Aurelian. Thus, until the mid-270s African hoards include about 80% *Divo Claudio* coins (mostly imitations), but very few official or imitative coins of the Gallic usurpers. But from the late 290s onwards one observes a sharp rise of Tetricus imitations in hoards from the same region. These coins, which show very strong stylistic affinities with the Tetricus imitations occurring in Gaul, must have been struck during the late 270s and 280s in the local Gallic workshops mentioned earlier and then exported to North Africa in the course of the 280-290s. Actually, the coin influx from Gaul to Africa was so massive that the Tetricus imitations exceeded the *Divo Claudio* coins in African hoards closed at the threshold to the 4th century (Fig. 7). The most probable explanation for the hoarding of large quantities

<sup>28</sup> This is best shown by the archaeological contexts of the coin finds. Among the many examples, see the detailed studies of the coin finds from Reims (F/dép. Marne; Doyen 2007, 290-292), Bliesbruck (F/dép. Moselle; Gricourt – Naumann – Schaub 2009, 731-734), and Rouen (F/dép. Seine Maritime; Chameroy 2013, 79-80).

<sup>29</sup> Chameroy 2008, 354-356; Chameroy 2010, 339-342.

<sup>30</sup> Chameroy (in press).

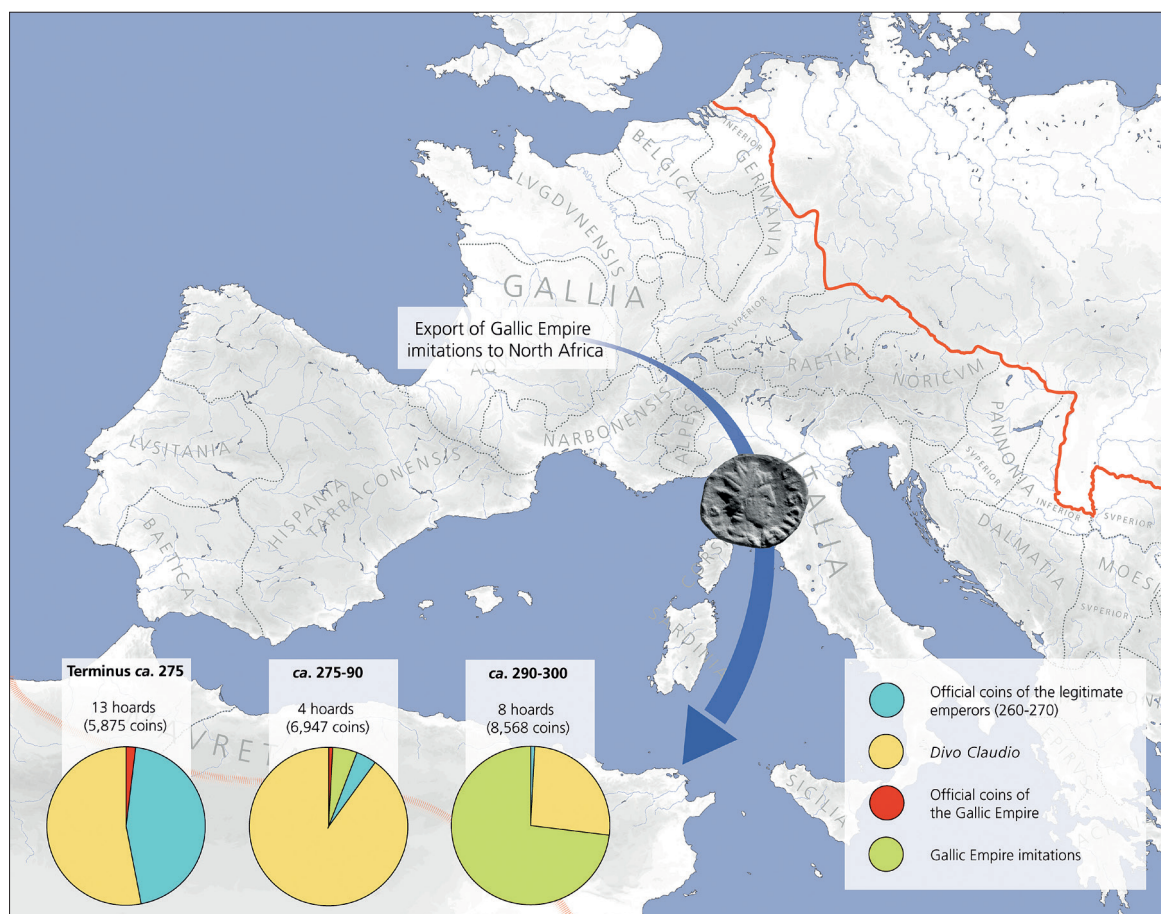


Fig. 7 Evolution of the composition of North African hoards closed after 270 (see Chameroy 2008 and 2010).

of Gallic Empire imitations in Africa is that, after circulating some decades in North Africa, the radiate imitations were withdrawn from circulation at the beginning of the 4th century, since a new Imperial small change struck in Carthage for the Tetrarchs was then available (see below).

In any event, the way(s) of this huge coin export may be easily followed across the Mediterranean through the discoveries of shipwrecks off the French and Italian coast, such as at Port-Vendres, La Ciotat and Camarina, which were carrying on board coin hoards with many Tetricus coins and imitations (Fig. 8). No less interesting are the small (land)hoards from Vallermosa (Sardinia), Marzamemi (Sicilia), and Nicotera (Calabria) comprising 83% to 100% imitations of the Gallic usurpers. Considering the style of the Tetricus imitations from the six hoards cited above, to which we could add the dispersed hoard from Victoria (Malta)<sup>31</sup>, there can be no doubt that these hoards were assembled in Gaul before being put on the ships or exported to South Italy. Furthermore, the scales and weights found in the shipwreck from Camarina show that the ship transported merchants maybe involved<sup>32</sup> in the import-export trade between Spain, Gaul, Italy,

<sup>31</sup> Port-Vendres: Castellvi et al. 2007; La Ciotat: Benoit 1965; Camarina: Guzzetta 2014; Vallermosa: Tronchetti 1979; Marzamemi: Manganaro 2015; Nicotera: Mastelloni 1989; Victoria: Perassi 2016a, 267-276 who lists twenty-seven coins remaining from a hoard of about 4,000 coins discovered in a jar. A further twenty-six coins now in the Maltese National Numismatic Collection may belong to this hoard; see Perassi 2016b.

<sup>32</sup> As C. Howgego rightly points out (personal communication), arrangements for the *Annona* show a complicated mix of public and private in sea transport, so that the finds of Tetricus imitations in a shipwreck do not necessarily prove that the transport of these coins was "mercantile" rather than "official".





Fig. 8 Hoards of Gallic Empire imitations in the West Mediterranean.

and Africa. More surprising is the presence of small bronze rods near the coins in the shipwreck from Port-Vendres. Usually used for the fabrication of coin blanks, these rods suggest that the owner was traveling with all the necessary components to strike imitations when he arrived at his destination. This raises the question whether some imitations were moved not by general merchants but by the operators of the unofficial mints themselves – possibly because they had been banned from operating in Gaul<sup>33</sup>. In earlier studies I assumed that the influx of Gallic coins into Africa was driven by the acute need for small change in Numidia and Proconsularis and aggravated by the constellation of three events. First was the closure of the Roman mint (271-272) that up to then had assumed the coin supply of Africa. Second was the supposed withdrawal of the old *antoniniani* (above all *Divo Claudio* imitations) by the reform of 274, which at the time of their demonetization constituted the major part of the small change circulating in Africa. The huge hoarding of *Divo Claudio* coins in Africa should be linked with their demonetization, although many coins circulated until the 4th century (Fig. 7). Third and finally, the *aurelianus* fell out of circulation in North Africa, where no Imperial mint was durably active in the late 3rd century except around 296-311 in Carthage, as we will see below. Nevertheless, the regular occurrence of Gallic Empire imitations on many sites in Western Asia Minor suggests that a more general phenomenon than local lack of small change led to the wide circulation of these imitations across the Mediterranean.

<sup>33</sup> C. Howgego, personal communication.

## Gallic Empire imitations in Asia Minor

The occurrence of Gallic Empire imitations in Asia Minor has up to now been less discussed than those in Africa. Some forty years ago the topic was emphasized for the first time by D. MacDonald in a paper about the late 3rd century currency in the East. However, the evidence for the circulation of Gallic Empire coins in Asia Minor collected by MacDonald in 1974 was very tiny. Aside from the unexpected high amount of about twenty-five Gallic Empire imitations found at Aphrodisias (Caria), MacDonald was aware of only five single finds from Pergamum, three from Priene, and one from Sardis<sup>34</sup>. In the inventories of these three sites published in the 1910s-1920s, the proportion of Gallic Empire coins and imitations was extremely small, achieving no more than 5% of the coins of the period 260-294 in Pergamum and Priene, and 6% in Sardis, compared to the 13% observed in the 1970s at Aphrodisias. This raises the question of whether the older lists gave a biased picture of the Late Roman coin finds at Pergamum, Priene, and Sardis. One cannot exclude that some “barbarous radiates” were once not correctly identified or classified. Moreover, coins in the name of the Gallic usurpers were rather unexpected on sites in Asia Minor, so that they are still not always properly identified in more recent publications<sup>35</sup>. Particularly significant is that among the coin finds from Pergamum, Priene, and Sardis recorded in the last decades, the proportion of Gallic Empire coins and imitations has doubled in relation to the lists of the 1910s-1920s, confirming the doubts about their representative character outlined above. Consequently, the documentation available today shows that coins in the name of the Gallic usurpers are found on almost all Late Roman sites from Asia Minor, where they generally account for about 11-13% of the coins of the period 260-294 (Fig. 9). It is worth noting too that at this stage of research, there is no obvious difference between coastal and inland sites. This suggests a wide circulation and acceptance of this western coinage. Most surprising is the recording of at least thirty-three single finds of Gallic Empire coins (all imitations) on the site of Aphrodisias<sup>36</sup> (Fig. 10), which suggests a deliberate sending (or a regular supply) of these coins to the city.

Considering the other finds of late 3rd century coins reported in Tab. 1, it is striking to observe the great rarity of the reformed coin of Aurelian (*aurelianus*) that is often completely lacking among the finds. This is in sharp contrast with the site finds from Greece (Corinth, Athens) and from the Near East (Antioch, Beirut), where the *aureliani* (274-294) make up one-third to more than one-half of the finds of the period 260-294. On the basis of this evidence D. MacDonald assumed that the scarcity of official coins of the period 274-294 in western Asia Minor should be linked with the employment of an unusual amount of western coinage<sup>37</sup>. Also, MacDonald drew attention to another peculiarity of the coin circulation in western Anatolia. While coins from Gallienus to Diocletian circulating in Greece or in the Near East came principally from the Imperial mint at Antioch, the vast majority of the coins of the same period used in Asia Minor were struck in western mints like Rome and Siscia<sup>38</sup>. This is all the more surprising given that an

<sup>34</sup> MacDonald 1974, 280.

<sup>35</sup> As is actually the case with a recent list of coin finds from Alexandria Troas, where an imitation in the name of Tetricus I is erroneously described as an *antoninianus* of Claudius II; see Çizmeli Ögün 2014, 180 tab. no 3. Concerning older publications, one wonders about the lack of coins of the Gallic Empire or imitations in Troy; see Bellinger 1961. Some coins in the name of the Gallic usurpers are known to have been found in recent excavations at Assos and Iasos; see Dinçer Savaş Lenger and Fabrice Delrieux (personal communication).

<sup>36</sup> See the catalogue and images in Chameroy 2009, 374-378.

<sup>37</sup> MacDonald 1974, 279; Pflaum – Bastien 1969, 11.

<sup>38</sup> MacDonald 1974, 281.

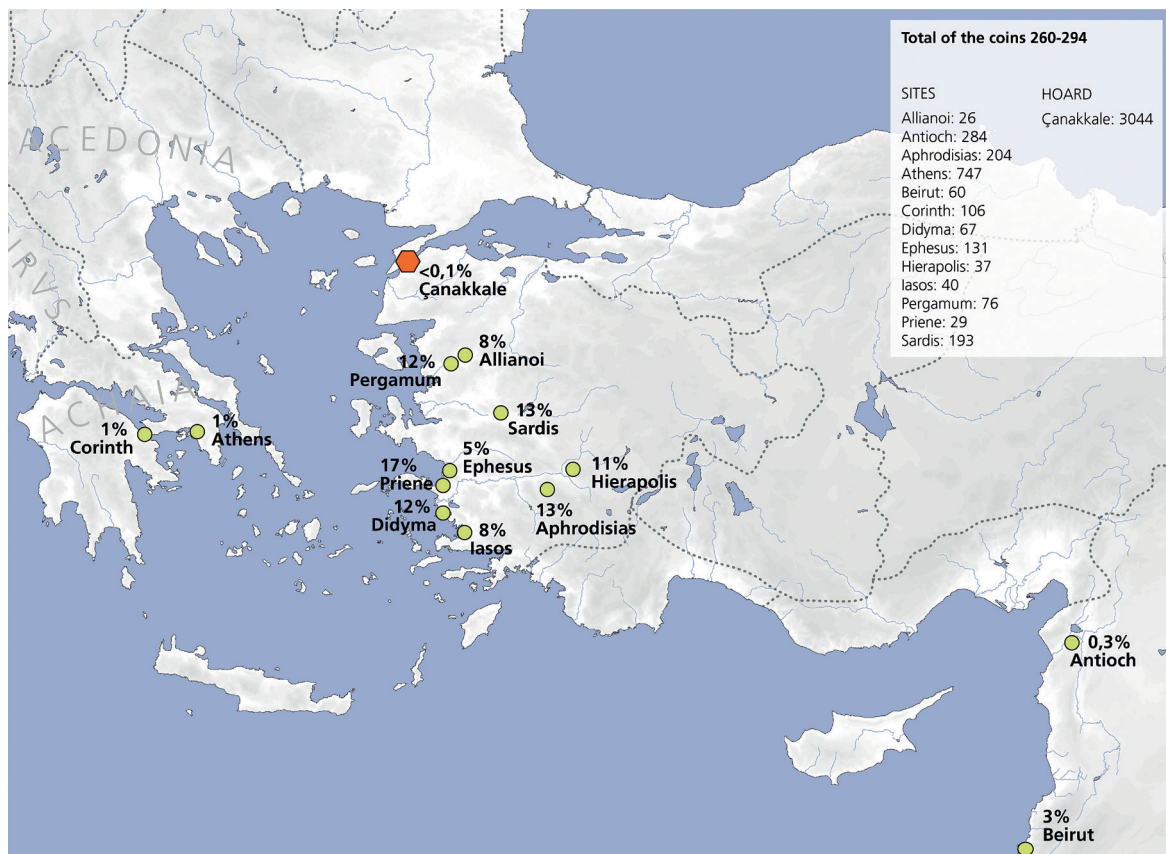


Fig. 9 Gallic Empire imitations among the coin finds in Western Asia Minor (see the list of the sites for bibliographical references).

Imperial mint (signing its coins with SPQR on the exergue) was opened probably in Smyrna by Gallienus as early as 267 and that a part of the SPQR-mint was transferred to Cyzicus by Claudius Gothicus in 269. A few years later, the SPQR-mint was definitely closed, while the mint at Cyzicus continued to strike coins for Claudius Gothicus<sup>39</sup>, which against all logic circulated more in the Balkans than in Asia Minor. Thus, it seems that with the end of the civic coinage in the 260s-270s, the province of Asia was facing a major problem of small change supply that the Roman State was unable to solve in the short term. On that point D. MacDonald is certainly right in concluding that the need for small change opened the way for the export of non-official coins from the West to Asia Minor, but he never considered the actors or the concrete ways making the circulation of these exotic coins possible.

Although the style of the Gallic Empire imitations found in Asia Minor leaves no doubt about their Gallic origin, it is hard to conceive that the Gallic Empire coins and imitations were exported in a direct way from Gaul to Asia Minor in the same manner as they flowed from Gaul to Africa. The main reason to doubt this is that hitherto archaeology has brought to light hardly any evidence for a regular or intensive trade between Gaul and Asia Minor in the late 3rd or 4th century, a trade which would have allowed the influx of large amounts of Gallic coins through merchant ships traveling between West and East. In the current state of research, there is only

<sup>39</sup> Estiot 2004, 105-106; Mairat 2007.



|                                                  | Gallienus<br>(260-268) | Claudius II<br>(268-270) | Divo<br>Claudio<br>(270f.) | Quintillus<br>(270) | Postumus<br>(260-269) | Victorinus<br>(269-271) | Tetricus<br>(271-274) | Aurelian (270-275) |                               | Tactus<br>and<br>Florianus<br>(276) | Probus<br>(276-282) | Carus<br>et sui<br>(282-284) | Diocletian<br>and<br>Maximian<br>(284 to the<br>Reform of<br>294) | Total | Gallic<br>Empire<br>coins | Divo<br>Claudio |
|--------------------------------------------------|------------------------|--------------------------|----------------------------|---------------------|-----------------------|-------------------------|-----------------------|--------------------|-------------------------------|-------------------------------------|---------------------|------------------------------|-------------------------------------------------------------------|-------|---------------------------|-----------------|
|                                                  |                        |                          |                            |                     |                       |                         |                       | Before             | After the<br>Reform<br>of 274 |                                     |                     |                              |                                                                   |       |                           |                 |
| Allianoi                                         | 9                      | 4                        | 4+[2]                      |                     |                       |                         | 1+[1]                 | 5                  |                               |                                     |                     |                              |                                                                   | 26    | 7,69%                     | 23,08%          |
| Pergamum                                         | 22                     | 20                       | 5+[11]                     | 5                   |                       |                         | 2+[3]<br>[4]          | 3                  |                               |                                     |                     |                              | 1                                                                 | 76    | 11,84%                    | 21,05%          |
| Sardis                                           | 55                     | 29                       | [74?]                      | 1                   |                       |                         | [2]<br>[24]           | 3                  |                               |                                     | 4                   | 1                            |                                                                   | 193   | 13,47%                    | 38,34%          |
| Ephesus                                          | 59                     | 29+[1]                   | 20+[4]                     | 4                   |                       |                         | 1+[4]<br>[1]          | 3                  | 2+[1]                         |                                     | 2                   |                              |                                                                   | 131   | 4,58%                     | 18,32%          |
| Priene                                           | 10                     | 3                        | [9]                        |                     |                       |                         | [5]                   | 2                  |                               |                                     |                     |                              |                                                                   | 29    | 17,24%                    | 31,03%          |
| Didyma                                           | 32                     | 9                        | 6+[11]                     |                     |                       |                         | [1]<br>[7]            | 1                  |                               |                                     |                     |                              | 1                                                                 | 67    | 11,94%                    | 25,37%          |
| lasos                                            | 17                     | 7                        | 1+[10]                     |                     |                       |                         | [3]                   | 2                  |                               |                                     |                     |                              |                                                                   | 40    | 7,50%                     | 27,50%          |
| Aphrodisias                                      | 61                     | 28                       | 44+[39]                    | 2                   | [1]                   |                         | 1+[17]<br>[7]         | 6                  | 1                             |                                     |                     | 2                            | 2                                                                 | 204   | 12,75%                    | 40,69%          |
| Hierapolis                                       | 12                     | 8                        | 2+[7]                      | 3                   |                       |                         | [3]<br>[1]            | 1                  |                               |                                     |                     |                              |                                                                   | 37    | 10,81%                    | 24,32%          |
| Çanakkale<br>(terminus<br>284)                   | 906                    | 1595+[11]                | 222+[13]                   | 122                 |                       | 16                      | 14+[4]                | 121+[1]            | 14                            |                                     | 3                   | 2                            |                                                                   | 3044  | 0,01%                     | 0,08%           |
| Athens                                           | 397                    | 12                       | 9                          | 1                   | 1                     | 1                       | 1+[1]                 | 68                 | 74                            | 16                                  | 101                 | 19                           | 12                                                                | 747   | 0,54%                     | 1,20%           |
|                                                  |                        |                          |                            |                     |                       |                         |                       |                    | 32                            |                                     |                     |                              |                                                                   |       |                           |                 |
| Sites<br>from<br>Greece<br>and<br>Roman<br>Syria | 37                     | 3                        | 4                          |                     |                       | [1?]                    |                       | 13                 | 10                            | 4                                   | 25                  | 4                            | 4                                                                 | 106   | 0,94%                     | 3,77%           |
|                                                  | 64                     | 51                       | 4                          |                     |                       |                         | 1                     | 21                 | 13                            | 6                                   | 64                  | 23                           | 37                                                                | 284   | 0,35%                     | 1,41%           |
| Beirut                                           | 14                     | 8                        | [2]                        |                     |                       |                         | [2]                   | 1                  | 9                             | 1                                   | 11                  | 4                            | 8                                                                 | 60    | 3,33%                     | 3,33%           |

Tab. 1 Coin finds of the late 3rd century A.D. in the Eastern Mediterranean [Imitations in brackets] (see the lists of the sites and hoards for bibliographical references).

scant evidence for imports from Asia Minor in Gaul. Although wine amphoras of the first half of the 3rd century from Ephesus or the Maeander Valley have been found in Lyon (F/dép. Rhône), Saint-Romain-en-Gal (F/dép. Rhône), and Augst (CH/Canton Basle), their proportion is negligible compared with the imports from Chios, Rhodes, or Cos at the same places<sup>40</sup>. Exceptionally, the import of textiles from Asia Minor is attested in Lyon by the epitaph of Julius Verecundus as *negotiator laudecenarius*, that is, trading with woolen garments from Laodicea on the Lycus (Phrygia)<sup>41</sup>. However, other possible ways must be taken into consideration. Well attested in the written or archaeological sources is the export of slaves, marble, textiles, oil, wine, wood, purple products, garum, and dried fruits from Asia Minor to Italy through the *naukleroï* (*navicularii*, private seamen) and the *emporoi* (traders), who were known to be very active in the import-export trade<sup>42</sup>. The famous epitaph of the merchant Flavius Zeuxis from Hierapolis (Phrygia) dating about A.D. 100 mentions that he made no less than seventy-two sea voyages to and from Rome<sup>43</sup>. Moreover, trading activities are attested between Asia Minor and Africa. For example, products of the famous sculpture school of Aphrodisias (Caria) were exported to Italy and the African provinces<sup>44</sup>, whose export trade, in turn, expanded rapidly after the middle of the 3rd century. In addition, it seems to be reflected in the increasing presence of African amphoras and African Red Slip Ware (ARS) on sites from Asia Minor<sup>45</sup>. In Samos, Miletus, and Didyma the ARS belongs to the most frequent fine pottery of the 3rd and 4th centuries recorded on the sites<sup>46</sup>. More generally, some *naukleroï* starting from Cilicia (Corycus, Aigai) are known to have sailed along the Syrian and Egyptian coasts to Africa in Roman times<sup>47</sup>.

Of course, all these data should be taken with caution, because we are not informed about the exact volume of commerce<sup>48</sup> in the late 3rd century between Asia Minor and North Africa<sup>49</sup>. Furthermore, the distribution of the wares must have been more complex than a direct transport from the places of production to the place where they were sold. It is well known that the Late Roman shipwrecks brought mixed wares mainly from Spain and Africa, suggesting the existence of trade hubs, e.g. in Ostia for the long-distance trade<sup>50</sup>. Relying on the archaeological evidence, the assumption that the Gallic Empire coins and imitations occurring in Asia Minor spread rather from the southern Mediterranean (South Italy, Sicily, Africa) than from Gaul to Anatolia seems the more likely one, but cannot be proven yet. Anyway, similarities appearing in the occurrence of the coins in question in North Africa and Asia Minor lead me to propose a model for their circulation across the Mediterranean (Fig. 11).

<sup>40</sup> Lemaître 2002, 215, 220; Long 1998, 89-90; Martin-Kilcher 1994, 542-546, 559-561.

<sup>41</sup> So the interpretation of Rougé 1977 since the inscription is not precisely dated.

<sup>42</sup> See the overview of Drexhage 2007, 231-255 to which a few paragraphs about the wares imported by the trading seamen on their way back to Asia Minor would have been welcome. Robert 1978, 423 mentions an epitaph of a seaman (*kybernetes*) from Nicomedia who died in the Bay of Naples.

<sup>43</sup> SIG III 1229 = CIG 3920 = SEG 51-1785bis.

<sup>44</sup> Ruffing 2008, 224, 230.

<sup>45</sup> Bonifay 2016, 883-884 outlines that changes in the distribution of African wares took place from the second half of the 3rd century onwards; see also Bonifay 2005, 566, 568, 580; Bes – Poblome 2009, 80.

<sup>46</sup> Lund 1996, 106. In Africa too finds of the amphora type Peacock 47, said to have been produced in Ephesus, may provide evidence for an export trade from Asia Minor to the African provinces; see Outschar 1996, 36-37.

<sup>47</sup> Holtheide 1982, 8-9.

<sup>48</sup> Holtheide 1982, 12; Drexhage – Konen – Ruffing 2002, 129.

<sup>49</sup> Moreover, if the export of ARS to Asia Minor gradually increased during the second half of the 3rd century, it did not become really important before the 4th century; see Bes 2015, 100-106.

<sup>50</sup> Drexhage – Konen – Ruffing 2002, 132.

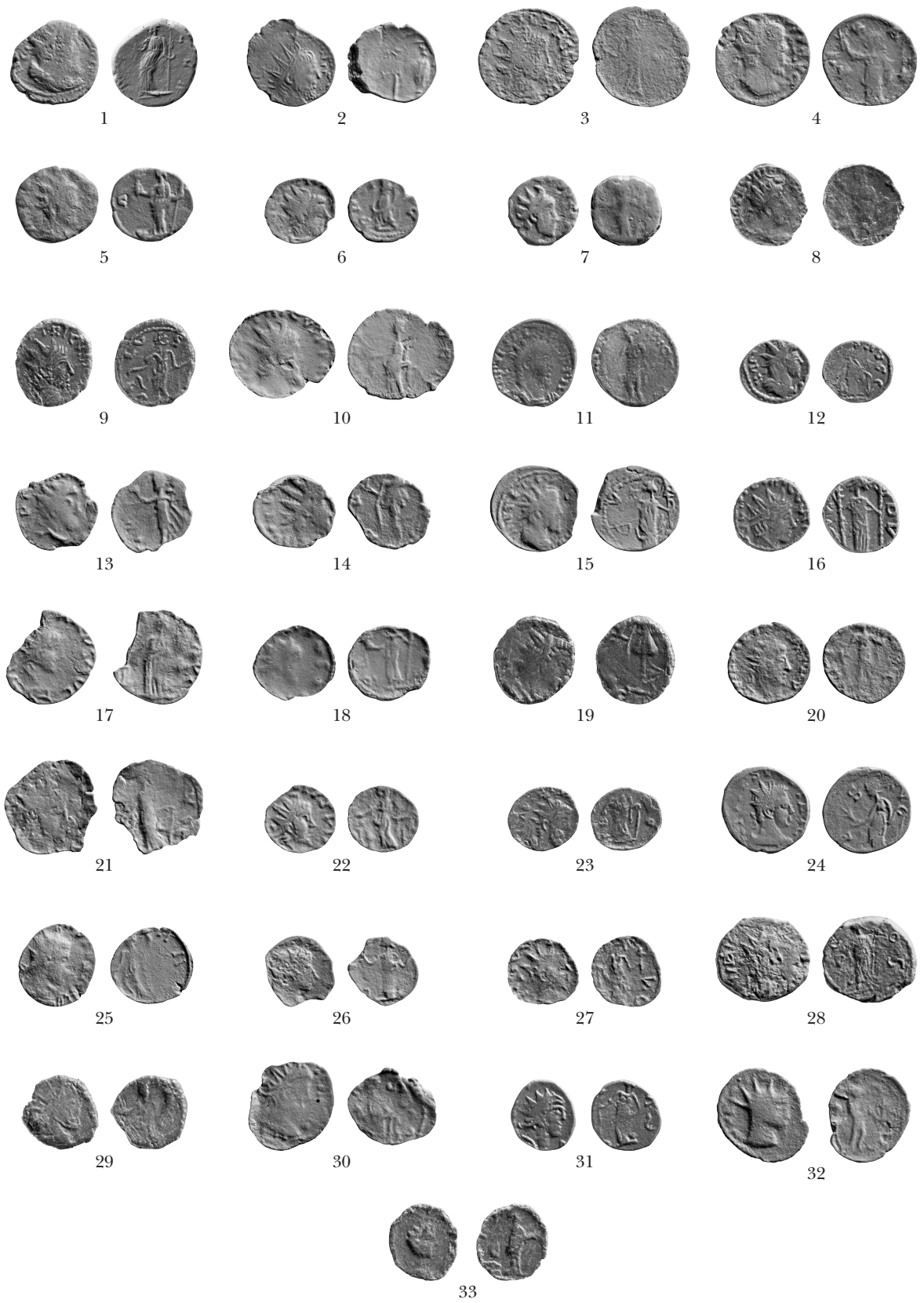


Fig. 10 Gallic Empire imitations found in Aphrodisias (Caria).

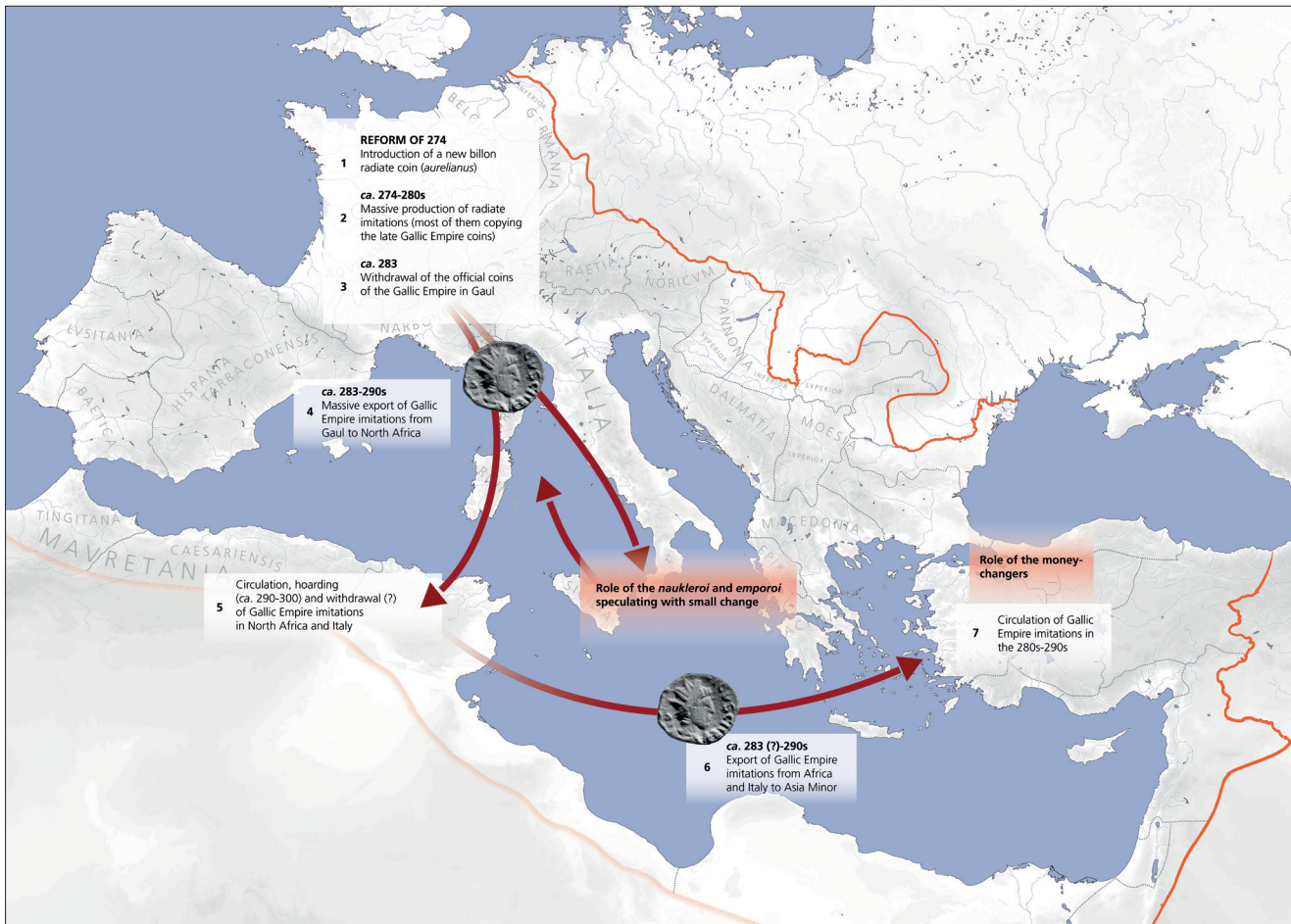


Fig. 11 Model for the circulation of Gallic Empire imitations across the Mediterranean.

### A model for the circulation of coins in the name of the Gallic usurpers across the Mediterranean

Gallic Empire coins and their imitations occurred particularly in regions where the Aurelianic reform of 274 brought radical changes in the coin supply and in coin use. The rarity of the new billon coin introduced by Aurelian among the coins lost on African or Anatolian sites suggests that its use in exchanges must have been very limited, although *aureliani* were occasionally hoarded there too<sup>51</sup>.

While the production of the Roman mint assumed the largest part of the billon coin supply in Africa and Asia until the Aurelianic reform, the *aureliani* struck there from 274 onwards flowed principally to northern Italy and the Danube provinces. This observation highlights the increasing regionalization of the coin circulation<sup>52</sup> in the Late Roman Empire. This evolution became completed with the opening of new Imperial mints in the provinces by or soon after the monetary reform of Diocletian in 294. From about 270 up to 294, as we have seen, no Imperial mint was

<sup>51</sup> In Troy a hoard of 218 *aureliani* came to light in 1932 comprising 180 coins of Aurelian, 16 of Tacitus, 9 of Florian, and 13 of Probus; see Bellinger 1961, 201-211. In Pergamum a small deposit hoard (?) was discovered in 2003 in the Red Hall: 2 *aureliani* of Aurelian, 4 of Probus, 3 of Diocletian; see Mania 2011, 136-138.

<sup>52</sup> About the regionalization of the coin circulation, see Christol 1977, 263-264; King 1981, 90, 97.



able to ensure a regular billon coin supply to Africa or Asia Minor. Instead of new official billon coins, both regions received the old coinage that was being progressively withdrawn in the West (i.e. Roman *antoniniani* of Gallienus, Claudius II, *Divo Claudio*, Quintillus, after about 283 then the coins of the Gallic usurpers) and was reintroduced there in the years following Aurelian's reform. The few hoards of late 3rd century Imperial coins discovered in western Anatolia do not allow one to determine when this old coinage was put into circulation in the province of Asia<sup>53</sup>, nor if the Gallic Empire coins and imitations came to Asia Minor together or separately from the other western billon coins of the 260s-270s<sup>54</sup>. If the hoards<sup>55</sup> from Alexandria Troas (terminus 260) and Haydere (terminus ca. 264) contain not a single (for the first) or only a very few Roman *antoniniani* of Gallienus' sole reign, in the hoard from Çanakkale (terminus 284) no less than 83% of the official coins from the period 260-270 were struck in Rome. This implies that the influx of old western, mostly Roman, coinage to Asia Minor began not before the middle of the 260s and was ongoing by the middle of the 280s<sup>56</sup>.

However, if the lack of small change in the province of Asia was as acute as it seems after 274, one wonders why radiate imitations were not made locally (following the example of the workshops active in Gaul) instead of being imported into Asia Minor. I cannot provide a satisfactory answer to this question, but I think that the response is closely related to the actors implied in the recycling of western *antoniniani* in the East. As seen above, the archaeological evidence and, most particularly, the coin hoards found in shipwrecks off the Gallic and Italian coasts could well attest to the involvement of merchants in the massive transfer of coins across the Mediterranean<sup>57</sup>. Traders must have considered large quantities of old small change to be wares with which it was easy to speculate – so far as they could be transported at a profit when it had a higher value in the regions where no fresh coins were available. Indeed, the import of low-value coins into regions needing small change is well attested in other times too. In a paper to be published<sup>58</sup>, K. Butcher presents examples from the 17th century that show what is possible when governments are unable or unwilling to meet a demand for small change. With the collapse of Ottoman silver and copper coinage, European merchants had base coins struck to export and sell for silver coins and luxury goods in the Ottoman Empire. Going back to the late 3rd century, one can conceive that in the course of the late 270s-280s the old coinage of the legitimate emperors and the Gallic Empire imitations came through the traders in the hands of money-changers acting in the province of Asia. While in the West the exchange rate between the *aurelianus* and the *antoninianus* was probably unfavorable for the latter (see above), the *antoniniani* should have been accepted at a better rate in the province of Asia, where the *aurelianus* was apparently marginal in circulation

<sup>53</sup> In Africa, on the contrary, about twenty-five billon coin hoards allow one to recognize that the Gallic Empire imitations came later than the *antoniniani* of Gallienus, Claudius II, and *Divo Claudio* into the provinces of Numidia and Proconsularis (fig. 7).

<sup>54</sup> Provided that the composition of the hoard from Çanakkale can be considered as representative of the coin circulation of the late 3rd century in western Anatolia, the small proportion of Gallic Empire coins and imitations (0.01% of the coins of the years 260-294; see tab. 1) may speak for a delayed diffusion of the coins in the name of the Gallic usurpers in Asia Minor (in the late 280s-290s?).

<sup>55</sup> Note that the new publication of the hoard from Iasos (discovered in 1969) has led to a revision of its terminus from around 264 (so Bland – Aydemir 1991, 102) to 257-258 (Tondo 2003-2004, 65).

<sup>56</sup> Chameroy 2009, 372-373.

<sup>57</sup> In a broader study, Frey-Kupper – Stannard (in press) deal with the long-distance transport of coins in antiquity.

<sup>58</sup> Butcher (in press). Particularly valuable for our study of the export of Gallic Empire coins and imitations to Asia Minor is his conclusion that his highlighted cases “illustrate how the transport of legitimate coin and ‘endemic copying’ of regular issues can be linked to mercantile activity, and they highlight the tremendous profits to be gained from this sort of speculation, even when it concerned small change”.

and no other billon coinage was available. This would explain why their transport (among other wares) for speculative sale should have been lucrative for the *naukleroi* and *emporoi*. Thus the influx of old coinage described above brings to light the role of private initiative in the coin supply of provinces where the State failed to function, even if the first motivation of the merchants must have been speculation with the coinage and not the supply of the provinces with small change.

How the Gallic Empire imitations circulated in the province of Asia cannot not be reconstructed with precision, but it seems very likely that, in the same manner as in Gaul or Africa, they were accepted as small change for local and daily transactions, e. g. on markets, so that they occur today as single finds (i. e. lost coins) on many sites. In the lack of radiate hoards from the late 3rd or the beginning of the 4th century, it is not possible to determine how long the Gallic Empire imitations stayed in use in Asia Minor. Unlike the situations observed in Gaul and in Africa, we have so far no hoards consisting largely of radiate imitations in Asia Minor, which suggests that the coins were not withdrawn *en masse* from circulation.

Nevertheless, the solution for replacing these unofficial radiate coins was to put into circulation an abundant amount of small change in these regions. This was done in the first years after the monetary reform of 294, when the *moneta* at Cyzicus and the new Imperial mint at Heraclea struck huge amounts of radiate coins with the reverse type *Concordia Militum* (ca. 295-299) (Fig. 12)<sup>59</sup>. Very numerous on Anatolian sites, these coins may have progressively driven out the small change in the name of the legitimate emperors (260-274) and of the Gallic usurpers, as well as their imitations. The same evolution may be observed a few years later in Africa after the Imperial mint at Carthage struck radiate coins celebrating the *Vota* of the Tetrarchs (ca. 303<sup>60</sup>). Thus the withdrawal and transport of Gallic Empire imitations across the Mediterranean prefigure what we see in the 4th century<sup>61</sup>.



Fig. 12 Radiate coin of Diocletian celebrating the *Concordia Militum*: find from Pergamum by the excavations of the Deutsches Archäologisches Institut Istanbul, MK 2472 / 26608 (J. Chameroy).

<sup>59</sup> RIC VI, 531-2 no 13-16 and 21-22; RIC VI, 580-1 no 13-19.

<sup>60</sup> RIC VI, 427 no 35-38.

<sup>61</sup> On law 9.23.1 of the Theodosian Code (mid-4th century) forbidding the transport of large quantities of bronze coins from one province to another, see Delmaire 2003; van Heesch 2006, 58.

**Hoard**

|                  |                         |
|------------------|-------------------------|
| Alexandria Troas | Esch – Martin 2008      |
| Autun            | Burgevin 2016           |
| Camarina         | Guzzetta 2014           |
| Çanakkale        | Pflaum – Bastien 1969   |
| Évreux           | Cliquet 1993, 144       |
| Haydere          | Bland – Aydemir 1991    |
| Iasos            | Tondo 2003-2004         |
| La Ciotat        | Benoit 1965             |
| Marzamemi        | Manganaro 2015, 354-355 |
| Nicotera         | Mastelloni 1989         |
| Port-Vendres     | Castellvi et al. 2007   |
| Troyes           | Denajar 2005, 570       |
| Vallermosa       | Tronchetti 1979         |
| Victoria         | Perassi 2016a, 267-276  |

**Sites**

|             |                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allianoi    | Tekin – Erol-Özdizbay 2012<br>Tekin – Erol-Özdizbay 2013<br>Tekin – Erol-Özdizbay 2014<br>Tekin – Erol-Özdizbay 2016                                                                      |
| Antioch     | Waage 1952                                                                                                                                                                                |
| Aphrodisias | MacDonald 1976                                                                                                                                                                            |
| Athens      | Thompson 1954                                                                                                                                                                             |
| Beirut      | Butcher 2001-2002                                                                                                                                                                         |
| Bliesbruck  | Gricourt – Naumann – Schaub 2009                                                                                                                                                          |
| Corinth     | Edwards 1933                                                                                                                                                                              |
| Didyma      | Baldus 2006                                                                                                                                                                               |
| Ephesos     | Karwiese 1979-1988<br>Karwiese 2003<br>Schindel 2009                                                                                                                                      |
| Hierapolis  | Travaglini – Camilleri 2010                                                                                                                                                               |
| Iasos       | Pennestri 2003-2004                                                                                                                                                                       |
| Pergamum    | Voegtli 1993<br>J. Chameroy, Unpublished list of coin finds from the excavations of the Deutsches Archäologisches Institut 1997-2014                                                      |
| Priene      | J. Eberhardt – B. Weisser<br><a href="http://ww2.smb.museum/mk_priene/index.php?filtertype=reset">http://ww2.smb.museum/mk_priene/index.php?filtertype=reset</a><br>(accessed 28.11.2016) |
| Reims       | Doyen 2007                                                                                                                                                                                |
| Rouen       | Chameroy 2013                                                                                                                                                                             |
| Sardis      | Buttrey et al. 1981                                                                                                                                                                       |

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