MARKERS OF IDENTITY **FOR NON-ELITE ROMANS:** A PROLEGOMENON TO THE STUDY OF GLASS PASTE **INTAGLIOS**

Abstract: Pliny's Natural Histories provides evidence that glass paste intaglios were used as signet rings by those without the economic means to acquire precious gem intaglios; this is supported by the abundant survival of such objects. The iconography of these glass pastes provides historical evidence for the self-identification of non-elite Romans and this iconography shows may points of intersection with the republican coin series. In some instances, molds seem to have even been made from coin impressions. This paper uses the comparative evidence of the coinage to illuminate glass paste types known from multiple specimens, especially types intended to convey loyalty to a particular commander or to the Roman state itself. It suggests veterans as one likely group to have purchased and used such glass pastes. **Keywords:** Intaglios, Glass Pastes, Numismatic Iconography, Roman Republic, Non-Elite Identity

lass pastes are understudied as a class of historical evidence separate and distinct from precious gem stones. Glass pastes. Intaglios – be they glass pastes, precious gems, or even gold - were used as seals and signet rings in the course of everyday business transactions and personal correspondence. The seal is intended to represent the owner and as such it a marker of personal identity, the badge by which one wished to be recognized. In many instances there is also a strong correlation between iconography that appears on the Roman republican coin series and that which was selected for display on glass paste intaglios. This article uses comparative numismatic iconography to suggest how glass pastes may be used to broaden our historical evidence for the attitudes and self-identification of non-elite Romans, especially at the end of the republic. This introductory section gives background on the medium and its historical treatment of this class of evidence. The following four sections look at different types of common images on glass pastes: (1) portraiture; (2) other images used to say partisanship, especially with a particular military commander and his campaigns; (3) iconography associated with Rome, especially the founding of the city and her imperial 'predestination'; and (4) the use a female deity that may be associated with trade or commerce.

Glass paste intaglios are primarily mold-made. The manufacture might begin with an impression of a positive image in clay that is sharpened and adapted as desired, or with a design engraved into a more durable material. 1 We

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¹ ZWIERLEIN-DIEHL 2007, 327 details possible steps of manufacture informed by documentation of analogous eighteenth-century practices. Based on the common presence of air bubbles, she

might compare the casting of tokens by private individuals for which we have surviving archaeological finds. While the manufacturing of cast coins and tokens never could match the output of struck coinage, it was certainly able to be produced on an industrial scale. The technology for producing a single sided glass paste is arguably much simpler, the materials cheaper, and thus open to rapid reproduction of specimens in any desired volume. It is specifically because ancient manufacturing techniques allowed for the relatively rapid inexpensive reproduction of identical glass pastes that they should be treated as their own unique category of historical evidence. For this paper I set aside other types of glass pastes, say for instance cameo glass pastes, because these typically served a more decorative function, rather than as personal seals.

A finger ring in the British Museum (fig. 1) can helps us imagine how other glass paste intaglios now separated from their original settings might have been worn.2 In this instance, the engraved glass paste is set into a bronze ring that was once gilded. The attempt is to closely imitate a much costlier piece of adornment. This is no small piece: at its greatest length it measures 4.3 centimeters—a piece that is designed to be noticed by others.

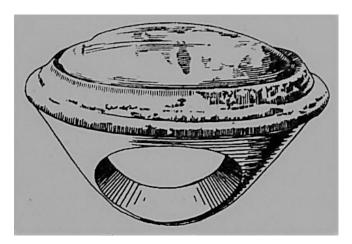


Fig. 1. drawing of BM 1917,0501.1289 after MARSHALL 1907, fig. 149 (Public Domain).

Glass pastes have had an image problem since antiquity and remain dreadfully understudied and poorly catalogued even now. This image problem, both then and now, stems in part from class prejudice. Glass pastes are in essence 'fake' gems. Every time they are discussed in Pliny's natural history there is an anxiety over how to distinguish the imitation from the real object.³ The theme is recurrent, and, in that recurrence, Pliny reflects the anxieties of his peers over the cooption of markers of elite status and the possibility that members of the elite might be fooled into acquiring a 'fake' through lack of knowledge. The special

thinks it likely that a common technique may have been an impression made in clay and then the mold covered in a slurry that would not bond to the molten glass (gypsum and diatomaceous earth both have this property).

knowledge that his encyclopedia offers his elite readership thus becomes in and of itself a marker of status. Thus, in book 37 as he catalogues the properties of gemstones he also reminds his readers again and again to beware of imitations, offering numerous tests of authenticity along the way. These techniques vary, including using a grindstone or checking relative weights or light and temperature tests.

The image problem of glass pastes today is a legacy of the collecting and curation habits of previous generations.4 Glass pastes were collected and catalogued alongside precious gems, and often represent the tastes of the Grand Tourists, not unlike what we see in the coin collections and other collections of antiquities as well.⁵ Today, the politics of modern museum culture and government funding are pushing for fully searchable online collections databases, initiatives intended to broaden access and engage with the digital humanities.⁶ The preliminary research represented by this paper and the methods it proposes for going forward would not be possible without these resources. However, while precious gems usually have detailed accurate entries and multiple attached images, glass pastes are often posted with no associated photography. Although digital photography is relatively cheap compared with the catalogue creation techniques of just a few decades ago, many museums still wait for scholars to request images (and pay for reproduction rights!) before putting less valuable portions of their collections online. By contrast, the British Museum has attempted to fully photograph nearly the whole of its collections. The photography in turn can bring to light inaccuracies in the online cataloguing, especially if the subject matter is unfamiliar to someone specializing in the fine arts, or when the object is simply roughly executed and poorly preserved. To give just one common error as an example, Roman legionary standards are regularly catalogued as incense burners throughout the BM's intaglio collection.7 To my mind, this type of error shows the mistake of category created by the collecting habits of earlier generations. Glass pastes are not 'fine art'. Glass pastes, especially intaglios, share far more with coinage both in terms of their replication and function as statements of individual and collective identity, than they do with the decorative arts.

Glass paste gems are known as early as the second millennium BCE but only became more frequent in the Hellenistic period and best known in Ptolemaic Egypt. That said, the heyday of their production was the late republic and early empire, on which the majority of this paper will focus.8 Dating these objects has been primarily done on stylistic grounds and is fraught with controversy. It this preliminary

MARSHALL 1907, no. 1289, fig. 149 = BM 1917,0501.1289. PLANTZOS 1999, 37 fig. 2 gives an overview of Hellenistic Ring shapes.

See Appendix 1.a for catalogue these seven passages in translation. An anxiety over imitation signet rings is expressed in Juvenal 1.67-68 as well. On Pliny and glass more generally, FREESTONE 2008.

E.g. RICHTER 1968b forgoes any mention of pastes.

Literature is vast; on gems, see BOARDMAN 2008, KAGAN 2011; on the function of collecting, see STENHOUSE 2005, ZWIERLEIN-DIEHL 2007, WHITMER 2017, esp. 53. Collectors also enjoyed making glass pastes themselves (ZWIERLEIN-DIEHL 2007, 282)!

Again, the literature is vast; the following typify the recent conversation from a variety of disciplinary perspectives: TERRAS 2015, MARSH et alii 2016, and MONTAGNANI/ZOBOLI 2017.

BM 1814,0704.2530, 1814,0704.2265, 1814,0704.2258; The error also occurs on poorly executed precious gem intaglios: 1987,0212.363, 1987,0212.366, 1987,0212.365. Since I began my research, other specimens now have had their records corrected, a very positive feature of the flexible digital catalogue, too often underutilized by large collections.

 $^{^{\}rm 8}$ $\,$ My own sense of the chronological distribution of this material, corresponds to the observations and assertions of ZWIERLEIN-DIEHL 2007, 326.

study, I take as plausible that many of these specimens were created in the late republic and early empire, but some may be earlier or later. Further work based on finds with archaeological contexts is needed.

Scholars discussing the Roman republican coin series have long connected literary testimony about the signet rings of leading generals, such as Sulla and Pompey to the designs shown on their coinage and that of their partisans.9 And, there is nothing particularly new in connecting gems to coins and visa versa. 10 The very fact that we have such surviving literary testimony regarding the choice of image and the associated meaning for the signet rings of Rome's leading men suggests that these images were readily recognizable among the Roman elite and perhaps even beyond. Harriet Flower has even suggested that Bocchus took the inspiration for his monumental sculptural group erected on the Capitoline in 91 BCE from Sulla's signet ring design the miniature proceeding the major monument, rather than the reverse as we usually assume.11

When there are no extant literary sources to guide us, numismatists are more likely to look to the local political climate than to gem iconography for an explanation of an unusual type. This is again an artifact of our disciplinary boundaries: numismatists are more likely to train, in the first instance, as ancient historians or classicists, than as art historians. So, although gem experts long knew of Mamilius' coin of the late 80s and catalogued it along with other intaglios it was only in the last few years that information regarding the prevalence of the design in other media has been considered in the study of this coin series. 12 This was the origin of my own interest in intaglios. What does it mean to the historian for an image to be repeatedly redeployed in different media? How does the meaning shift across time and context? My intention in this preliminary study is to demonstrate how thinking about glass pastes as an artifact of antiquity in their own right can help us answer questions beyond those which coins and precious stones can do on their own.

Pliny's history of the use of rings at the beginning of book 33 partakes of the common theme of increasing luxury and moral decline.¹³ He claims rings were unknown in the Homeric age; and, likewise, he says the use of seal rings is still unknown in the East and Egypt where signatures are preferred. All of which is of course completely contrary to our surviving evidence. He continues saying that in days of yore Roman senators used rings of simple iron, but now slaves gild their iron rings in gold! Like with his discussion of <u>precious gemstones</u>, the suggestion is that having elite status ⁹ CRAWFORD 1974: 373 (RRC 359/1-2) on Dio 42.18.3, 450 (426/1) on Plut. Mar. 10, Plut. Sull. 3, Plut. Mor. 806d, Val. Max. 8.14.4, Plin. NH 36.8 and (426/3) on Dio 42.18.3 again.

¹⁰ Cf. the many references to gems in CRAWFORD 1974: 135 (RRC 16/1), 302 (287/1), 303 (288/1), 306 (292/1), 330 (329/1), 411 (399/1), 456 (433/2), 468 (453/1), 488 (480/2), 577, 579, 715, 719, 721, 728, 736, 740, 746, 749. He hints in the possible interest of mass-production for gems but does not speak specifically of glass pastes (p. 728), but generally takes a skeptical (or even dismissive) attitude, especially to the various interpretations of VOLLENWEIDER 1974.

means the ability to discern the difference between gilt and gold, as well as to value authentic restraint over aspirations of wealth. He then goes on to connect the use of signet rings with money lending, say the connection is "proved by the custom of the lower classes, among whom even at the present day a ring is whipped out when a contract is being made." He is in essence claiming that an elite practice, the signet ring, has been co-opted by the lower classes and applied for base purposes. His elite prejudices, both here and with regard to glass pastes, let us see how our physical remains might represent the voice of a class of individuals from whom we as historians rarely hear, the lost Roman middle class, if the anachronism can be allowed.

1. PORTRAITURE

When trying to ascertain the connection between a glass paste intaglio and the identity of its owner, perhaps the most intuitive place to start is with portraits. A following type of logic is commonly applied: if one wears a portrait, one must be expressing loyalty to the person(s) portrayed. Hellenistic ruler portraits in glass modeled on official coinage are certainly known, and support this type of logic. The glass paste with the busts Ptolemy II and Arsinoë II in the Thorvaldsen collection so closely follows the coin prototypes it even reproduces the legend, $A\Delta E\Lambda[\phi\Omega N]$, in mirror image (figs. 2-4).14 There even survive seal impressions with similar royal iconography said to have been acquired at Luxor.15



Fig. 2. Thorvaldsen 1988. 1.9x1.8 cm. Setting is modern. Public Domain.

¹¹ FLOWER 2006, 113.

¹² RRC 362/1, cf. RRC 149/1-5, on which YARROW 2015 with references to earlier historical, numismatic, and gem bibliography.

HAWLEY 2007; appendix 1b below gives the relevant passages in

¹⁴ PLANTZOS 1999, pl. I.3 = RICHTER 1968, 612 = Tassie 9775. Plantzos agrees it was molded from a coin; the following are possible Ptolemaic portraits in glass from his catalogue: nos. 4-5, 11, 25, 29, 32, 37-42, 46-47, possible Seleucids: 73, 83, and other unidentified Hellenistic ruler portraits: 103 and 113. Also, cf. Thorvaldsen I987 which is a republican period glass paste with a portrait of a youthful Hellenistic monarch, perhaps a Ptolemy because of the oversized and dreamy rendering of the eyes.

Cf. BM 1956,0519.1 = WALKER/HIGGS 2001, no. 158 = BURN et alii 1903, n. 3614; BM 1956,0519.2 = WALKER/HIGGS 2001, no. 62 = BURN et alii 1903, n. 3615.



Fig. 3. Detail of inscription on Thorvaldsen 1988.



Fig. 4 - ANS 1967.152.565, octadrachm, Sv. 1247. ANS image policy.

In a Roman context we tend to associate the use of the portrait as a sign of political allegiance to the civil wars or the imperial period when loyalty to an individual general trumped, or was equivalent to, loyalty to the body politick. Vollenweider's work on this is essential, especially her monumental catalogue. 16 She documents three pastes with undisputed portraits of Pompey, one cameo and two intaglios and well over twenty that likely derive from a distinctive portrait type of Caesar (fig. 5).17 Alternative identifications have been proposed, but the association with Caesar is strengthened by the adoption of the same portrait type in the triumviral period by the young Caesar, the future Augustus.18

VOLLENWEIDER 1974; her work was not kindly received by contemporaries, e.g. HIESINGER 1976.

Pompey: VOLLENWEIDER 1974, 71 no. 1 (Cinquantenaire), 4 (Thorvaldesen, FOSSING 1929, 1195), and 9 (Munich, Arndt coll. 1042); Caesar: VOLLENWEIDER 1974, 81 no 2, 7, 8, 9, 10, 12, 82 no 1-12, 83 no 1-3, 84 no 1, 3, 5, 7, 9, 85 no 1-4, 86 no 1 and 7.

Young Caesar, future Augustus: VOLLENWEIDER 1974, 140, no. 1-2, 141, no. 1, 2, and 4, 145, no. 16; pace ZWIERLEIN-DIEHL 2007, 124 who prefers to see the type as a posthumous portrait of M. Porcius Cato (95-46 BCE) and the gesture alluding to his death as an act of devotio capitis. The adoption of the same iconography by the young Caesar makes this a less probable interpretation. Tassie 9934-9935 are of this same type and identified as Antisthenes, but he points out this identification is problematic because of the lack of a beard. He is likely correct that the type is connected with idealized portraits of philosophers cf. Tassie 9937-8, and ZWIERLEIN-DIEHL 1986,



Fig. 5. Image from FURTWÄNGLER 1896, pl. 36. Public Domain.

By the age of Augustus the partisan adoption of public iconography becomes common place, such as Augustus' portrait and the symbol of the Capricorn with a cornucopia (fig. 6).19



Fig. 6. BM 1923,0401.928. 1.4 by 1.1 cm. CC BY-NC-SA 4.0.



Fig. 7. BM 1923,0401.804. 1.5 by 1.7 cm. CC BY-NC-SA 4.0.

By a similar logic, when we have a good number of near identical glass pastes all with the same unidentified head the common instinct has been to connect the type with a familiar name from the post-Caesarean period. The classic example being the so-called heads of Brutus for which we have at least twenty different specimens surviving, one said have a Tunisian provenance (fig.7).20

However, for the vast majority of the many various portraits found on republican glass pastes we have no safe attribution. Would the ancient wearer have associated a specific meaning with the portrait? Would that meaning have been obvious to at least some of those who encountered it as his personal seal? The variety and obscurity make the most sense if we think not of individuals making individual choices, but instead of a small community taking the portrait as a shared symbol, perhaps at the instigation of a particular community leader. In this context we might again take a lesson from the private production of tokens in association with both clubs and individual acts of largess.21

Yet, not all portraits or portrait-like heads lend themselves so easily to a model of loyalty to the leader portrayed or the community which that leader represents. Would someone use the portrait of Mithridates Eupator as



Fig. 8. BM 1923,0401.148. 3.2 by 2.2 cm. CC BY-NC-SA 4.0.

¹⁹ VOLLENWEIDER 1974, 148, no. 3; WALKER/BURNETT 1981, 3, no. 25; S. WALKER/HIGGS 2001, 261, cf. FURTWÄNGLER 1896, no. 5176.

²⁰ See SPIER 1992, discussion of no. 406 with VOLLENWEIDER 1974, 139-44 with pl. 95.1-4 and 96.1-16.

²¹ ROWAN forthcoming.



Fig. 9. plaster impression of BM 1923,0401.148. 3.2. CC BY-NC-SA 4.0.



Fig. 10. Tassie 9757 (= impression of Amethyst, 2.6 by 1.8 cm, Florence, Museo Archeologico Etrusco). Image courtesy of the Beazley Archive.

personal seal ring who was not a partisan of the king (figs. 8 and 9)?²² By extension should we imagine the individual as hostile to the Romans? Possibly, but it is far from certainly!

The glass paste portrait is exceptionally close to the numismatic renderings of the king's image and even closer to an amethyst in a Florence collection (fig. 10).²³ This very fine amethyst could well have been carved by the same engravers employed in Mithridates' mint. Yet any such court engraver was likely to have been kept busy and have been too skilled to have worked in the poor medium of glass. However, a great number of gems from Mithridates' royal collection are said to have travelled to Italy as part of Pompey's preparations for his triumph and Pliny even states that a fashion for such objects was the result.24 A gem created in a court context could have been copied either in Asia Minor during the height of Mithridates' power or after his downfall when it was displayed in Rome as a marker of victory. It is equally possible that both the gem and the glass paste are part of a fashion for Mithridatic type images in the aftermath of Pompey's successes. The Roman republican coin series has a number of obverse gods whose rendering owes something to the portraiture of Mithridates.²⁵ The creator the glass paste may have been copying (and enlarging) the amethyst or a close cousin thereof. Or, both the amethyst and glass paste may imitate the same obverse type.

How we imagine production and consumption of the glass paste matters a great deal for our historical interpretation. Someone in Asia Minor may have chosen to create a mold with Mithridates' official portrait and then sold or distributed the imitation gems to those who felt an affinity between their own identity and that of Rome's great enemy, a commodification, dissemination and adoption of political iconography in a personal context. Or, we can imagine the image of Mithridates carried in Pompey's triumph and his great collections of royal gems put on display, among which surely were portraits of the king. The Pompey's veterans had been with their general for many years and they represented a major group with which to contend in political struggles of the day. Many may have wished to have a personal piece to commemorate their part in the defeat of the great Eastern King and even lower ranking legionaries would still have had in those heady days of return some ready cash to purchase a seal ring as they contemplated their return to civilian life. Intaglios were not only used in business transactions, but were a prominent part of personal daily attire in formal contexts.

2. PARTISANSHIP

My reading of the Mithridates glass paste portrait is

²² WALTERS 1926, no. 1228 = PLANTZOS 1999, no. 86.

PLANTZOS 1999, no. 85 = FURTWÄNGLER 1900, pl. 32.29; cf. CARNEGIE 1908, no. J16 = FURTWÄNGLER 1900, pl. 31.16. Other precious gemstone intaglios with Mithridates VI's portrait have also been 'identified', but these less clearly intersect with numismatic portraits, cf. BM 1890.0601.64, Hermitage ΓP-24820. CALLATAΫ 1997 does not cite any specific gem portraits and only makes passing reference to their existence (p. 33), nevertheless his remains the definitive work on Eupator's numismatic

NH 37.12, cf. Man. Astr. 510-515 and App. Mith. 117.

Genius of the Roman People: RRC 428/3 (55BCE); Sol: 437/1 (51 BCE); Uncertain: 405/5 (58 BCE). MATTINGLY 2004, 280-292, for dating of last; VERMEULE 1970: 206 recognized the stylistic connection between Mithridates Tetradrachms and RRC 405/5. I would just note that with the new dating based on the Mesange Hoard (on which, see HOLLSTEIN 1993a, 380-2 and MATTINGLY 2004, 280-292), this potential regal allusion comes in the midst of a spate of such allusions to foreign kings on the reverses of the series: RRC 415/1, 422/1, 419/2, 426/1, 431/1; heads of defeated enemies are not wholly unknown on republican coinage: RCC 293/1 (c. 113-2 BCE) and 458/2 (48 BCE).



Fig. 11. obverse of ANS 1937.158.247. RRC 448/2a, 48 BCE.

informed by another glass paste type, one even more clearly modeled on a coin. The coin was created in 48 BCE by a partisan of Caesar as part of a series celebrating aspects of Caesar's Gallic victories (fig. 11).

While this head is often identified as Vercingetorix, the majority of scholars consider this a fanciful interpretation.²⁶ The generic male head is more likely meant to symbolize the warlike nature of Gallic people as a whole, an interpretation



Fig. 12. BM 1814,0704.2515, 1.2 by 1 cm. CC BY-NC-SA 4.0.

seemingly confirmed by another coin by the same moneyer made in the same year which has a female version to pair with this male type (RRC 448/3). In a preliminary search I've identified a total of six pastes of this type: three nearly identical specimens of this type, on in the BM and two in the Thorvaldsen collection, as well as three more in Berlin which show only slightly more stylistic variation (fig. 12).²⁷

It seems reasonable to assume that making, acquiring, wearing and using a glass paste closely copying a coin associated with Caesar might all be statements of support of Caesar, perhaps even a feeling of affinity with his victories in Gaul, the type of sentiment that might have been held by one of his veterans. 28 Veterans made up a significant portion of the political backing of former generals throughout the history of the republic and especially from Sulla onwards.²⁹ There is a very good chance these pastes were made from molds created from coin impressions. Interestingly in the manufacture the creator of the mold has 'cleaned up' the impression: widening the Gallic shield behind the head, beyond the narrow rendering found on the coins and in the case of the BM glass paste adding to the wild hair a forelock as if the head was representing a Hellenistic style royal portrait! The forelock is not a feature of any coin specimen I've yet to examine. On the coins the hair is clearly intended to call to mind the wild spike-y styles Romans associated with Gallic warriors.30 This type of "cleaning up" or "improving" the impression made from a coin is known from the evidence of hubbing found in Dacian imitations of Roman coinage.31

Personifications of Africa wearing the elephant scalp headdress are also regularly found on glass pastes, as well as on many precious gem stones (fig. 13).32 The date of these objects is open to great debate. From Pompey the Great in the mid first century BCE (fig. 14) to Commodus at the end of the second century CE, Africa is consistently rendered with an elephant scalp, and from the 40s BCE she almost invariably has grain as her primary attribute (fig. 15). Occasionally, the Romans associated Africa with lions and foreign cults, but the elephant scalp representation was by far the most dominant and is found in a wide range of other visual media.33 The elephant scalp derives from Ptolemy

- Thorvaldsen I620 and I621, and FURTWÄNGLER 1896, no. 5015-17 (5015 and 5017 are illustrated on his pl. 36). I am grateful to Kristine Bøggild Johannsen, curator at the Thorvaldsen Museum for guidance towards a second relevant specimen and for supplying me with working images of both; an image of I621 is published in FOSSING 1929, no. 477.
- This type of interpretation may also be appropriate for other Roman glass pastes seemly honoring Hellenistic kings, cf. Thorvaldsen 1987 (discussed above, n. 15)
- KEPPIE 1983 and 1984 with HOLLANDER 2005 and ERDKAMP 2007.
- 30 Cf. KRAUS 2005.
- STANNARD 2011 is the most complete discussion; he concludes that positive evidence for hubbing comes from situations where manufacturers lacked resources/ability to engrave, and notes that doctoring of initial impressions occurs (76). Also see LOCKYEAR 2008, cf. Gorny & Mosch 141 (10 Oct 2005), 225 and the Tilisca die discussed by CRAWFORD 1974, 562.
- 32 BM specimens include: 1814,0704.2438; 1814,0704.2493; 1814,0704.2525; 1814,0704.2513; 1923,0401.679. Here too we have cataloguing issues: the type is often mistakenly listed as "actor with a mask on top of his head". Glass pastes in other collections: FURTWÄNGLER 1896, no. 4883-492, and 6533; Thorvaldsen I642; WINCKELMANN 1760, 36 no. II,21. Similar precious gemstone intaglios include: WINCKELMANN 1760, 36 no. II,22; Thorvaldsen I641, I643; BnF Chandon.235 (= VOLLENWEIDER 1995, 98-99), de Clercq.2963 (= DE RIDDER et alii 1911, 631); CARNEGIE 1908, D17. Compare also impressions of intaglios made by Tassie 2764, 2765, 9818, 15475, but especially 8035-8051, of which 8040 and 8049-51 are said to be from 'ancient pastes'. These lists are intended to be exemplary, not definitive. PLANTZOS 1999, pl. 86, no. 11 and 19 illustrates two seal impressions that seem to show Hellenistic rulers wearing the elephant scalp.
- MARITZ 2001, cf. RRC 461/1. Other numismatic uses of the elephant scalp for the personification of Africa by Romans include: RRC 491/1, 509/4, RIC I2 Clodius Macer 1-6, RIC II Trajan 802 ('restoration of RRC 461/1'),

²⁶ E.g. ZAHRNT 2007, 200 n. 16. The identification goes back to TOYNBEE 1934, 81 and re asserted in 1978, 102.



Fig. 13. BM 1814,0704.2515, 1.2 by 1 cm. CC BY-NC-SA 4.0.





Fig. 14. BM 1867,0101.584. RRC 402/1b, possibly 71/70 BCE. CC BY-NC-SA 4.0.



Fig. 15. obverse of ANS 1944.100.3309. RRC 461/1, 47-6 BCE.



Fig. 16. obverse of BM 2002,0101.1413. Tetradrachm of Ptolemy I Soter. CC BY-NC-SA 4.0.

I's numismatic portraits of Alexander (fig. 16) and never completely lost its association with Hellenistic kingship.34

The glass pastes share features with both Roman and Ptolemaic renderings, but also freely diverge from the prototypes as well. There is great variation, especially in the rendering of the trunk to the shape of the elephant ear to the hair emerging from under the headdress. Other details, such as the jaw line and the knot under the chin, have at times stronger echoes of the Alexander prototype in some of the glass pastes, far stronger than most renderings on Roman coinage. The coinage finds its own ways to evoke parallels with Alexander, such as Pompey's juxtaposition of a personification of Africa with her elephant head dress

Hadrian struck some 60 types with personifications of Africa, e.g. RIC II Hadrian 298c, 298g-j, 299b-g, these types were then imitated by emperors down through 311 CE. The most thorough review of the evidence is KOPIJ 2016, my own conclusions differ from his own largely because he does not allow for a close association of Egypt (esp. Ptolemaic Egypt) and Africa in his iconographic reading.

34 MEYBOOM 1995: 67 n. 148; cf. also BM 1866,0804.1 a jasper intaglio with a Hellenistic royal portrait wearing an elephant scalp.



Fig. 17. Tassie 10537 (= impression of Cornelian, Florence, Museo Archeologico Etrusco). Image courtesy of the Beazley Archive and drawing from GORI 1732, pl. 19.1. Public Domain.

and his cognomen Magnus, of 'the Great'.35 After Pompey, personifications of Africa shift from being an announcement of conquest into more amorphous associations with the rich economic resources of the province and its use as a base of operations in the Roman civil wars.³⁶

At least some of these glass pastes with personifications of Africa are likely to be statements of political allegiance to a Roman leader at the end of the republic, which particular general must remain open to speculation. However, there is one known precious gem intaglio which is identical in composition, if not execution, to the coins of Q. Metellus Scipio struck in Africa in 47-46 BCE (fig. 15).37 And, three of the surviving glass paste specimens were produced from the same prototype, if not from the very same mold.³⁸

We also have a strong suggestion that images of provinces could appeal to soldiers and ex-soldiers from a Florentine gem (fig. 17). This gem combines familiar iconography and legends in an unprecedented manner. The commissioner is clearly a member of the eleventh legion, known as Claudia Pia Fidelis. Standards are common enough of both gems and glass pastes, but fasces are much rarer. It may be that the owner of this gem was a lictor for the commander of this legion. He is unlikely to have been a quaestor, as these had no fasces or lictors. The wolf and twins with a tree is an exceptionally common motif with or without military standards. The thunderbolt of Zeus and the scorpion, a symbol of Mars and common apotropaic device, regularly appear on intaglios with martial themes. The three heads and the trophy with a rabbit closely intersect with numismatic iconography. The bearded male with crab claws

as horns is Oceanus.³⁹ The turreted female head might be the personification of almost any city, but perhaps slightly more likely to be that of a North African city because of the ringlets down the neck.⁴⁰ The rabbit is a symbol of Hispania from at least Hadrian onwards, although I know of no instance of its combination with a trophy.41 While the eleventh legion has a fairly well documented history, there is no testimony placing it in Spain at any time. The early movements of the legion are well known: formed by Julius Caesar for service in Gaul, after the civil wars it spent nearly 100 years in the Balkans before being sent to Germania, then Pannonia, then Moesia Inferior. At various times in the later second and third centuries there is evidence of the legion sending out subunits to other places: Judaea, Cilicia, perhaps Parthia, and certainly Jordan. However, it is only in 295CE that we first have testimony of the Eleventh in North Africa, first Egypt then three years later in Mauritania. We might situate this gem within this period, but we must leave open the possibility that our knowledge of the legion's deployments is incomplete.⁴² In its complex and unique assortment of iconography the gem clearly demonstrates that soldiers and ex-soldiers came to associate with their campaigns and deployments and may well have chosen such iconography for their personal seal ring. Those who could not commission something so complex or so personal would still have been able to purchase a similarly evocative glass paste as much lower cost. One means of confirming the affinity would be through mapping the few glass pastes and gems that have known find spots and looking for patterns of types in

On Pompey's imitation of Alexander and Roman imitation more generally: MICHEL 1967; RUBINCAM 2005; DAHMEN 2007; FRANK 2008; and

KOPIJ 2016 rightly emphasizes that 'After Pompey' can only be loosely defined as RRC 402/1 cannot yet to firmly dated; any date from 76-48 remains

Tassie 8044 (Cornelian then in the Duke of Gordon's collection, location now unknown), cf. RRC 461/1., on which, WOYTEK 2003: 234-244 On the historical context, LINDERSKI 1996 and SYME 1989, 244-254.

^{1814,0704.2493} and 2525 and Thorvaldsen I642.

cf. RIC 2 Hadrian 75a-c and Zeugma mosaics.

Compare RRC 419/2 (Alexandria) and RIC 12 Clodius Macer 22-29 (Carthage); contrast the various anonymous turreted Tyches on the relief from Livia Regilla's tomb (Louvre inv. no. Ma 590). Representations of Cybele, another commonly turreted goddess, tend to also represent her veiled, hence she is less likely to be represented in this particular instance.

⁴¹ Cf. RIC 2 Hadrian 70a and c; 305a, c, d, g, h, et cetera.

⁴² RASPE 1791: no. 10537 follows GORI 1732, pl. 19.1 in seeing this gem to be about colonization in Egypt by the Eleventh. However, this is based on the false identifications of Oceanus and Nilus and the fasces as ears of wheat. On the known movements of the legion, see FELLMANN 2000.





Fig. 18. BM R.8856. RRC 447/1a, 49/48 BCE. CC BY-NC-SA 4.0.

proximity to colonies and military barracks.

The close connection between glass pastes and coinage, especially the Roman Republican coin series further helps us understand the potential motivations behind the selection of glass paste designs. Coins offered readily available templates for mid- and low-level engravers producing glass pastes for clients unable to afford precious gems. In some cases the parallel is so precise and specific that

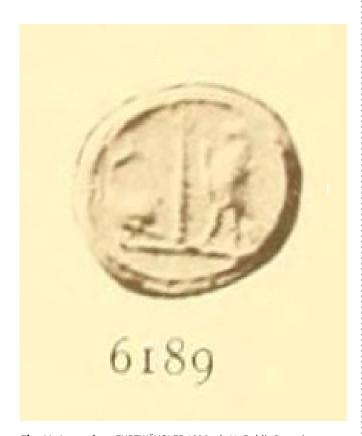


Fig. 19. Image from FURTWÄNGLER 1896, pl. 41. Public Domain.

it is inconceivable the designs do not have a common shared inspiration and intention. For instance, a Berlin paste has a nearly identical design as the reverse of a denarius minted in the name of Pompey during the Civil War by his pro quaestor Varro (fig. 18).43 The same design is found on a glass paste now in Berlin (fig. 19).44 The symbolism is an allusion to Pompey's dominion over land and sea. The glass paste seems likely to have been produced for Pompeian soldiers, perhaps even those raised by Varro in Spain (Caes. BC 2.17-21), and to invite those men to use symbols of their commander(s) as a marker of their own identity.

3. PATRIOTISM

Does this glass paste phenomenon predate the end of the republic when partisanship was at its height? Is there evidence for the selection of numismatic images for personal identification outside the power imbalance of soldier and general? The answer seems to be without question, yes. In most cases the 'reason' for the shared type between glass paste and coin cannot be deduced, but the prominence of the phenomenon is readily demonstrated.⁴⁵ The choice of images also used on the coinage lent to the glass pastes ready authority and legitimacy, saying in effect, 'this is the sort of symbol respected amongst us Romans'. Perhaps the best 'proof' of a dialogue between glass pastes and the coinage are the specimens which closely imitate die engraving styles of the obverse head of Roma from different periods of the Roman mint (fig. 20).46

These styles cover the time from her earliest appearances on the silver coinage in the late third century

- WOYTEK 2003: 113-119, 531-535.
- FURTWÄNGLER 1896, no. 6189; Cf. Tassie 2682, a near identical jasper intaglio; and a similar glass paste BM 1814,0704.2253 = Tassie 1042.
- See Appendix 2.
- Cf. also FURTWÄNGLER 1896, no. 4876 and 4877 (not illustrated); the connection to the numismatic representation is noted by Furtwängler in his catalogue. BM 1814,0704.2009 is an exceptionally close match to no. 4876.







Fig. 20. A: BM 1923,0401.760; B: impression of BM 1814,0704.2488; C: BM 1814,0704.2009. All CC BY-NC-SA 4.0.

to when Roma stops being the standard obverse type in the early first century.⁴⁷ Notice how one paste (fig. 20B) even imitates the dot border which is so often used on the coinage and how the hair patterns down to the number of tendrils are closely imitated. Moreover, the diameter of these glass pastes is about 1.2 centimeters just what one would expect if the molds were created from the head of Roma on a coin and then trimmed to just hold the head not the whole original diameter of the coin. All these glass pastes represent Roma facing left, just as we would expect if the creator formed the mold in the first place from a coin impression. As suggested above, these hypotheses could be confirmed in future by the documentation of die linkages between the glass pastes and the coinage.48

It is no particular surprise that the wolf and twins is a very common glass paste image, likely with similar patriotic resonances for the owners.⁴⁹ To my mind, the wolf and twins iconography is usually best read as an expression of the special divine favor and divine protection the Romans were fortunate enough to experience.50 Representations of just the wolf and twins and no other contextualizing elements are common, but far from standard. 51 The glass pastes show a strong preference for versions of the wolf and twins tableaux that emphasize the pastoral elements of the myth (fig. 21B).⁵² Pastoral scenes are exceptionally popular in their own right on Roman glass intaglios (fig. 21A).53 At first glance, it can be hard to separate pastoral scenes from those which include a foundation narrative as part of their symbolism. The shepherds are indistinguishable and the wolf and twins usually occupy the same compositional space as the goats or dog. The close connection between the non-specific pastoral and the foundation imagery is made explicit when they are combined in the same scene (fig. 21C).54

Of these compositional substitutions perhaps the most telling is the suckling scene observed by a shepherd. It is present both in the pastoral with the kid suckled by a nanny-goat (fig. 22) and then again in the mythological with the human infants by suckled by the wolf, Mars' totem animal (fig. 21B-C). Pastoral themes were, of course, popular amongst the Roman elite as a part of their idealized narrative of their own past, its austere mos maiorum, and the habitual lamenting of modern decline in luxury. However, the glass pastes let us see that non-elites found these themes and narratives equality accessible.

Perhaps most importantly, the glass pastes also suggest that the Roman foundation narrative was most attractive to this audience when its primary hero is the 'common man'—the shepherd who is chosen to witness the divine prodigy and thus himself becomes an agent of the divine will, fostering the growth of the gods' chosen. From our literary sources we are usually confident we know this shepherd and his name, Faustulus.⁵⁵ And, we can also be confident this is his name on his earliest numismatic representation; the figure is labeled FOSTLVS (fig. 23).⁵⁶

This includes parallels for Roma as represented on RRC 292/1a&b such as BM 1923,0401.408, cf. also FURTWÄNGLER 1896, no. 1832, 4785-90. Crawford cites by way of comparison for this type notes: "A. Furtwangler, Antike Gemmen, pl. 25, 34, which reads AVE ROMA".

WEISS 2005 has linked glass cameos produced by the same mold and different molds all derived from the same prototype.

The standard treatment on the iconography of the wolf and twins is DARDENAY 2012, 77-123 along with her typology catalogue: pp. 245-308; on intaglios specifically DARDENAY 2008.

⁵⁰ My reading is influence here by other glass paste types not discussed at length here, including an eagle in flight above the wolf and twins some times bearing a palm branch or other symbolic device (Thorvaldsen 1939; BM 1814,0704.2512), and scenes were the same tableaux is the subject of Roma's contemplation (cf. FURTWÄNGLER 1896, no. 9561).

Examples of pastes with wolf and twins alone: BM 1814,0704,2514; FURTWÄNGLER 1896, no. 4375-4377; Thorvaldsen 1937-8. This is also true of the Roman state coinage, where the tableaux of the wolf and twins as a piece of isolated iconography with no other details depicted only appears just twice in the republican period both prior to the introduction of the denarius (RRC 20/1; RRC 39/3) and then not again until RIC II.1² Vespasian 960, 961.

Examples of pastes with wolf and twins in pastoral setting and no shepherd: BM 1814,0704.1916; 1814,0704.2398. Examples of pastes with wolf and twins in pastoral setting and only one shepherd: BM 1814,0704.2501; 1814,0704.2504; 1814,0704.2506; 1814,0704.2507 (head in left field); 1814,0704.2508 (bird on vine); 1814,0704.2509; Tassie 10506 and 10508.

⁵³ Examples of pastes with pastoral scenes:1814,0704.2468; 1814,0704.2491; 1814,0704.2492; 1814,0704.2495 and 2496; 1814,0704.2500; 1814,0704.2505; 1814,0704.2510; 1923,0401.854 (shepherd and sheep/goat(s)); 1814,0704.2473; 1814,0704.2505 (shepherd and dog); and Thorvaldsen I941-4 (non vide).

BM 1814,0704,2503.

WISEMAN 1995, 3-5.

I thank Katherine McDonald for the suggestion that FOSTLVS may itself



Fig. 21. A: BM 1814,0704.2491; B: BM 1814,0704.2509; C: BM 1814,0704.2503. All CC BY-NC-SA 4.0.



Fig. 22. BM 1814,0704.2534. CC BY-NC-SA 4.0.

This is one of the earliest, and even possibly the very first, reverse type of the series to break with the standard denarius reverse types of the Dioscuri or Biga designs.⁵⁷ The moneyer has chosen a pastoral setting for his wolf and twins—an unprecedented numismatic design innovation, but, of course, for intaglios the more common representation. However, the moneyer also feels the need to label the shepherd, another non-standard practice for the Roman mint at this time. In fact, this is arguably the very first descriptive legend on any denarii. The moneyer also renders the tree and the birds in the tree in a significantly different manner than is popular on the glass pastes (cf. figs. 21-22).

be a non-elite spelling of the name.



Fig. 23. BM R.7560; RRC 235/1c. CC BY-NC-SA 4.0.

Even Faustulus' hat and his longer staff and body position are all clear departures for the more common intaglio motifs.

Other glass pastes help us see the non-singularity of Faustulus. For many consumers of glass pastes it was not a story of a single lucky shepherd, but instead an event that happens to a community of individuals, individuals who are marked out by their humble bucolic life style (fig. 24).58 Two popular ways glass pastes incorporate more than one witness to the miraculous suckling of Romulus and Remus

Dating is circumstantial, but both Crawford in RRC and MATTINGLY 2004, table 4 agree 137 BCE most likely. Crawford would have RRC 234/1 (oath swearing scene) in the same year and Mattingly would have it the next, giving first place to RRC 235/1.

Two shepherds: BM 1814,0704.2393; FURTWÄNGLER 1896, no. 3121; Three shepherds: BM 1814,0704.2529 = Tassie 10520; Thorvaldsen I945; FURTWÄNGLER 1896, nos. 435-438. Compositions with multiple shepherds are, of course, also known in other media: DARDANEY 2012, figs. 23, 31, 34, 45-47, 49 with corresponding discussion and analysis.



Fig. 24. A: BM 1814,0704.2529; B: BM 1814,0704.2393. Both CC BY-NC-SA 4.0.



Fig. 25. A: 1814,0704.2375, CC BY-NC-SA 4.0; B-C: FURTWÄNGLER 1896, pl. 8, nos. 408 and 410, Public Domain.

are illustrated. The important part is the community to whom this auspicious omen is given, not particularly the wolf and twins themselves. In fact, more often than not it is this 'key' element that is most haphazardly rendered on the pastes.

These last composition types, especially fig. 24A, echo another compositional grouping associated with the divine prodigies foretelling Rome's future dominion, namely the story of the caput Oli ('head of Olus [or Aulus]').59 Livy knows the story but chooses to gloss over its fuller elaborations, as are preserved for us in other sources. ⁶⁰ He

The historiographical tradition is complex and disputed, see FRH 1.F30 with commentary by Bispham and Cornell for overview including some discussion of the gems and review of earlier scholarship including the idea that Olus may be equated with Aulus Vibenna of Vulci.

⁶⁰ DH 4.59.2 and 61.2; Florus 1.7.9; Zonaras 7.11; vir. ill. 8.4; Isid. orig. 15.2.31; Plin. NH 28.15; Varro LL 5.41; Serv. Aen. 8.345.



Fig. 26. BM 1843,0116.557, RRC 399/1b. CC BY-NC-SA 4.0.

writes, "A human head, its features intact, was found, so it is said, by the men who were digging for the foundations of the temple. This appearance plainly foreshadowed that here was to be the citadel of the empire and the head of the world" (1.55). In other versions it is emphasized that this is the folk-etymology for the naming of the hill the Capitoline or the role of an Etruscan haruspex in divining its meaning and attempting to trick the Romans out of their sovereignty. Notice the similarities between the shepherd on the pastoral or and foundation narrative intaglios and the older more prominent man in this three-person visual composition (fig. 25). Like with Faustulus, in some of our literary texts we're given the names of the main actors in the discovery of the caput Oli and the following interpretation of the prodigy, but on the gems, especially the glass pastes the community is emphasized not the individual, as is often the humble nature of the recipients of this mark of divine favor and its promise of dominion.

The discovery of a head motif also exists with a single finder in a variety of clothing types, likewise the object found by an individual or group is sometimes a single baby. 61 All these scenes also work on another semiotic level echoing the function of the signet ring. The impress of the signet ring guarantees the trustworthiness of the user. It bears witness to an event that might otherwise be questioned. Just as the shepherds do in their observation and reporting of the prodigy in the design. Roman seal rings often play on themes of loyalty and recognition in their designs. 62

4. COMMERCE

The reasons for the marine types the coinage of Q.

Crepereius Rocus (RRC 399/1a & b) have been the matter of intense speculation in the twentieth century. We do not even know for certain the intended identity of the woman— Ino, Leucothoë, Galatea, Galene, and Amphitrite have all been proposed. Suggestions have included Rome's conflict with Sertorius or the pirates, and the mythical foundation of the gens from a union of Neptune and some nymph or



Fig. 27. BM 1923,0401.141. CC BY-NC-SA 4.0.

See FURTWÄNGLER 1896, pl. 8 for many variations on both precious stones and glass pastes. A persuasive paper by Nancy T. de Grummond, Florida State University, 'Ritual and Etruscan Myth: Tages, Urphe, and Caput Oli' was read at the AIA 2018 in Boston; she demonstrated a connection with Etruscan mirror compositions showing a prophetic head.

⁶² MORENO 2008; YARROW 2015.

mortal woman. 63 The most enduring theory has been that Hellenistic depictions of sea gods are appropriate for the Crepereii because other members of the same gens are known to have been active in the trade on both Delos and Athens in the late republic.⁶⁴ The later point was loosely tied to the existence of known precious gems by Crawford, and there are many. 65 What I find more historically significant than the connection between the precious gems and the coins alone is that this design is found in remarkable abundance in glass. I can document some thirteen surviving glass pastes of this type. 66 Two of which, both in the British Museum are even made from the same mold.⁶⁷ Such mold-made glass pastes would not have been desirable objects for the most successful Roman negotiatores in the Greek East, such as we know some members of the gens Crepereii to have been. We even find other Crepereii as negotiatores in Gallia Narbonensis in the 1st century BCE.68 So who was using these imitation gems? Perhaps the clients or agents of the Crepereii? Or just any sailor seeking a little extra divine protection at sea? Is it a recognizable family symbol or just common representation of a popular patron deity? Regardless the coin type now seems less the artistic fancy of a young equestrian hoping to join the cursus honorum and more an explicit attempt to associate the moneyer with a well-known, popular piece of iconography.

Skeptical historians have too often answered in the negative: "Was anyone looking at the coin types? And if so, did that audience care about what they saw there?"69 I take the popularity of glass paste designs which are closely connected to the coinage as an expression of the personal meaning which individuals were willing to imbue the iconography they found on their coins. The diversity of types derived from coins have only been touched on in this art – appendix two is intended to show something of the breadth. The adoption of such an emblem as a personal seal by an individual below the elite level--our largely silent middle classes, as it were--is a clear expression of allegiance, often state allegiance, a patriotic expression of "Romanness", as a defining characteristic of self. I do not think it is a stretch to say based on the evidence of the glass pastes that in the republic non-elite romans held dear narratives that confirmed their communal reception of divine protection and their predestination to rule an empire, as a collective. These 'fake gems' thus give us a window into the concepts of the collective sovereignty that were held by members of the non-elite citizen body, the *populus Romanus*, concepts that have been remarkably hard to confirm from other forms of historical evidence. There is still much work to be done especially on types no directly connected to the coinage, types that seem to embody a particular Roman

sense of humor and folk wisdom. Comparisons with lamps and other decorative media is also necessary, along with a more rigorous investigation of here glass pastes diverge from the iconographic taste of precious gem stones.

APPENDIX 1: PLINY ON GLASS PASTES AND SIGNET RINGS

The following translations are from Harris Rackham's Loeb edition of the Natural Histories and are now in the public domain. They are included here for the easy reference of the reader. The Latin text is available online: http://latin. packhum.org/.

A: ON GLASS PASTES

36.67 ... There is, furthermore, opaque white glass and others that reproduce the appearance of fluorspar, blue sapphires or lapis lazuli, and, indeed, glass exists in any colour....However, the most highly valued glass is colourless and transparent, as closely as possible resembling rockcrystal. ...the making of the glass pebbles that are sometimes nicknamed 'eyeballs'.

37.10 Glass-ware has now come to resemble rockcrystal in a remarkable manner, but the effect has been to flout the laws of Nature and actually to increase the value of the former without diminishing that of the latter.

37.22 There is no stone which is harder to distinguish from the original when it is counterfeited, in glass by a cunning craftsman. The only test is by sunlight. When a false opal is held steadily between the thumb and finger against the rays of the sun there shines through the stone one unchanging colour which is spent at its source, whereas the radiance of the genuine stone continually changes and at different times scatters its colours more intensely from different parts of the stone, shedding a bright light on the fingers where it is held.

37.26 'Carbunculi' are counterfeited very realistically in glass, but, as with other gems, the false ones can be detected on a grindstone, for their substance is softer and brittle. Artificial stones containing cores are detected by using grindstones and scales, stones made of glass paste being less heavy. On occasion, moreover, they contain small globules which shine like silver.

37.33 No gemstone is more easily counterfeited by means of imitations in glass. [i.e. callainae]

37.37 They too can be counterfeited in glass, and the deception becomes obvious when the brightness of a stone is scattered abroad instead of being concentrated within. [i.e. iaspis] The remaining varieties are called 'sphragides,' or 'signets,' the common Greek name for a gemstone being thus bestowed on these alone because they are excellent for sealing documents. However, all the peoples of the East are said to wear them as amulets.

37.44 There occur also 'leucochrysi,' or 'golden-white' stones, which are traversed by a bright white vein; and there is also the 'capnias,' or 'smoky stone' belonging to this class. There are, moreover, stones closely resembling those made of glass-paste, their colour being a kind of bright saffronyellow. They can be so convincingly counterfeited in glass that the difference cannot be observed, although it may be detected by touch, since the glass-paste feels warmer.

HOLLSTEIN 1993b, 163 for review of earlier theories and scholarship.

⁶⁴ JAMESON/LEVICK 1964, endorsed by Crawford in RRC, rejected by Hollstein.

BnF inv.58.1698; GORI 1731, pl. 83, 11 and pl. 85, 1-4; Marlborough 415; CARNEGIE 1908, no. E27; Thorvalsen I630; FURTWÄNGLER 1900, pl. 35.8-9, 13, 15, 17-18; cf. impressions collected by Christian Dehn, 1745-65 (BnF

FURTWÄNGLER 1896, no. 4792-4, 6271-3; BM 1814,0704.1919, 1814,0704.2366, 1814,0704.2356, 1923,0401.141, 1923,0401.142, 1923,0401.143, Met 17.194.28.

^{67 1923,0401.141} and 1923,0401.142.

⁶⁸ JAMESON/LEVICK 1964 with BALDWIN 1978.

⁶⁹ ROWAN 2012, 23 with references to earlier scholarship.

B: ON SIGNET RINGS

33.4 Indeed I do not find that any rings were worn in the Trojan period; at all events Homer nowhere mentions them, although he shows that tablets used to be sent to and fro in place of letters, and that clothes and gold and silver vessels were stored away in chests and were tied up with signet-knots, not sealed with signet-rings. Also he records the chiefs as casting lots about meeting a challenge from the enemy without using signet-rings; and he also says that the god of handicraft in the original period frequently made brooches and other articles of feminine finery like earrings—without mentioning finger-rings. And whoever first introduced them did so with hesitation, and put them on the left hand, which is generally hidden by the clothes, whereas it would have been shown off on the right hand if it had been an assured distinction. And if this might possibly have been thought to involve some interference with the use of the right hand, there is the proof of more modern custom; it would have also been more inconvenient to wear it on the left hand, which holds the shield. Indeed, it is also stated, by Homer again, that men wore gold plaited in their hair and consequently I cannot say whether the use of gold originated from women.

33.6 It does not appear that rings were in more common use before the time of Gnaeus Flavius son of Annius. It was he who first published the dates for legal proceedings, which it had been customary for the general public to ascertain by daily enquiry from a few of the leading citizens; and this won him such great popularity with the common people—he was also the son of a liberated slave and himself a clerk to Appius Caecus, at whose request he had by dint of natural shrewdness through continual observation picked out those days and published them—that he was appointed a curule aedile as a colleague of Quintus Anicius of Palestrina, who a few years previously had been an enemy at war with Rome, while Gaius Poetilius and Domitius, whose fathers had been consuls, were passed over. Flavius had the additional advantage of being tribune of the plebs at the same time. This caused such an outburst of blazing indignation that we find in the oldest annals 'rings were laid aside.' The common belief that the Order of Knighthood also did the same on this occasion is erroneous, inasmuch as the following words were also added: 'but also harness-bosses were put aside as well'; and it is because of this clause that the name of the Knights has been added; and the entry in the annals is that the rings were laid aside by the nobility, not by the entire Senate. This occurrence took place in the consulship of Publius Sempronius [305 BC] and Lucius Sulpicius. Flavius made a vow to erect a temple to Concord if he succeeded in effecting a reconciliation between the privileged orders and the people; and as money was not allotted for this purpose from public funds, he drew on the fine-money collected from persons convicted of practising usury to erect a small shrine made of bronze on the Graecostasis which at that date stood above the Assembly-place, and put on it an inscription engraved on a bronze tablet that the shrine had been constructed 204 years after the consecration of the Capitoline temple. This event took place in the 449th year from the foundation of the city, and [305 B.C.] is the earliest evidence to be found of the use of rings. There is however a second piece of evidence for their being commonly worn at the time of the Second Punic War, as had this not been the ease it would not have been possible for the three peeks of rings as recorded to have been sent by Hannibal to Carthage.

Also it was from a ring put up for sale by auction that the quarrel between Caepio and Drusus began which was the primary cause of the war with the allies and the disasters that sprang from it. Not even at that period did all members of the senate possess gold rings, seeing that in the memory of our grandfathers many men who had even held the office of praetor wore an iron ring to the end of their livesfor instance, as recorded by Fenestella, Calpurnius and Manilius, the latter having been lieutenant-general under Gaius Marius in the war [112-106 BC] with Jugurtha, and, according to many authorities, the Lucius Fufidius to whom Scaurus dedicated his Autobiography—while another piece of evidence is that in the family of the Quintii it was not even customary for the women to have a gold ring, and that the greater part of the races of mankind, and even of the people who live under our empire and at the present day, possess no gold rings at all. The East and Egypt do not seal documents even now, but are content with a written signature.

This fashion like everything else luxury has diversified in numerous ways, by adding to rings gems of exquisite brilliance, and by loading the fingers with a wealthy revenue (as we shall mention in our book on gems) and then by engraving on them a variety of devices, so that in one case the craftsmanship and in another the material constitutes the value. Then again with other gems luxury has deemed it sacrilege for them to undergo violation, and has caused them to be worn whole, to prevent anybody's imagining that people's finger-rings were intended for sealing documents! Some gems indeed luxury has left showing in the gold even of the side of the ring that is hidden by the finger, and has cheapened the gold with collars of little pebbles.

But on the contrary many people do not allow any gems in a signet-ring, and seal with the gold itself; this was a fashion invented when Claudius Caesar was emperor. [AD.

Moreover even slaves nowadays encircle the iron of their rings with gold (other articles all over them they decorate with pure gold), an extravagance the origin of which is shown by its actual name to have been instituted in Samothrace.

... Some people put all their rings on their little finger only, while others wear only one ring even on that finger, and use it to seal up their signet ring, which is kept stored away as a rarity not deserving the insult of common use, and is brought out from its cabinet as from a sanctuary; thus even wearing a single ring on the little finger may advertise the possession of a costlier piece of apparatus put away in store.

... Still the employment of a signet-ring must have begun to be much more frequent with the introduction of usury. This is proved by the custom of the lower classes, among whom even at the present day a ring is whipped out when a contract is being made; the habit comes down from the time when there was as yet no speedier method of guaranteeing a bargain, so we can safely assert that with us money began first and signet-rings came in afterwards. About money we shall speak rather later.

37.1 Here Nature's grandeur is gathered together within the narrowest limits; and in no domain of hers evokes more wonder in the minds of many who set such store by the variety, the colours, the texture and the elegance of gems that they think it a crime to tamper with certain kinds by engraving them as signets, although this is the prime reason for their use; while some they consider to be beyond price and to deft evaluation in terms of human wealth.

37.4 ... an edict of Alexander the Great forbidding his likeness to be engraved on this stone by anyone except Pyrgoteles, who was undoubtedly the most brilliant artist in this field. Next to him in fame have been Apollonides, Cronius and the man who made the excellent likeness of Augustus of Revered Memory which his successors have used as their seal, namely Dioscurides.

Sulla as dictator always used a signet representing the surrender of Jugurtha. We learn from our authorities also that the native of Intercatia, whose father had been slain by Scipio Aemilianus after challenging him to single combat, used a signet representing this fight. Hence the familiar witticism made by Stilo Praeconinus, who remarked, 'What would he have done if Scipio had been killed by his father?'

Augustus of Revered Memory at the beginning of his career used a signet engraved with a sphinx, having found among his mother's rings two such signets which were so alike as to be indistinguishable. During the Civil Wars, one of these was used by his personal advisers, whenever he himself was absent, for signing any letters and proclamations which the circumstances required to be despatched in his name. The recipients used to make a neat joke saying 'the Sphinx brings its problems.'

Of course, the frog signet belonging to Maecenas was also greatly feared because of the contributions of money that it demanded.

In later years Augustus, wishing to avoid insulting comments about the sphinx, signed his documents with a likeness of Alexander the Great.

37.23 [Zenothemis] states that in our part of the world, however, the sardonyx was popular from the beginning because it was almost the only gemstone which, when engraved as a signet, did not carry away the sealing wax with it.

37.25 [Achelaus] mentions also that [Carthaginian stones] appear purple indoors in shadow, and flame-red in the open air; that they sparkle when they are held against the sun, and that, when they are used as signets, they melt the wax, even in a very dark place.

37.30 All these varieties, however, obstinately resist engraving and, when used as signets, retain a portion of the wax. [i.e. varieties of Carthaginian stone]

37.36 Malachite is an opaque stone of a rather deep green shade and owes its name to its colour, which is that of the mallow. It is warmly recommended because it makes an accurate impression as a signet, protects children, and has a natural property that is a prophylactic against danger.

APPENDIX 2: FURTHER GLASS PASTE AND COIN PARALLELS

In order to document the extent of the phenomenon I've compiled this preliminary table of parallels. The below table demonstrates some of the remarkable parallels the author has observed, but is by no means exhaustive. Many subjects common to Roman republican coinage are also prevalent on glass pastes: deities in bigas or quadrigas, busts and heads of gods and goddesses, mythological scenes, and political symbols. To also excludes types discussed in the body of this article.

Crawford	shared elements	glass paste examples	key points of divergence
239/1 (Roma/Dioscuri riding apart, horses rearing) 71	Reverse design, near exact	BM 1814,0704.2563	Glass paste is slightly wider than it is tall
28/1-2, 29/1-2 (Janiform head/Oath-swearing scene) and 234/1 (Mars/Oath-swearing scene)	Reverse design	FURTWÄNGLER 1896, no. 1135-1136. ⁷²	First near exact with 28 & 29, other only same general composition
242/1 and 243/1 (Roma/Minucii Monument)	Reverse design	Thorvaldsen I1103 ⁷³	Uncertain if glass paste has column
287/1 (Roma/Roma seated on pile of arms observing wolf and twins, two birds in field) 74	Reverse design, near perfect match	FURTWÄNGLER 1896, no. 9561, cf. also 4400.	None
295/1 (Roma/charging mounted warrior with shield and spear)	Reverse design, very close	Thorvaldsen I1108 cf. I1110 ⁷⁵	Rendering of warrior helmet varies

 $^{^{70} \}quad \text{Further examples of glass pastes reminiscent of coin designs: BM 1814,0704.2768, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, bust of Victory; BM 1814,0704.2562, head of Dionysus; BM 1814,0704.2023, head of D$ Sol in a quadriga; BM 1814,0704.2785, goddess with helmet in a biga; BM 1814,0704.1867, curule chair with wreath; BM 1814,0704.2772, Europa and the bull.

This means of representing the Dioscuri is known in Etruscan art, cf. MET 25.78.28.

⁷² 1135= ZWIERLIN-DIEHL 2007, no 408.

⁷³ YARROW 2017, 87 and fig. 3.

⁷⁴ CRAWFORD 1974, 719 believes birds to be ravens 'as an augurium'; on RIC 2 Trajan 771, a restoration type, the birds appear to be eagles. The association with birds with the wolf and twins is a topic beyond the scope of this paper.

⁷⁵ Cf. also the strong parallels with a quincunx of Larinum, c. 210-175 (HN Italy 625), the rider on the Paullus Monument at Delphi (KÄHLER 1965), and to only a slightly lesser degree the coinage of Tarentum (cf. HN Italy 1013).

Crawford	shared elements	glass paste examples	key points of divergence
316/1 (Juno Sospita/Bull) ⁷⁶	Reverse design, near exact	BM 1814,0704.2216 ⁷⁷ , cf. FURTWÄNGLER 1896, no. 1982 (with note on similarity to numismatic types). ⁷⁸	No identifying inscription on the glass paste
340/1 (Apollo/Horseman)	Reverse design, near exact	FURTWÄNGLER 1896, no. 1151 ⁷⁹	Palm branch less clear on gem
362/1 (Mercury/Ulysses and Argos)	Reverse design	HENIG 1974, no. 466 (lost); FURTWÄNGLER 1896, no. 1381 (non vide). ⁸⁰	uncertain
363/1 (Apollo/Marsyas)	Reverse design, Marsyas himself	FURTWÄNGLER 1896, no. 3962.81	No column
374/1 (Pietas/Elephant)	Reverse design, near exact	FURTWÄNGLER 1896, no. 2045.	None
385/2 (Hercules/Boar)	Reverse design, near exact	BM 1814,0704.2190 ⁸²	None
388/1 (Roma/Wolf)	Reverse design, basic rendering of subject matter	BM 1814,0704.2101, cf. FURTWÄNGLER 1896, no. 2012 and 6276.	On glass paste head is slightly smaller and slightly lower and tail is curled in toward legs instead of out
429/1 (Mars/horseman fighting foot soldier, fallen warrior nearby)	Reverse design, not exact	BM 1814,0704.2828 and BM 1814,0704.2339 (near mirror images of each other)	On the coin the fallen warrior is bound as a captive; on the glass pastes he is upside down under the horse
481/1 (Terminal Hermes/patera and knife)	Obverse design, not exact	FURTWÄNGLER 1896, no. 1736-43.	Primary similarity the tightly draped terminal bust, other details vary

WORKS CITED

BALDWIN 1978

Baldwin, B., Crepereius calpurnianus. Quaderni Urbinati Di Cultura Classica 27, 211-213.

BOARDMAN 2008

Boardman, J., A Pursuit of Art in Miniature. Apollo 167, 56-62. **BROMMER 1976**

> Brommer, F., Denkmälerlisten zur griechischen heldensage, III. (Marburg: Elwert).

BURN et alii 1903

Burn, L./Higgins, R./Walters, H. B./Bailey, D. M., Catalogue of Terracottas in the British Museum, I-IV (London: British Museum Press)

CARNEGIE 1908

Carnegie, L. H. M., Catalogue of the collection of antique gems formed by James, ninth earl of Southesk, K.T. (London: B. Quaritch).

CRAWFORD 1974

Crawford, M., Roman Republican Coinage, 2 Vols. (Cambridge: Cambridge University Press). DAHMEN 2007

Dahmen, K., The legend of Alexander the Great on Greek and Roman coins. (London: Routledge).

DARDENAY 2008

Dardenay, A., Les intailles républicaines figurant la louve romaine: Essai d'identification des iconographiques. Pallas 76, 101-113.

DARDENAY 2012

Dardenay, A., Images des fondateurs: d'Énée à romulus. (Bordeaux: Ausonius).

DE CALLATAŸ 1997

De Callataÿ, F., L' histoire des guerres mithridatiques vue par les monnaies. (Louvain-la-Neuve: Publications d'histoire de l'art et d'archéologie de l'Université catholique de Louvain).

DE RIDDER et alii 1911

de Ridder, A./de Vogüe, M./Babelon, E./Pottier, E. Collection de Clercq Catalogue Tome VII, Tome VII. (Paris: E. Leroux).

ERDKAMP 2007

Erdkamp, P. (ed.), A Companion to the Roman Army. Blackwell Companions to the Ancient World. (Malden, MA: Blackwell Publishing).

 $^{^{76}}$ Similar bulls are found both earlier and later on the republican coin series: RRC 39/2, 42/2, 69/5, 72/7, and 494/24.

Bulls are exceptionally common on glass pastes what makes this bull different is its charging with raised hooves and three-quarter profile head.

⁷⁸ FURTWÄNGLER 1896, no. 6576-8 one cornelian and two sardonyx (all with inscriptions).

⁷⁹ FURTWÄNGLER 1896, no. 3148, same design on sardonyx.

⁸⁰ References taken from BROMMER 1976, 273.

⁸¹ Cf. BM 1814,0704.1357 onyx intaglio, near perfect match for coin type, on which see MORGAN 2007, 198.

⁸² Cf. Tassie 12996, a cornelian; and FURTWÄNGLER 1896, no. 6560-2, one cornelian and two sardonyx (all with inscriptions). There are other similar boars on glass pastes, but these seem to be running with a head slightly down rather than standing with head up: cf. BM 1923,0401.920, 1814,0704.2711, 1814,0704.2208.

FELLMANN 2000

Fellmann, R., Die 11. Legion Claudia Pia Fidelis. In: Le Bohec, Y. (ed.), Les Légions de Rome sous le Haut-Empire. (Lyon: Diffusion De Boccard), 127-131.

FLOWER 2006

Flower, H. I., The Art of Forgetting: Disgrace and Oblivion in Roman Political Culture. (Chapel Hill, NC: The University of North Carolina Press).

FOSSING 1929

Fossing, P., Catalogue of the antique engraved gems and cameos. (Copenhagen: G.E.C. Gad.).

FRANK 2008

Frank, S., Alexander - Vorbild Roms: Alexanderverehrung von Pompeius bis Nero. (Marburg: Tectum Verl.).

FREESTONE 2008

Freestone, I., Pliny on Roman Glassmaking. In: Martinón-Torres, M./Rehren, T. (eds.), *Archaeology, history and science:* Integrating approaches to ancient materials. (Walnut Creek, CA: Left Coast Press), 77-100.

FRH

Cornell, T. (ed.), The Fragments of the Roman Historians, 3 vols. (Oxford: Oxford University Press).

FURTWÄNGLER 1896

Furtwängler, A., Beschreibung der geschnittenen Steine im Antiquarium, Königliche Museen Berlin (Berlin: W. Spemann).

Furtwangler, A., Die antiken Gemmen: Geschichte der Steinschneidekunst im klassischen Altertum, 3 Vols. (Leipzig: Gesecke & Devrient).

GORI 1732

Gori, A. F., Gemmae Antiquae Ex Thesavro Mediceo Et Privatorum Dactyliothecis Florentinae Exhibens Tabulis C. Imagines Virorum Illustrium Et Deorum. (Florentiae: Nestenus et Moucke).

HAWLEY 2007

Hawley, R., Lords of the rings: ring-wearing, status, and identity in the age of Pliny the Elder. In: Bispham, « Vita vigilia est »: essays in honour of Barbara Levick. (London: Institute for Classical Studies), 103-111.

HENIG 1974

Henig, M., A Corpus of Roman Engraved Gemstones from British Sites. (Oxford: British Archaeological Reports).

HIESINGER 1976

Hiesinger, U. W., Review: Die Porträtgemmen der römischen Republik by Marie-Louise Vollenweider. American Journal of Archaeology 80.2, 216-17.

HOLLANDER 2005

Hollander, D. B., Veterans, agriculture, and monetization in the late Roman Republic. In: Aubert, J.-J., A tall order: writing the social history of the ancient world: essays in honor of William V. Harris. (München: Saur), 229-239.

HOLLSTEIN 1993A

 $Hollstein, W., \textit{Die stadtr\"{o}mische M\"{u}nzpr\"{a}gung der Jahre\,78-50}$ v. Chr. zwischen politischer Aktualität und Familienthematik: Kommentar und Bibliographie. (München: Tuduv).

HOLLSTEIN 1993B

Hollstein, W., Maritime Thematik und das Seeräuberproblem auf römischrepublikanischen Münzen in der Zeit zwischen den Bürgerkriegen. Actes du XIe Congrès International de Numismatique, 133-139.

JAMESON/LEVICK 1964

Levick, B. M./Jameson, S., C. Crepereius Gallus and his gens. Journal of Roman Studies 54, 98-106.

KAGAN 2011

Kagan, J. Gem Engraving in Britain from Antiquity to the Present. (Oxford: Archaeopress).

KÄHLER 1965

Kähler, H., Der Fries Vom Reiterdenkmal Des Aemilius Paullus in Delphi. (Berlin: Mann).

KEPPIE 1983

Keppie, L. F., Colonisation and veteran settlement in Italy 47-14 B.C. (London: British School at Rome).

KEPPIE 1984

Keppie, L. F., Colonisation and Veteran Settlment in Italy in the First Century AD. Papers of the British School at Rome 52, 98-104.

KOPIJ 2016

Kopij, K., The Context and Dating of the Pompey's Aureus (RRC 402). Numismatica e Antichità Classiche 45, 109-127.

KRAUS 2005

Kraus, C. S., Hair, hegemony, and historiography: Caesar's style and its earliest critics. In: Reinhardt, T. (ed.), Aspects of the language of Latin prose. (Oxford: Oxford University Press), 97-115.

KREBS 2008

Krebs, C. B., « Magni viri »: Caesar, Alexander, and Pompey in Cat. 11. Philologus 152.2, 223-229.

LINDERSKI 1996

Linderski, J., Q. Scipio Imperator. In: Linderski, J. (ed.), Imperium sine fine: T. Robert S. Broughton and the Roman republic. (Stuttgart: Steiner), 145-185.

LOCKYEAR 2008

Lockyear, K., Aspects of Roman Republican coins found in Late Iron Age Dacia. In: Spinei, V./Munteanu, L. (eds.), Miscellanea numismatica Antiquitatis. In honorem septagenarii magistri Virgilii Mihailescu-Bîrliba oblata. (Bucharest, Romania: Editura Academiei Romane), 147-176.

MARITZ 2001

Martiz, J.A., The image of Africa: the evidence of the coinage. Acta Classica 44, 105-125.

MARSH et alii 2016

Marsh, D./Punzalan, E./Leopold, R./Butler, L./Petrozzi, R. Stories of impact: The role of narrative in understanding the value and impact of digital collections. Archival Science 16.4, 327-372.

MARSHALL 1907

Marshall, F. H., Catalogue of the finger rings, Greek, Etruscan, and Roman in the Departments of Antiquities, British Museum. (London: British Museum Press).

MATTINGLY 2004

Mattingly, H. B., From coins to history: Selected numismatic studies. (Ann Arbor, MI: University of Michigan Press).

MEYBOOM 1995

Meyboom, P. P. G., The Nile mosaic of Palestrina: early evidence of Egyptian religion in Italy. (Leiden: Brill).

MICHEL 1967

Michel, D., Alexander als Vorbild für Pompeius, Caesar und Marcus Antonius. Archäologische Untersuchungen (Bruxelles: Latomus).

MONTAGNANI/ZOBOLI 2017

Montagnani, M./ Zoboli, L., The making of an 'orphan': Cultural heritage digitization in the EU. International Journal of Law and Information Technology 25.3, 196-212.

MORENO 2008

Moreno, A., The greek gem: A token of recognition. In: Revermann, M./Wilson, P. (eds.), Performance, Iconography, Reception: Studies in honour of Oliver Taplin (Oxford: Oxford University Press), 419–438.

PLANTZOS 1999

Plantzos, D., Hellenistic Engraved Gems. (Oxford: Oxford University Press).

RASPE 1791

Raspe, R. E., Descriptive Catalogue of a General Collection of Ancient and Modern Engraved Gems, Cameos as well as Intaglios ... James Tassie, Modeller (London: Tassie and Murray).

RICHTER 1968a

Richter, G.M.A., The engraved gems of the Greeks, Etruscans and Romans. (London: Phaidon).

RICHTER 1968^B

Richter, G.M.A., The subjects on Roman engraved gems: their derivation, style and meaning. Revue archéologique 2, 279-286.

ROWAN 2012

Rowan, C., Under divine auspices: divine ideology and the visualisation of imperial power in the Severan period. (Cambridge: Cambridge University Press).

ROWAN forthcoming

Rowan, C. (P.I.), Token Communities in the Ancient Mediterranean. A five year ERC research project. https:// warwick.ac.uk/fac/arts/classics/research/dept_projects/tcam/

RRC

Crawford, M., Roman Republican Coinage, 2 Vols. (Cambridge: Cambridge University Press).

RUBINCAM 2005

Rubincam, C., A tale of two « Magni »: Justin/Trogus on Alexander and Pompey. Historia 54.3, 265-274.

SPIER 1992

Spier, J., Ancient gems and finger rings: catalogue of the collections (Malibu, CA: J. Paul Getty Museum).

STANNARD 2011

Stannard, C., Evaluating the Monetary Supply: Were Dies Reproduced Mechanically in Antiquity?. In: de Callataÿ, F. (ed.), Quantifying Monetary Supplies in Greco-Roman Times. (Bari: Edipuglia), 59-79.

STENHOUSE 2005

Stenhouse, W., Visitors, Display, and Reception in the Antiquity Collections of Late-Renaissance Rome. Renaissance Quarterly 58.2, 397-434.

SYME 1989

Syme, R., The Augustan Aristocracy. (Oxford: Oxford University Press).

TERRAS 2015

Terras, M., Opening Access to collections: The making and using of open digitised cultural content. Online Information Review 39.5, 733-752.

Toynbee, J. M. C., The Hadrianic School. A Chapter in the History of Greek Art. (Cambridge: Cambridge University Press).

TOYNBEE 1978

Toynbee, J. M. C., Roman Historical Portraits. (Ithaca, NY: Cornell University Press).

VERMEULE 1970

Vermeule, C. C., Near eastern, Greek and Roman gems. A recent gift to the collections. Bulletin of the Museum of Fine Arts in Boston 68, 197-214.

VOLLENWEIDER 1974

Vollenweider, M.-L., Die Porträtgemmen der römischen Republik. (Mainz: von Zabern).

WALKER/BURNETT 1981

Walker, S./Burnett, A., Augustus. Handlist of the exhibition and supplementary studies. (London: British Museum Press).

WALKER/HIGGS 2001

Walker, S./Higgs, P., Cleopatra of Egypt: from History to Myth, (London: British Museum Press).

WALTERS 1926

Walters, H. B., Catalogue of Engraved Gems and Cameos, Greek, Etruscan and Roman in the British Museum. (London: British Museum Press).

WEISS 2005

Weiss, C., Octavian als Knabe, « diuus Augustus » und Tiberius: drei glyptische Porträts. Numismatica antichità classiche 35, 219-248.

WHITMER 2017

Whitmer, K. Imagining uses for things: Teaching "useful knowledge" in the early eighteenth century. History of Science 55.1, 37-60.

WINCKELMANN 1760

Winckelmann, J. J., Description des pierres gravees du feu baron de Stosch dediee a son eminence monseigneur le cardinal Alexandre Albani. (Florence: Bonducci).

WISEMAN 1995

Wiseman, T. P. Remus: A roman myth. (Cambridge: Cambridge University Press).

WOYTEK 2003

Woytek, B., « Arma et nummi »: Forschungen zur römischen Finanzgeschichte und Münzprägung der Jahre 49 bis 42 v. Chr. (Wien: Verl. der Österreichischen Akademie der Wissenschaften).

YARROW 2015

Yarrow, L. M., Ulysses's Return and Portrayals of Fides on Republican Coins. In: van Alfen, P./Bransbourg, G./ Amandry, M., Fides: Contributions to Numismatics in Honor of Richard B. Witschonke. (New York: American Numismatic Society), 335-356.

ZAHRNT 2007

Zahrnt, M., Hadrians «Provinzmünzen». In: Haensch, R. (ed.), Herrschen und Verwalten: der Alltag der römischen Administration in der Hohen Kaiserzeit. (Köln; Wien: Böhlau), 195-212.

ZWIERLEIN-DIEHL 1986

Zwierlein-Diehl, E., Glaspasten im Martin-von-Wagner-Museum der Universität Würzburg. (München: Prestel).

ZWIERLEIN-DIEHL 2007

Zwierlein-Diehl, E., Antike Gemmen und ihr Nachleben (Berlin: de Gruyter).