

Contested Affordances: Ancient Roman Coins, Economic Cycles, and Changing Socio-Political Contexts

Elisabeth & Sven Günther

Abstract

Money, trust, transactions – these three keywords that seem to describe our (post) modern age, have been the motor of most societies ever since. Coins embody abstract concepts of value, measure, legal tender, and exchange; and these concepts, by framing the production, use, and receptions of the coins, shape and even reshape the coins' materiality and thus their affordances. This holds especially true for ancient times. Flans of bronze, silver, and gold were minted into coins by workers, using engraved dies that "coined" images and legends into the surface and thus made them valid currency. Yet, there occurred, at times, overstrikes, countermarks, scratches, erasures, graffiti, drills – and the metal coins preserve and store all such alterations until now, what makes them readable like a "biography". This unfolds narrations of ever-changing affordances and thus stimulates modern research with questions about the interdependencies of institutions, human interactions, and the material qualities of things that have impact on human life. Not surprisingly, the primary affordance of coins is to serve as money. Acceptance and trust are two basic conditions to guarantee money's smooth circulation and thus enable economic transactions and exchange. Ruptures in this system challenge the affordances of coins, but also create new affordances, as we will show in three case studies from the Roman imperial period. In all these cases, coin denominations and regional limits of coin circulation are key factors for challenging and re-creating affordances. This brings us back to the overall ruling monetary function of coins, being the backbone and mirror of financial, political, and socio-economic systems. Nonetheless, reflecting and discussing the material and visual aspects of coins and their impact on us makes us think afresh about our relationship with the world, all the more in our modern, increasingly virtualized society.

The Socio-Political Impact of Coins in the Greek and Roman World

Sometime around 445 BC, Aegina, the once proud island in the Saronic Gulf, ca. 27 km away from her ever rival Athens, began to issue silver coins (staters = double drachmae) with a land-dwelling tortoise on their obverse (Fig. 1).¹



Figure 1: Silver stater from Aegina, 350–338 BC.
With tortoise on the obverse, an incuse square divided into five sections
with a dolphin and the letters "A" and "I", the abbreviation for Aegina, on the reverse.
33mm, 12.25g.



Figure 2: Silver drachma from Aegina, 650–550 BC.
With worn sea turtle on the obverse and an incuse square on the reverse.
15.3mm, 5.90g.

This was allegedly tantamount to a revolution, as since the advent of Aeginetan coin production in the mid-sixth century BC, a sea turtle (with flippers) had been the badge on the obverse (Fig. 2),² being either associated with the Greek goddess Aphrodite or deriving from the form and name of pre-coinage ingots used by the islanders.³ With the dramatic decline of Aegina's vital oversea trade activities both over the course of and as a consequence of the Persian Wars (490–479 BC) and its membership in the Delian League, (re-)enforced by the hegemon Athens around 457 BC, the narrative constructed by many modern historians is clear: the change of motifs occurred as a recognition of the loss of her trade empire and made the new focus on the island manifest. Yet, the actual story behind this is far more complex. The tortoise-coins likely appeared only after the autonomy clauses for Aegina and the other allies in the Thirty Years Peace 446/5 BC between Athens and Sparta had been settled. It formed the last phase of classical coin production on the island before the Athenian expulsion of the Aeginetans right at the beginning of the Peloponnesian War 431 BC. Indeed, already prior to the turn from sea to land testudo, the turtle-coins had undergone several changes in style, both on their obverse and reverse: on the obverse from a smooth shell with five or more buttons on the back, and shell-segmentation before the Persian Wars, to T pattern button arrangement on the shell around 470 BC, and, on the reverse, from irregular incuse square (*quadratum incusum*) to a Union Jack style, followed by a windmill pattern and eventually by different skew-patterns dividing the *quadratum incusum* into five segments.⁴ Hence, the change was not as dramatic as it seems at first sight, and the reasons need not be related to a political statement of loss and weakness, something as unthinkable to a polity then as today. The affordance of the new tortoise issue might better be related to economic purposes, viz., to distinguish the new types from older, worn, and low-weight examples,⁵ and consequently might have been a visible and tangible attempt to regain trust in Aeginetan coinage that had once dominated the markets around the Aegean Sea.⁶



Figure 3: Silver denarius minted in 42 BC.

On the obverse, head of Brutus to the right framed by legend, BRVT(us) IMP(erator) L(ucius) PLAET(orius) CEST(ius), on the reverse a *pilleus* between two daggers below legend, EID(ibus) MART(iis): "On the Ides of March". 18mm, 3.49g.

This example shall warn against exclusively reading coins and their images in a political framework, and neglecting thereby their main affordance, viz., to be employed and used within economic transactions. Only few instances from Antiquity relate to us as to how a coin image was actually per- and received, and, of course, these literary mentions provide only one possible perspective on the appearance of the intention, communication, and perception process evolving around a coin issue. The most famous example is certainly the “liberty”-coin of two of the murderers of Caesar, Marcus Iunius Brutus and Gaius Cassius Longinus (Fig. 3)⁷. It was minted in silver and gold and likely produced by a mint in Asia Minor before the march to the decisive Battle of Philippi in October 42 BC against the forces of the triumvirs Mark Antony and Octavian, the later Augustus.⁸ With its portrait of BRVT(us) IMP(erator) and the name of the minting commissary L(ucius) PLAET(orius) CEST(ius) on the obverse, and the liberty-cap (*pilleus*) between two different daggers and the date of Caesar’s assassination EID(ibus) MAR(tiis), “on the Ides of March” (March 15th) two years earlier (44 BC) on the reverse, the image of this coin type not only commemorates the liberation of the Republic as perceived by the murderers and their faction (cf. the description of the historian Cassius Dio writing at the beginning of the third century AD: Cass. Dio 47.25.3), but also became an exhortation to defend this newly acquired liberty in the coming but eventually deadly engagements against the avengers of the Dictator Caesar in the context of issuing it to the soldiers of their armies. Interestingly, this call for (military) action was clearly understood, at least in the Civil War period evolving from the death of the last Julio-Claudian emperor Nero in AD 68 where an anonymous, similar, and at least nowadays rare type appeared, now with portrait and legend of LIBERTAS (“Liberty”) instead of Brutus on the obverse, and the continuing (from obverse to reverse) legend P(opuli) R(omani) (left and right across field) RESTITVTA (below) (“[Liberty] of the Roman people restored”) (Fig. 4).⁹



Figure 4: Fourrée silver denarius from the Civil Wars, minted in spring or summer AD 68. Draped bust of Libertas to right on the obverse, indicated by legend LIBERTA[S]. On the reverse, *pilleus* between two daggers, P(opuli) R(omani) to left and right across field, RESTITVTA below, obverse and reverse legend pulled together: “Liberty | of the Roman people restored”. 17.5mm, 2.85g.

Whether it was issued before or after the assisted suicide of Nero on June 9th (or 11th), AD 68 remains, however, unclear. Yet, the subversive character of the legend that presupposes the already executed murder of the “tyrant” and the anonymity of the issue only makes sense if it circulated before the suicide of Nero, and probably even before governor of Hispania Tarraconensis and future emperor, Servius Sulpicius Galba’s emperor acclamation and open usurpation two months earlier.¹⁰ Regardless, Galba himself made the personification of liberty, *libertas*, whose portrait was shown on the obverse of this anonymous issue, re-appear on the reverse of an official issue, now holding the liberty-cap in her right hand (Fig. 5).¹¹

Both cases illustrate vividly how affordances of visual images are deeply connected with the materiality of the ancient medium and the respective context, and equally how they are subject to potential contestations: while Aegina’s old worn and light-weighted coinage obviously lost its affordance as trustworthy currency in the economic cycle and thus had to be replaced, the liberty-message of Brutus (and Cassius), once issued to save the Republic, was rendered suitable for imperial times, wherein the tyrant emperor could be challenged but always within the framework of the necessity of a self-declared “good” emperor to continue imperial rule and defending liberty for the Roman people.



Figure 5: Bronze as of emperor Galba, AD 68–69. Galba’s portrait on the obverse, with his name and titles: SER(vius) GALBA IMP(erator) CAESAR AVG(ustus) TR(ibunicia) P(ostestate). On the reverse personified *Libertas* holding a *pilleus*, LIBERTAS PUBLICA (“public liberty”), S(enatus) C(onsulto). 21mm, 8.55g.

Affordances, Materiality, and Imagery of Coins

“You see even in the matter of coin, (...) how many means the assayer uses to try the value of coin, the sight, the touch, the smell, and lastly the hearing. He throws the coin (denarius) down, and observes the sound, and he is not content with its sounding once, but through his great attention he becomes a musician.”¹² This passage, written by the Stoic philosopher Epictetus (AD 50–138) in the Roman imperial period, describes the work of *nummularii*, staff in official mints and private banks that was responsible to control coin production, to detect and to sort out fake coins circulating on the market. It is a fascinating and unique evidence for the multisensory dimensions of coins as daily life objects – an aspect which has recently gained ever more attention within scholarship but is not yet fully explored, providing much potential for future research.¹³ A coin’s unusual appearance, size, weight, or even sound could raise suspicion among merchants or consumers, and result in an examination by a *nummularius*.¹⁴ Much as today, not all coins used in economic transactions passed unnoticed through people’s hands. It was not only the presentation of innovative images and texts on the coins that could catch a person’s attention, like the aforementioned *libertas* motif, but also an unusual feeling in the hand, e.g. an irregular shape of a coin, scratches on the surface, or an alteration of the elevated image and legend; indeed, the coin tester’s job was seen as difficult business (Petron. *Sat.* 56.1: “He [sc. Trimalchio] said, ‘what do we think is the most difficult profession after writing literature? I think the doctor’s and money-checker’s: ... the money-checker, who sees copper/bronze through the silver.”).

In this regard, affordances of coins result directly from their material qualities. They want to be held, felt, moved in the hands of their users, and in some cases, one may be eager to hear their sound, smell, or even taste¹⁵ them. Their handy size makes it easy to explore the haptic qualities and sensualities of coins. It might be the shiny surface of the metal which adapts itself to the temperature of the human skin and contributes to the human sympathy towards and desire for coinage, much like jewelry. Hence in his *Natural History*, the Roman author Pliny the Elder (AD 23/4–79) criticized the human “hunger for gold,”¹⁶ stimulated by the introduction of coinage.

There is, however, a second layer of affordances, obviously culturally trained, but nevertheless deeply connected with the coins’ materiality. Coins serve as money, made to enable small or large transactions on the market or in long-distance trade, and to pay workers and soldiers. For this purpose, coins are given a specific design (in Antiquity by casting or striking with dies) to prove their validity, guaranteed by a public institution or authority. The Greek cities chose specific symbols and legends to represent the minting city, e.g. a turtle/tortoise for Aegina (see above),

or the famous owls for the coins of the Athenians; the Romans minted the heads of gods/goddesses on the front side (obverse) of their coins in the Republican period, foremost the city-goddess Roma. In turn, during the Roman imperial period, the emperor's head and his official titles were usually shown on a coin's obverse, a phenomenon which began with the depiction of living Romans by means of their portrait on coins in the very late Republic.

This very specific function of coins and their actual use as money (in terms of medium of exchange; standard of payment; measure and storage of value) is thus the first affordance, and, if no suspicion whether the coin is real or fake arises (as in the case of coins that must be checked by *nummularii*) then the system works perfectly and smoothly. This system, however, depends heavily on the acceptance of coins, and thus not only on their metal weight and design, which both guaranteed validity in ancient times (there is a gradual development of turning away from pure metallistic ideas towards nominalism and fiduciary coinage, i.e. that the denomination itself guarantees the acceptance¹⁷), but also on the coin circulation. Coins circulated mainly in a specific region, usually within the borders of the minting authority (and bound to a certain denomination and weight standard), but they could also spread further, yet only if they were accepted. Acceptance and trust were hence key concepts for payment and trade, and could be built on authority, power, and control.¹⁸

The circulation of coins and their (at times high) production volume¹⁹ set the scene for a further layer of culturally trained affordances: their imagery and iconography respectively. In the Roman Empire, the depiction of the emperor's portrait and the legend documenting his current offices and titles signaled the authority and validity on the coins' obverses, while the reverses sent messages of political, social, religious, sometimes economic, and rarely juridical relevance, propagating the emperor's deeds and duties, victories, tax reliefs, and other events, among others. Generally, coins emphasized the success of the *res publica* with personifications of happiness (*felicitas/hilaritas*), security (*securitas*), prosperity (*fortuna*), peace (*pax*), and so on.²⁰ Not without reason, coins are often considered to be ancient "mass media"²¹, with images part of and forming a widespread framework of "visual language" intelligible even for Romans unable to read. Literary and epigraphic sources indicate that images and legends on coins indeed caught the attention of the people.²² Nonetheless, the different denominations in gold (*aurei*), silver (*denarii*), and aes, i.e. bronze/brass (*sestertii*, *dupondii*, *asses*, *quadrantes*, etc.), were used for different purposes (payment of large sums/daily life), in different groups (rich elite/soldiers/ordinary people), and had different scales of circulation. Generally, aes coins were minted for local purposes and circulated mainly at a

regional scale, and hence often displayed locality-bound topics, while silver and probably gold coins were often minted for troops or higher officials throughout the Empire. They were thus transported over long distances to their destination, though sometimes diffused through the economic cycle, and hence could specifically target different audiences, at least in the first reception phase.²³

The material qualities, imagery/legends, and coin circulation provide affordances on different levels. On the one hand, they are deeply connected with the acceptance of coins as money in the economic cycle and trust in their validity; on the other hand, other affordances are transmittable and perceivable through this primary economic usage, especially in terms of representation, affirmation, and propaganda. Normally, a monetary system works perfectly and guarantees all of the aforementioned affordances with their sundry positive, and negative, impacts. However, ruptures and changes in the economic, social, and political sphere can challenge these frameworks of trust and acceptance, and the entangled affordances. Much as the Aeginetans were compelled to respond to changing economic, and perhaps political, frameworks, and the Roman liberty-message had to be re-framed in different periods of times, in order to bridge such ruptures, we shall show in three further case studies as to how affordances were contested during the Roman imperial period.

New Affordances? Countermarks on Roman Imperial Aes Coins

Traces of how coins were treated, and/or checked, in ancient, and especially Roman imperial times, are manifold. Scratches, graffiti, chisel punches at the edges, or small imprints of letters and symbols on the coin occur throughout all periods and regions and attest of various, conscious as well as unconscious, usage of coins in their life cycle. Particularly remarkable are the so-called countermarks on Roman imperial coins, i.e. stamp marks and/or symbols punched into coins after production, and mainly after already circulating for some time. Different from bankers' marks, also called punchmarks, which were for testing the purity of mainly gold and silver coins, countermarks are found on aes coinage (i.e. coins made of copper, bronze, brass) during the Early Roman Empire. They were not merely used for verifying official coins. While any alteration, or manipulation, of Roman gold and silver coins, mainly the denominations *aureus* and *denarius*, was strictly prohibited by the *lex Cornelia de falsis* ("Cornelian law on counterfeiting"), issued in the times of the *dictator* Sulla (82–79 BC), aes coinage, comprising *quadrantes*, *asses*, *dupondii*, and *sestertii*, was only covered by the *lex Iulia peculatus* ("Julian law on criminal appropriation of wealth, belonging to the state or public

institutions”), issued under Caesar or Augustus, where, *inter alia*, admixture of base metal was prohibited for all coinage, which hardly made any sense for aes coins. This was probably due to the fact that many institutions, not only the Roman mint, but also provincial cities, issued aes coins for enhancing small payment in the respective region where this coinage mainly circulated, and that they were mainly accepted based on their metal weight.²⁴ Hence, reasons for countermarking aes coinage were manifold; by means of contrast, contested gold and silver coinage was rather melted down than countermarked due to the aforementioned strict rules enacted by the *lex Cornelia de falsis*.²⁵ For the Roman West, and especially in the Rhine area, where systematic studies have been conducted,²⁶ the reaffirmation of the validity of existing currency, the revaluation of existing currency, and ideas of representation, propaganda and commemoration in context of donations (*donativa*) for soldiers are the main reasons for punching with countermarks. Countermarks with PRO for *pro(batum)*, “approved,” or BON for *bon(um)* “good” are found in Germania inferior (Fig. 6).²⁷ Also, and only there, countermarks AS and DVP(ondius) for revaluation of existing currency denominations are found (Fig. 7).²⁸ Most countermarked aes coins, however, bear the abbreviated name stamp of the emperor, one member of the imperial family, or a governor/military commander, and were probably connected with the act of (military) donations, though most donatives were spread in gold and silver coins. The donator, often the emperor directly (AVG or AVC, for AVG(usti), “of (the) Augustus,” but also sometimes the intended military unit,²⁹ are not only marked but also commemorated in this way, producing visible and tangible forms of loyalty bondage.



Figure 6: AE sestertius of emperor Claudius with countermark PRO(batum), “approved”, applied under emperor Nero or in Flavian times in Germania inferior. 36mm, 26.04g.



Figure 7: AE sestertius of emperor Claudius with cut and three countermarks, applied between Neronian and Flavian times. On the obverse, IMP(erator) and a barely unreadable countermark (PRO? for PROB(atum)?), on the reverse DVP(ondius), indicating the denomination change. 34mm, 21.27g.

Interesting in this respect are countermarks on coins of the contested emperor Nero (reg. AD 54–68). Extravagant in his lifestyle and a populist ruler, Nero was perceived ambiguously: while traditional senators saw Nero undermining the dignity and glory of the imperial office as well as the at least nominally feigned joint rule of the *res publica* with the Senate, he was very popular among the people, both in Rome and also in Eastern cities of the Empire whose cultural traditions he reportedly favored and supported. His suicide on June 9th (or 11th) AD 68 was the result of the declaration of him as a public enemy by the Senate following the uprising of Vindex in Gaul and later by the future emperor Galba in Spain, and was accompanied by counter-imagery in coinage, to delegitimize his authority (see above). In this climate of emerging distrust in AD 68 and the struggle over his succession, namely the Civil Wars in the Year of the Four Emperors AD 69, we see that many aes coins of Nero were countermarked, while only some seem to have been withdrawn and overstruck. Countermarks, often applied to the neck portion of Nero's portrait, such as SPQR (S(enatus) P(opulus)Q(ue) R(omanus), "Senate and People of Rome") or PR (P(opulus/i) R(omanus/i), "(of) the Roman People") attest of the idea to return rule to the Roman Senate and people, and are probably rather early in date, perhaps already come the Vindex's insurrection (Fig. 8).³⁰ Others show names of legions or of the then struggling emperors and usurpers: for Galba, the first successor of Nero, we find GALBA, GAL(ba)CA(esar)

in Latin, ΓΑΛΒΑ or ΓΑΛ(βα)ΚΑΙ(σαρ) in Greek letters, stamped on Nero's face (Fig. 9);³¹ for the following candidates on the throne in AD 69, Otho, Vitellius, and Vespasian, we find similar countermarks at various places within the Empire, targeting different audiences, mainly army troops. However, not only on "Roman" aes coinage of Nero, mainly examples from the "supporting" mint in Lugdunum (Lyon, France) from whence it was distributed "empire-wide", was countermarked; this also happened also for civic coins of (Greek) cities.³² For all of these countermarks, we can grasp the different affordances implied by and applied to Nero's aes coins in these turbulent times: Ensuring the (re-)validating of Nero's aes coins (or civic aes coins with his portrait) as legal tender necessary for economic transactions in times of shortages in money production and contested acceptance of both, the emperor and his image as well as his coinage went hand in hand with the spread of messages transmitting various content, e.g. political ideas, declarations of loyalty or authority, and the occasional notion of expressing dissociation from the past emperor by physically violating his image through the deliberate placement of the countermark.



Figure. 8: Bronze as of emperor Nero with countermark SPQR for S(enatus)P(opulus)Q(ue)R(omanus), "Senate and People of Rome," applied during the Civil War period AD 68/69. 29mm, 10.91g.



Figure 9: AE sestertius of emperor Nero, struck in AD 64-67, with countermark ΓΑΛΒΑ on Nero's face, applied during the Civil War period on the behalf of the emperor Galba. 33mm, 22.59g.

Changing the past? Challenging affordances with *damnatio memoriae*

The ambivalent treatment of Nero's aes coinage touches on the topic of *damnatio memoriae*, "damnation of memory". Nero was the first emperor to be officially declared a public enemy (*hostis*), whence erasure of his name and image was conducted after his death, both officially and unofficially.³³ Yet, unlike suggested by the modern Latin term's usage, neither this exact phrase nor any comprehensive concept of what erasure of memory comprised in Roman Antiquity existed; the terminology and specific sanctions included in damnation procedures varied.³⁴ This can be explained by the different contexts in which such damnations occurred. In case of Nero, official and more comprehensive measures could be easily undertaken due to the end of the Julio-Claudian Dynasty and the gradual emergence of the idea that, at least politically, the guise of continuity was not as important as new ways by which to define imperial and senatorial roles.

This was different some thirty years earlier. Emperor Caligula (reg. AD 37–41), son of the popular Julio-Claudian family member and general Germanicus, was very popular among the army and normal people at the beginning of his rule after the death of emperor Tiberius (reg. AD 14–37). His new understanding of imperial rule, not with but over the Senate, and his frequent challenge of traditional imperial roles and social interactions that were so important within the senatorial circle for upholding the idea of the *princeps inter pares*, brought him a sudden death due to a conspiracy by praetorian guards after only four years of rule, on January 24th AD 41. The new emperor Claudius (reg. AD 41–54), Caligula's uncle, was then tasked with the unenviable endeavor of distancing himself from Caligula, who was

not only son of the famous Germanicus but also great-grandson of the first emperor Augustus (via his mother Agrippina the Elder), and great-grandson of Augustus' wife Livia and of Augustus' civil-war enemy Mark Antony (via his grandparents Drusus and Antonia the Younger). Yet, how could he be excised from the family memory without destroying the public image of the Julio-Claudians? How might a balance between a continuity of dynasty and break with a badly-judged predecessor be negotiated? We can trace some methods as to how Claudius sought to manage this delicate task in the literary sources and archaeological evidence (Cass. Dio 60.4.5–6; Suet. *Claud.* 11.1, 3)³⁵. Although Caligula was not officially declared a public enemy, and hence no formal damnation of memory occurred, Claudius annulled Caligula's acts and even let his predecessor's images be removed by night; Caligula's death was not included among the festival days, although it marked the beginning of Claudius' reign; in fact, the two days of his murder and the immediate, turbulent aftermath wherein restoration of the Republic was in the air were obliterated from memory, and he declared an amnesty except for the conspirators against Caligula, who were put to death; consequently, Claudius himself celebrated his ascension day (*dies imperii*) not on January 24th, the day of Caligula's assassination, but on January 25th. Ultimately, the *damnatio memoriae* was carried out de facto. Portraits of Caligula were reshaped into the likenesses of Claudius; in inscriptions, his name was erased; albeit both not systematically.³⁶ In terms of coinage, it is recorded two years after his death, in AD 43, that the Senate decreed to melt down Caligula's aes coinage, and that Messalina, then-wife of Claudius, used this to create a statue for the actor Mnester (Cass. Dio 60.22.3). Regardless the question of the political symbolism of the statue of Mnester dancing as the incestuous priest-king Cinyras on the very day of Caligula's murder (Jos. *AJ* 19.1.13.94–5; cf. Suet. *Cal.* 57.4),³⁷ the archaeological evidence confirms that not only aes, but also gold and silver issues of Caligula are less frequent in contexts than one would expect, although present nonetheless.³⁸ Both, his aes and gold/silver coinage was not declared void; the remelting might have occurred mainly for obvious aes coins with Caligula imagery in Rome, where the Senate exercised control, while only a gradual withdrawal e.g. via tax payments is plausible in the provinces since small cash was always lacking and a general collection would have harmed the economy. Anyway, erasure of Caligula's name, especially the distinctive C (for "Gaius"), countermarks with Claudius' name (and imperial title) (Fig. 10),³⁹ or overstrikes with Claudian types are present in the archaeological record⁴⁰. This act coincided with the halting of aes production on authority of the Senate in Rome throughout Claudius' and partly Nero's reigns, and it is thus likely that this claim of senatorial authority was countered by Claudius, who could not pursue totally erasing Caligula at the cost of undermining his own imperial authority.⁴¹



Figure 10: Bronze as of emperor Caligula for Agrippa, his maternal grandfather, with countermark TIB(erii) CLAV(dii) IMP(eratoris) (in ligature), "of Tiberius Claudius emperor" applied under emperor Claudius, perhaps for the distribution of a military donative. 10.99g.

More radical and "total" *damnationes memoriae* were witnessed by the historiographer Cassius Dio, whose own experience influenced his description of the aforementioned earlier acts of damnation within his *Roman History*. Cassius Dio, offspring of the senatorial elite from the province of Bithynia on the southern coast of the Black Sea in present-day Turkey, started his successful career under the emperor Commodus (reg. AD 180–193). He witnessed the second huge civil war for imperial power in AD 193, the so-called second Year of the Four Emperors. It was the general Septimius Severus, born in the Libyan city Leptis Magna, who eventually prevailed and founded a new dynasty, the "Severans", although he officially succeeded the former "Antoninian" house by forged adoption into the family of the emperor Marcus Aurelius (reg. AD 161–180), thus becoming a post-mortem brother, and "good" counterpart, of Commodus. This seems quite a grotesque family bond from a modern perspective, yet Septimius Severus was able to stabilize the empire, and at the time of his death on February 4th AD 211, his two sons, Caracalla (born AD 188) and Geta (born AD 189) were old enough to succeed him. What happened next is unique in the history of Rome: In December AD 211, Caracalla murdered his own brother in the family's private chambers. Cassius Dio describes the fratricide with the following words: "but when they [Caracalla and Geta] were inside, some centurions, previously instructed by Antoninus, rushed in in a body and struck down Geta, who at sight of them had run to his mother, hung about her neck and clung to her bosom and breasts, lamenting and crying: 'Mother that didst bear me, mother that didst bear me, help! I am being murdered.'" (Cass. Dio 78.3.2, trans. Cary 1960). Interestingly, the author frames this horrible event by unfolding the narrative of an extremely cruel and ruthless Caracalla, who had already condemned some members of his closest circle, among them his wife Plautilla (Cass. Dio 78.1.1–2)⁴². He traces back the hatred of Caracalla towards his brother even to the lifetime of Severus, when he spontaneously decided to kill his father instead of Geta (Cass. Dio 77.14.2–15). For Cassius Dio, Geta is the helpless victim, slaughtered like a sacrificial animal (Cass. Dio 78.1.4–6) and Caracalla is the undisputed ruler who lures his brother into the deadly trap; indeed, Caracalla ordered a systematic eradication of Geta's likeness and name from the public record.⁴³



Figure 11: Aes coin minted in Stratonikeia, AD 198–211.

On the obverse, a portrait of Caracalla on the left, erased portrait of Geta on the right, a countermark below between them. AY KAI MAP AY ANTQN... GETAC. On the reverse, the goddess Hekate standing to the left with burning torch and dog. EΠI APX (name of the magistrate) CTPATONIKE/Ω-N. 36.8mm, 22.78g.

On most aes coins that depicted both Caracalla and Geta, only the portrait of Caracalla is still visible, while the face of Geta has been carefully erased, usually in combination with a countermark (Fig. 11)⁴⁴. Yet, this *damnatio memoriae* was not carried out with equal diligence in the Roman provinces, as a study of the aes coinage there shows.⁴⁵ While the first *damnatio memoriae* in such an enormous scale, its concrete execution depended on the respective audiences within the Roman Empire. Furthermore, a political perspective reveals that Geta also obtained the title of an Augustus and became equal in terms of power to Caracalla, allegedly between AD 209 and 211.⁴⁶ He even styled himself on coinage akin his father,⁴⁷ certainly a provocation for Caracalla. Thus, Geta's *damnatio* seems less driven by Caracalla's emotions towards his brother than rather a brutal strategy to strengthen and secure his own imperial rule which was threatened by the rise of his brother.

Yet, sometimes a damnation offered new affordances. An aureus from the emperor Macrinus, who succeeded Caracalla after his murder in AD 217 for only 14 months, displays traces of violence against the emperor's face: someone had scratched it with a sharp tool (Fig. 12)⁴⁸. The materiality of the coin, representing the minting authority (here Macrinus), obviously possessed the affordance of becoming the target of a person's reaction, expressing his or her (probably private) reaction toward this emperor.⁴⁹ On the other hand, the affordance of the gold coin to serve as jewelry might have later inspired its transformation into a necklace much later, as the small rectangular hole above Macrinus' bust indicates.



Figure 12: Gold aureus of the emperor Macrinus, AD 217–218, with cuts and scratches. Portrait of Macrinus on the obverse with his name and titles: IMP(erator) C(aius) M(arcus) OP[EL](lius) SEV(erus) MACRINVS AVG(ustus). Reverse: Felicitas, the personification of felicity, is no longer visible; the legend contains further titles of the emperor: PONTIF(ex) MAX(imus) TR(ibunicia) P(otestate) CO(n)S(ul) P(ater) P(atriciae). 20.5mm; 6.03g.

Affordances and Circulation: Overstrikes as Political Message?

However, we also find visual contestations of the imperial house during the 2nd century AD, which was allegedly “calm” until the turbulent last quarter, namely in overstrikes of Roman coins during the Jewish Bar Kokhba Rebellion. In AD 132, under the emperor Hadrian (reg. AD 117–138), a man named Simon bar Kokhba (“son of the star”) in the literary and numismatic sources led a rebellion against the Romans. Until AD 135, he and his followers controlled a considerable territory south of Jerusalem.⁵⁰ According to Cassius Dio, this uprising was a Jewish reaction to the renaming of Jerusalem into Aelia Capitolina (named after the emperor himself), including the building of a temple for Jupiter on the holy temple mount (while the Jewish temple had already been destroyed during the Jewish War under the emperor Vespasian in AD 70); furthermore, a Roman law forbade circumcision, an important part of the Jews’ religious rites and identity (HA *Hadr.* 14.2)⁵¹. Therefore, the rebellion sought to re-establish the traditional lifestyle and the culture of the Jewish people,⁵² initially in a limited territory. Hence, they needed “to create a sovereign, proclamatory, and abundant coinage”⁵³, and, in turn, they needed money towards this end. Central for the economic and financial system was that Simon bar Kokhba leased land to the Jewish peasants who were compelled to pay with silver coinage.⁵⁴ To keep this money cycle running, the rebels needed to coin “own” money despite being without access to mines in large quantities: this they accomplished by overstriking Roman aes and silver coins, partly booty and partly circulating money paid in by Jewish peasants.⁵⁵ This clever move required a highly organized system of collecting and reminting coins, employing the materiality and thus affordances of the pre-existing Roman aes and silver coinage. The “new” design was simple and reduced, displaying ritual vessels

and items of the Jewish religion, and choosing an ancient type for the legends (“year one of the redemption of Israel”, “year two of the freedom of Israel”, “for the freedom of Israel”).⁵⁶ Although the bronze coins were hammered and flattened before the overstriking, the images and legends of the silver coins persisted in many cases, and are still visible today.⁵⁷ In Fig. 13,⁵⁸ the letters of the older Roman legend are still visible – and tangible – on the obverse under the grapes. On the reverse, the trumpets⁵⁹ are, probably by chance, placed on the face of the emperor Trajan, Hadrian’s predecessor. His characteristic profile with his nose, lips, chin, and shoulder appears next to the right trumpet. On the lower part of the coin, the Greek legend (“ΑΥΤΟ[κρατωρ]”, translating the Latin title “imperator”) indicates that the silver coin was minted in an eastern province of the Roman Empire. It thus seems that this coin was still circulating under the emperor Hadrian, and was possibly already worn and thus a good choice for overstriking.

This process of re-minting, driven by economic thoughts, resulted in a highly symbolic design similar to the scratching of the emperors’ faces on coins described above. The Jewish rebellions physically – and ideologically – stamped and reshaped the surface of the coins,⁶⁰ and thus propagated their superiority over the *imperium Romanum*. Nonetheless, the Jewish peasants confronted with the new currency were probably less than willing to accept it, at least at the onset, and even more since the overstriking was so obvious: it simply disrupted the main affordances of the underlying Roman coins, viz. to be widely accepted money (cf. the discussion on accepting worn Hadrianic (and Trajanic?) coinage in later times in the Babylonian Talmud: Bab. Talm. *Nez. Avod. Zar.* IV, ad Mishna III, 52b, Rav Oshaya’s opinion is altered by Abaye).⁶¹ The design of the Bar Kokhba coins, its uniformity, and its choice of very traditional symbols and letters can thus be understood as the (at times successful) attempt to foster trust in the validity of this new currency, although it was only accepted within a very limited territory.⁶² Only within the limits of its circulation could the coins gain new affordances, very probably being less the result of a cultural renewal than of the strong and violently enforced need for money to prevent the breakdown of this presumably fragile economic system.



Figure 13: Silver Zuz of the Bar Kokhba Revolt, AD 132–135. Attributed to year 3 (AD 134/5), with a bunch of grapes on the obverse, and “Simon” in paleo-Hebrew letters. On the reverse, two trumpets and the legend “For the freedom of Jerusalem” in paleo-Hebrew. Greek legend and portrait of emperor Trajan still visible. 3.29g.

Conclusion

The dictum “economy first” also applies to ancient coinage. The main function, namely to be part of economic transactions (military, state payments, private businesses, etc.), was the first and foremost affordance, not only with regard to the materiality of the metal coin, but also in respect to the visual symbols that attested to authority aimed at building trust and confidence in its value, validity, and acceptance. In turn, with economic transactions and circulation, messages of political, social, religious, and/or cultural importance could be disseminated, and provide further affordances, e.g. of representation, propaganda, and stimulation. And yet, all of these affordances could be easily contested by violating the essence of a coin as money, the trust in its value, validity, and acceptance, that is, by attacking its material and visual surface. However, Roman laws forbade this for silver (and gold) coinage, which makes sense from an economic and political point of view since this coinage gradually became a fiduciary money whose contested authority could shake and challenge the foundations of imperial power and the commonwealth alike; if necessary, there were other ways to withdraw it from the economic cycle, but the effort was rarely made. The ancients clearly knew what constituted “good” and “bad” gold and silver money, and this not only in economic, but also at crucial times in political terms.⁶³ Thus, the real “battlefield” was aes coinage. Circulating mainly locally and for small payments, it was perfectly suited to contesting political enemies and stances, to condemning a public *hostis*, or to adding messages of representation and propaganda, and calls for action, especially at times of civil war. And yet again, its core affordance, to enhance economic transactions, was rarely challenged. Aes coinage could be even broken into fractions, to produce smaller denominations by oneself when they were not immediately at hand.⁶⁴ This certainly violated the visual and haptic affordance of a round coin, but economic needs also prevailed in such extreme cases, and could produce a heavily altered, new material affordance, that is, if it was allowed, trusted, and accepted.

Abbreviations

GIC = Howgego, Christopher J. 1985. *Greek Imperial Countermarks. Studies in the Provincial Coinage of the Roman Empire*. Royal Numismatic Society, Special Publication XVII. London: Royal Numismatic Society.

RPC = Burnett, Andrew, Amandry, Michel, and Ripollès, Pere Pau (eds.). 1992–. *Roman Provincial Coinage*. London: British Museum.

RRC = Crawford, Michael H. 1974. *Roman Republican Coinage*. 2 vols. Cambridge: Cambridge University Press.

RIC = Mattingly, Harold et al. 1923–. *Roman Imperial Coinage*. London: Spink & Sons.

SNG = *Sylloge Nummorum Graecorum*.

TJC = Meshorer, Ya'akov. 2001. *A Treasury of Jewish Coins. From the Persian Period to Bar Kokhba*. Jerusalem: Yad Izhak Ben-Zvi Press.

Authors' Biographies

Elisabeth Günther; elisabeth.guenther@phil.uni-goettingen.de; Institute for Digital Humanities, Georg-August-Universität Göttingen, Germany. Elisabeth Günther holds a PhD in Classical Archaeology. From 2014 to 2018, she was part of the excellence cluster "Topoi. The formation and transformation of space and knowledge in ancient civilizations" in Berlin. In 2018, she successfully completed her doctoral thesis on comedy-related vases from South Italy (4th century BC) at the Institute for Classical Archaeology of the Free University in Berlin. The book "Comic Images: Frames and the narrative potential of comedy-related vases" will be published in 2021. Her research interests focus on digital methods in archaeology, Roman numismatics, and the application of cognitive theories to ancient visual studies, especially visual narration and reception processes. After teaching at the Institute for Classical Archaeology of the University of Erlangen-Nuremberg and after travelling around the Mediterranean Sea as a travelling fellow of the German Archaeological Institute, she is now research assistant at the Institute for Digital Humanities at the University of Göttingen.

Sven Günther; sveneca@aol.com / svenguenther@nenu.edu.cn; Institute for the History of Ancient Civilizations, Northeast Normal University, Changchun, People's Republic of China. Sven Günther is full professor of Classics at IHAC, where he is also vice-director. His research centers on Greco-Roman socio-economic history, numismatics, and reception history. Noteworthy publications include a monograph (*Vectigalia nervos esse rei publicae*. Die indirekten Steuern in der Römischen Kaiserzeit von Augustus bis Diokletian. Wiesbaden [2008]: Harrassowitz), several edited volumes, and numerous articles in distinguished journals. He is also chief executive editor of the double-blind peer-reviewed *Journal of Ancient Civilizations* (JAC) and co-editor of the *Marburger Beiträge zur Antiken Handels-, Wirtschafts- und Sozialgeschichte* (MBAH).

Notes

¹ Nomos AG, Auction 21, November 2020, lot no. 159. From the John Everett Duke Collection, acquired from E. J. Waddell on 6 December 1983, ex Numismatic Fine Arts II, 25 March 1976, 148 (there described as unpublished).

<https://www.coinarchives.com/a/openlink.php?l=1734722|3947|159|9c647b6e75ef9834be4b4afb05d2bd9d> (07.11.2020).

² Heidelberg Center for Cultural Heritage (HCCH) of the University, AN21. Photo: Susanne Börner. <http://pecunia.zaw.uni-heidelberg.de/ikmk/object?id=ID294> (07.11.2020). Reference: SNG Copenhagen 14.501 (and the following ones).

³ Cf. Sheedy 2012, 106.

⁴ Cf. Sheedy 2012, 106–8.

⁵ Sheedy 2012, 108–9.

⁶ See S. Günther 2020a, 28–9.

⁷ Classical Numismatic Group, Triton XXIII, 20 January 2020, lot no. 620.

<https://www.coinarchives.com/a/openlink.php?l=1594636|3363|620|7c2c59f1344b5e918e0e1c6da8e54233> (07.11.2020). Reference: RRC 508/3.

⁸ Woytek 2003, 525–8; cf. McCabe 2016.

⁹ Classical Numismatic Group, Triton XXIII, 14 January 2020, lot no. 677.

<https://www.coinarchives.com/a/openlink.php?l=1594693|3363|677|2b9695b8856affd890c8ccf0a0e0a405> (08.11.2020). Reference: RIC I² The Civil Wars 205 (no. 24).

¹⁰ Cf. Walburg 2007/8, 113–5.

¹¹ Bochum, Kunstsammlungen der Ruhr-Universität, M 2480. Photo: Robert Dylka.

<http://ikmk.ruhr-uni-bochum.de/object?id=ID399> (07.11.2020), there wrongly described as sestertius. Reference: RIC I² Galba 251 (no. 423).

¹² Epict. 1.20.7–8, trans. Higginson 1890; cf. Plin. *HN* 33.44–5.127–8.

¹³ Kemmers 2011; Krmnicek 2009; Weisser 2020.

¹⁴ Wolters 1999, 368–71.

¹⁵ Carrying coins in the mouth is attested in some Greek literary sources, see e.g. Aristoph. *Vesp.* 609, 787–95; cf. Figueira 1998, 499.

¹⁶ *Fames auri*: Plin. *HN* 33.14.48.

¹⁷ See Wolters 1999, 352–62.

¹⁸ On military commanders in the Greek world and their strategic use of coin-money, see S. Günther 2020b.

¹⁹ For the organization and output of Roman mints, see Wolters 1999, 85–114.

²⁰ Wolters 1999: 290–308; Hekster 2017; for the frameworks of identity, values, and gender roles in the Severan period, see also E. Günther 2016.

²¹ e.g. Christ 1991, 62; for contrary views esp. in older literature, cf. the discussion in Wolters 1999, 255–65.

²² Wolters 1999, 318–20.

²³ Wolters 200/1; Aarts 2005; Kemmers 2009; for the location of the mints in the Roman Empire, see Wolters 1999, 45–85.

²⁴ See Wolters 1999, 362–71.

²⁵ See Werz 2009, 78–81; RPC I for the different provinces; collection also in Martini 2003, updated in the Museum of Countermarks on Roman Coins 2020.

²⁶ Werz 2009.

- ²⁷ Classical Numismatic Group, Electronic Auction 441, 3 April 2019, lot no. 262.
<https://www.coinarchives.com/a/openlink.php?l=1450649|2979|262|b48ccd53a58d9051ba1b349e2fa56e88> (08.11.2020). Reference: Martini 2003, no. 48.
- ²⁸ Classical Numismatic Group, Electronic Auction 441, 3 April 2019, lot no. 261.
<https://www.coinarchives.com/a/openlink.php?l=1450648|2979|261|8eb32fb760a35b39234c93bf27fbbb91> (08.11.2020). Reference: Martini 2003, nos. 46 and 47 (third, barely readable countermark maybe PRO(batum)?, cf. *ibid.*, no. 48).
- ²⁹ Werz 2009, 81.
- ³⁰ Classical Numismatic Group, Electronic Auction 440, 20 March 2019, lot no. 278.
<https://www.coinarchives.com/a/openlink.php?l=1448786|2976|278|908a74d94dfed60654e64c68095e496f> (08.11.2020). Reference: Martini 2003, no. 26.
- ³¹ Classical Numismatic Group, Electronic Auction 326, 7 May 2014, lot no. 449.
<https://www.coinarchives.com/a/openlink.php?l=674865|1243|449|459f857c8d0164bdd0dec6fdddc1fb1e> (08.11.2020). Reference: RIC I² Nero 175 (no. 395 or 396, wrongly attributed in CNG-description) (coin); GIC 526 (countermark). See Calomino 2016, 68.
- ³² Calomino 2016, 70.
- ³³ Calomino 2016, 63–79.
- ³⁴ List and discussion in Calomino 2016, 12–6.
- ³⁵ Cf. Wolters 1999, 154; Calomino 2016, 55–6.
- ³⁶ Calomino 2016, 56–7.
- ³⁷ See Wolters 1999, 154–5.
- ³⁸ Calomino 2016, 58–9; cf. Wolters 1999, 137.
- ³⁹ Dr. Busso Peus Nachf., Auction 417, 2 November 2016, lot no. 133.
<https://www.coinarchives.com/a/openlink.php?l=934149|1793|133|79e04d0579df89f036593b30e506c790> (08.11.2020). Reference: RIC I² Gaius 112 (no. 58) (coin); cf. Martini 2003, no. 51.
- ⁴⁰ Calomino 2016, 59–62; Wolters 1999, 157–61.
- ⁴¹ See Wolters 1999, 155–7. 161–2.
- ⁴² For the damnation of Plautilla and her father Plautianus, see Calomino 2016, 121–3.
- ⁴³ Calomino 2016, 119–153.
- ⁴⁴ Heinrich-Heine-Universität Düsseldorf (HHU), Ls4252.33.08. Photo: Sebastian Lindermann. <http://www3.hhu.de/muenzkatalog/ikmk/object?id=ID7386> (07.11.2020). Reference: SNG von Aulock, no. 2686var.
- ⁴⁵ Calomino 2016, 130–148.
- ⁴⁶ Kienast 2004, 166.
- ⁴⁷ Pangerl 2013.
- ⁴⁸ Classical Numismatic Group, electronic auction 460, 29 January 2020, lot no. 698.
<https://www.coinarchives.com/a/openlink.php?l=1605143|3396|698|d6fa55e60685e0755ef61ae958ea7b75> (07.11.2020). Reference: RIC IV/2 Macrinus 7 (no. 20, obv. c).
- ⁴⁹ Cf. the scratching of Augustus' face on coins from Kalkriese, Germany, by local peoples: Kemmers 2011, 98–99; for similar cases throughout the Roman imperial period: Calomino 2016, 62, 108, 163, 177, 192–5.
- ⁵⁰ See Mildenberg 1980, 320–325.
- ⁵¹ Considered important by Mildenberg 1980, 334, but less by Meshorer 2001, 137 who stresses the political aspect of the revolt (135–7). Further measures are discussed in Stemberger 2014.

⁵² Mildenberg 1980, 330.

⁵³ Mildenberg 1980, 328.

⁵⁴ Mildenberg 1980, 315.

⁵⁵ Mildenberg 1980, 326.

⁵⁶ See Mildenberg 1980, 329–30. For the archaic script, see Meshorer 2001, 163.

⁵⁷ Meshorer 2001, 137–9. The author rightly stresses the fact that the smoothening of silver coins would have caused the loss of precious metal (137). That the less valuable bronze coins were indeed smoothed and hammered indicates that the visibility of the former Roman design should not only serve as a political message but was the result of rational economic thoughts.

⁵⁸ Ida & Larry Goldberg Coins & Collectibles, Auction 117, 15 September 2020, lot no. 2165,

<https://www.coinarchives.com/a/openlink.php?l=1698660|3802|2165|2179be919be9f9e42fe06e185bc7a9d8> (07.11.2020). Reference: TJC 277.

⁵⁹ For the meaning of the trumpets, see Meshorer 2001, 153–5.

⁶⁰ Meshorer 2001, 137.

⁶¹ Cf. Lambert 1906, 241–2.

⁶² Cf. S. Günther 2020b on warfare coinage in the 4th century BC.

⁶³ Cf. Wolters 1999, 316–7, 371–94.

⁶⁴ Cf. S. Günther and von Berg 2019, 84 with n. 13.

Bibliography

- Aarts, Joris. "Coins, Money and Exchange in the Roman World. A Cultural-economic Perspective." *Archaeological Dialogues* 12/1 (2005): 1–28.
- Calomino, Dario. *Defacing the Past. Damnation and Desecration in Imperial Rome*. London: Spink & Son Ltd, 2016.
- Christ, Karl. *Antike Numismatik. Einführung und Bibliographie*. Darmstadt: Wissenschaftliche Buchgesellschaft, 3rd edition, 1991.
- Dio's Roman History with an English Translation by Earnest Cary in Nine Volumes. IX. London: William Heinemann LTD, 1960.
- Figureira, Thomas. *The Power of Money. Coinage and Politics in the Athenian Empire*. Philadelphia: University of Pennsylvania Press, 1998.
- Günther, Elisabeth. "Femaleness Matters: Identity and Identification Processes in the Severan Dynasty." *Marburger Beiträge zur antiken Handels-, Wirtschafts- und Sozialgeschichte* 34 (2016): 113–68.
- Günther, Sven. "Der griechische Seehandel in archaischer und klassischer Zeit. Wie sich Schildkröten schnell im Mittelmeerraum verbreiteten." In *Runde Geschichte. Europa in 99 Münz-Episoden*, edited by Florian Haymann, Stefan Kötz, and Wilhelm Müseler, 27–9. Oppenheim am Rhein: Nünnerich-Asmus Verlag & Media, 2020a.
- . and von Berg, Axel. "MFRP 35: Der frühromische Münzschatz von der Insel Niederwerth und die Germanenfeldzüge am Rhein." *Numismatisches Nachrichtenblatt* 68/3 (2019): 81–7.
- . "War-Zone Markets: Generals, Military Payment, and the Creation of Market Economies in Warfare Zones during the Fourth Century BC." *Marburger Beiträge zur Antiken Handels-, Wirtschafts- und Sozialgeschichte* 38 (2020b): 179–202.
- Hekster, Olivier. "Religion and Tradition in the Roman Empire: Faces of Power and Anchoring Change." *Journal of Ancient Civilizations* 32/1 (2017): 13–34.
- Higginson, Thomas Wentworth. *The Works of Epictetus: His Discourses, in Four Books, the Enchiridion, and Fragments*. New York: Thomas Nelson and Sons, 1890.
- Kemmers, Fleur. "From Bronze to Silver. Coin Circulation in the Early Third Century AD." *Revue Belge de Numismatique et de Sigillographie* 155 (2009): 143–58.
- and Nanouschka Myrberg. "Re-thinking Numismatics. The Archaeology of Coins." *Archaeological Dialogues* 18/1 (2011): 87–108.
- Kienast, Dietmar. *Römische Kaisertabelle. Grundzüge einer römischen Kaiserchronologie*. 4th edition. Darmstadt: Wissenschaftliche Buchgesellschaft, 2004.
- Krmnicek, Stefan. "Das Konzept der Objektbiographie in der antiken Numismatik." In *Coins in Context I. New Perspectives for the Interpretation of Coin Finds. Colloquium Frankfurt a.M., October 25–27, 2007*. Studien zu Fundmünzen der Antike 23, edited by Hans-Markus von Kaenel and Fleur Kemmers, 47–59. Mainz am Rhein: Philipp von Zabern, 2009.
- Lambert, Éliézer. "Les changeurs et la monnaie en Palestine de I^{er} au III^e siècle de l'ére vulgaire d'après les textes talmudiques." *Revue des études juives* 51 (1906): 217–44.
- Martini, Rodolfo. *Collezione Pangerl contromarche imperiali romane (Augustus–Vespasian) (The Pangerl Collection Catalog and Commentary on the Countermarked Roman Imperial Coins)*. *Nomismata* 6. Milan: Ennerre, 2003.
- Meshorer, Ya'akov. *A Treasury of Jewish Coins. From the Persian Period to Bar Kokhba*. Nyack, NY: Amphora Books, 2001.

- McCabe, Andrew. *The EID MAR Type of Brutus. An Overview of Current Research together with a Portfolio, Related Papers*. London: Roma Numismatics, 2016 (for private circulation and information available on request).
- Mildenberg, Leo. "Bar Kokhba Coins and Documents." *Harvard Studies in Classical Philology* 84 (1980): 311–35.
- Museum of Countermarks on Roman Coins. Accessed November 26, 2020.
<http://www.romancoins.info/Countermarks-start.html>
- Pangerl, Andreas. "Porträttypen des Caracalla und des Geta auf römischen Reichsprägungen – Definition eines neuen Caesartyps des Caracalla und eines neuen Augustustyps des Geta." *Archäologisches Korrespondenzblatt* 43 (2013): 99–115.
- Sheedy, Kenneth. "Aegina, the Cyclades and Crete." In *The Oxford Handbook of Greek and Roman Coinage*, edited by William E. Metcalf, 105–27. Oxford: Oxford University Press, 2012.
- Stemberger, Günther. "Die Verfolgung der jüdischen Religion unter Hadrian: Zwischen Wirklichkeit und Martyrologie." *Scripta Classica Israelica* 33 (2014): 255–68.
- Walburg, Reinhold. "EID MAR: Die Macht der visuellen Kommunikation. Rezeption eines antiken Motivs." *Boreas. Münstersche Beiträge zur Archäologie* 30/1 (2007/9): 111–25.
- Weber, Barbara. "Ein aktualisiertes Familienbild? Überlegungen zur Datierung des Berliner Severertondos." *Römische Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung* 112 (2005/2006): 425–432.
- Weisser, Bernhard. "Objektgeschichtliche Betrachtungsweise in der Numismatik." *Münzenrevue* 52/9 (2020): 167–71.
- Wertz, Ulrich. "Gegenstempel auf Aesprägungen der frühen römischen Kaiserzeit im Rheingebiet – Grundlagen, Systematik, Typologie." PhD-thesis: University of Frankfurt, 2001, published online 2009. Accessed November 26, 2020.
<http://publikationen.ub.uni-frankfurt.de/volltexte/2009/6893/>
- Wolters, Reinhard. *Nummi Signati. Untersuchungen zur römischen Münzprägung und Geldwirtschaft*. Vestigia 49. Munich: C.H. Beck, 1999.
- . „Bronze, Silver or Gold? Coin Finds and the Pay of the Roman Army." *Zephyrus* 53 (2000/1): 579–88.
- Woytek, Bernhard. *Arma et Nummi. Forschungen zur römischen Finanzgeschichte und Münzprägung der Jahre 49 bis 42 v.Chr.* Österreichische Akademie der Wissenschaften, Philosophisch-historische Klasse Denkschriften 312 & Veröffentlichungen der Numismatischen Kommission 40 & Veröffentlichungen der Kleinasiatichen Kommission 14. Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2003.