

ESTABLISHING A DYNASTY IN IDEOLOGY AND PRACTICE: THE AEDES VESTAE AUREI OF VESPASIAN

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This paper uses a Flavian aureus type depicting the aedes Vestae to explore both the ideological and the practical aspects of using coinage to propagate a dynasty. Firstly, we analyse the type from an iconographic perspective and argue that it should not be understood as a simple referent to the building itself, but rather as a complex interplay of different semantic units, intended to convey messages of dynastic harmony and security. Secondly, we use a die study to reconstruct the minting process and use our findings to elucidate the transformation of Roman coin production during the Flavian period. Taken together, the two parts of the paper demonstrate both the importance and the pay-offs of studying Roman coinage holistically, that is, with an integrated approach that combines iconographic and technical analysis. A catalogue of coins considered in the die study is provided as an appendix.

L'articolo utilizza un tipo di aureo di età flavia raffigurante l'aedes Vestae per esplorare sia gli aspetti ideologici sia quelli pratici dell'uso della moneta in supporto di una specifica dinastia. Nella prima parte del contributo, il tipo viene analizzato dal punto di vista iconografico e si sostiene come non debba essere inteso come un semplice riferimento all'edificio in sé, ma piuttosto come un complesso gioco di diverse unità semantiche, destinate a trasmettere messaggi di armonia e sicurezza dinastica. Nella seconda parte, si utilizza uno studio dei coni per ricostruire il processo di coniazione e i risultati vengono utilizzati per chiarire la trasformazione della produzione di monete romane durante il periodo flavio. Le due parti del lavoro, considerate nel loro complesso, dimostrano l'importanza e i vantaggi di uno studio della monetazione romana olistico, cioè di un approccio integrato, che combini analisi iconografiche e sulla tecnica. In appendice viene infine fornito un catalogo delle monete prese in considerazione nello studio dei coni.

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1. INTRODUCTION

When Vespasian came to power in AD 69, his sons Titus and Domitian were among his greatest assets. With Titus already 30 years old and Domitian in his late teens, Vespasian was — unlike both his rivals and his Julio-Claudian predecessors — well placed to establish a dynasty.² The advantages of this situation did not go unremarked. In a speech attributed to Titus, for example, Tacitus writes that ‘Neither legions nor fleets are as strong a fortification of imperial power as a great number of children.’³

Yet the fact alone of Vespasian’s children would not be enough to establish a Flavian dynasty: that task required the active promotion of his sons as worthy rulers. To this end, Vespasian granted both Domitian and (especially) Titus important titles, responsibilities and opportunities for public recognition.⁴ He also advertised their status as his heirs and co-rulers in a broad range of media, from statues, to inscriptions, to coins (Seelentag, 2010; Wood, 2016; Levick, 2017: 201–12).

In this article, we shed new light on Flavian dynastic ideology by examining an important and hitherto under-appreciated component of attempts to establish Titus and Domitian as viable heirs: an aureus type depicting the *aedes Vestae* (Figs 1–2) that was the first precious metal issue struck with obverse portraits showing all three Flavian men. In Section 2 we approach the type from an ideological perspective. We offer a new interpretation and suggest why this type was suitable to be shared between all three members of the imperial house. In Section 3 we turn to more practical considerations. We use a die study of the *aedes Vestae* type to elucidate the transformation of Roman imperial coin production during the Flavian period. The two sections of the paper together illustrate the ideological and practical aspects of minting a coinage to propagate a dynasty.

The evidential basis of this paper is a die study of 234 *aedes Vestae* aurei — as well as previously unpublished denarius versions of the type — as set out in the catalogue provided in the Appendix.⁵ A die study is a numismatic method that

² Neither Galba nor Otho had natural children who were alive in 69; Vitellius had one son and one daughter, but neither was yet adult (Morgan, 2006: 149).

³ Tac., *Hist.* 4.52: *non legiones, non classis proinde firma imperii munimenta quam numerum liberorum*; cf. Tac., *Hist.* 2.77; Joseph., *BJ* 4.596–9.

⁴ For example, Titus shared in Vespasian’s Judaeian triumph, amassed seven consulships and fourteen imperial acclamations before the death of his father and could be described as the ‘partner and even protector of imperial power’ (Suet., *Tit.* 6.1: *participem atque etiam tutorem imperii*). Domitian, though the younger brother, was acclaimed as Caesar and *Princeps Iuventutis*, and, in his role as *praetor urbanus consulari potestate* in 70, acted as his father’s regent in Rome before the latter’s return from the East.

⁵ Material for the die study was collected from major public collections, both published and unpublished, published coin hoards, and auction sales catalogues up to October 2022. The 234 aurei in the catalogue were struck from 65 obverse dies and 37 reverse dies. The estimated coverage of the sample (calculated according to the formula of Esty, 2006: 359) for obverse dies



Fig. 1. *Aedes Vestae* aureus of Vespasian, Mint of Rome (2× actual size) (Coin 97; ANS 1956.184.26, Courtesy of the American Numismatic Society).



Fig. 2. *Aedes Vestae* aureus of Vespasian, Mint of Lyon (2× actual size) (Coin 230; Numismatische Sammlung der Deutschen Bundesbank).

attempts to identify the individual punches, known as dies, used to strike the coins. Since each die was engraved by hand and leaves an exact negative impression upon the coin, it is possible to determine, simply from examining the coins themselves, which coins were struck from the same, and which from different, dies (Metcalf, 2012: 5–6). While the vagaries of archaeological survival do not allow us to investigate more than a tiny fraction of the total number of coins originally minted, it is possible to gather a sample of coins that includes not only most of the dies that were originally used, but also most of the pairings between obverse and reverse dies. A die study thus takes us as close as possible to the original production process, which is crucial for both sections of this paper. For the iconographic analysis in Section 2, examination of all

is 91 per cent, and for reverse dies 95 per cent; this suggests that the probability of any new coin being struck from a new obverse die is only about 9 per cent, and 5 per cent from a new reverse die. The full statistics of the die study, using the formulae of Esty, 2006, as updated by Esty, 2011, are as follows: for series *r*, obverses: $n = 188$, $d = 55$, $d_1 = 17$, $D_{est} = 77 \pm 10$; for series *r*, reverses: $n = 188$, $d = 18$, $d_1 = 3$, $D_{est} = 19 \pm 2$; for series *l*, obverses: $n = 46$, $d = 10$, $d_1 = 4$, $D_{est} = 12 \pm 3$; for series *l*, reverses: $n = 46$, $d = 19$, $d_1 = 9$, $D_{est} = 32 \pm 12$ (where n = number of coins, d = number of dies observed, d_1 = number of dies that struck exactly one coin in the sample, D_{est} = estimated original number of dies (with 95 per cent confidence interval)).

known dies allows us to identify variants in the iconography and not be led astray by the peculiarities of one specimen (Elkins, 2009: 32–3). In Section 3, the fundamental principle that coins struck from the same die were produced roughly contemporaneously and in the same place allows us to investigate the geographical and chronological aspects of production.⁶

2. IDEOLOGY

The *aedes Vestae* reverse depicts a round, tetrastyle building, with prominent antefixes and an ‘ornamental top’.⁷ A figure stands within the building, which is flanked by two statues, one to either side. Above the building, a legend reads VESTA. The building has been identified as either the *aedes Vestae* in the Forum or a putative *aedicula*, *aedes* or *fanum Vestae* on the Palatine.⁸ The central figure has been identified as a cult statue of Vesta, a representation of Vesta herself, and the Palladium. The flanking figures have typically been ignored, acknowledged but otherwise disregarded, or described in generic terms like ‘female figures’ or ‘statues’. Mattingly (*BMCRE* pp. xxxvi, lx, 90), however, has identified the figure on the right as Mercury with a purse and caduceus, a goddess with a purse, and Lug (the tutelary deity of Lugdunum) with a native attribute; and the figure on the left as both Jupiter with a sceptre and patera and a goddess with a sceptre. Cecamore (1994–5: 26) has identified the leftmost figure as a vestal virgin bearing a replica of the Palladium.

On the basis of the individual identifications listed above, some have interpreted the reverse as a mechanism to publicize a variety of particular events: for example, the centenary of the *res publica restituta*, a ‘ceremony of propitiation in view of the great fire’ or a renovation of either the *aedes Vestae* in the Forum or the putative shrine on the Palatine.⁹ Others have argued for more general interpretations, suggesting, for example, that the type was an indication of Vespasian’s religiosity (*RIC* II¹ pp. 5–6) or ‘just a way of celebrating Rome itself’ (Griffin, 2000: 14).¹⁰ Some, however, have simply punted on the issue, avoiding the central questions of why this particular design

⁶ This principle is implicit in every die study, but was first expressed explicitly by Friedrich Imhoof-Blumer, the progenitor of ancient die studies: Imhoof-Blumer, 1876: 289.

⁷ To quote Mattingly’s wonderfully ambiguous phrase (*BMCRE* p. 17 no. 90).

⁸ For these and the following identifications, see, for example, Donaldson, 1859: 68–71; Dressel, 1900: 20–31; *RIC* II¹; Brown, 1940, esp. pp. 6, 10, 19; *HCC* pp. 193, 230–1, 245; *BMCRE*; Cody, 1973: 48; R.-Alföldi, 1983: pl. 37; Hill, 1989: 31–2; Fischer-Hansen, 1990: 417–19; Cecamore, 1994–5: 18–21; Cappelli, 1999; Scott, 1999: 127; Giard, 2000: 146; *RIC*; Marzano, 2009: 150–1. For discussion of the arguments that support these identifications, see below.

⁹ Centenary: Grant, 1950: 91. Ceremony of propitiation: *BMCRE* p. xxvi. Forum rebuilding: Eckhel, 1796: 332; Donaldson, 1859: 71; Dressel, 1900: 23 n. 3; Brown, 1940: 17; Armstrong, 2001: 164. Palatine rebuilding: Cecamore, 2002: 159.

¹⁰ Cf. Ziegert, 2020: 121–2, who interprets the type as an attempt to restore faith in *aeternitas* after the rupture at the end of the Julio-Claudian era.

was chosen and how it was interpreted by Roman viewers (Hill, 1989: 32; *RIC* pp. 53–6).

We have included this survey of existing scholarship to demonstrate both that the significance of the *aedes Vestae* type remains an open question and that a new approach is necessary. In this section we address these issues by analysing the *aedes Vestae* type with a new approach that has three distinguishing characteristics. First, we interpret the type as a composite of five semantic units — namely, the legend, the building, the central figure and the two flanking figures — that interact both autonomously and in coordination to communicate with their intended audiences.¹¹ Second, we believe that these aurei were both intentionally and effectively polyvalent. Accordingly, we eschew the traditional search for a single, authoritative message and instead consider a range of possible interpretations. Finally, we approach the iconography from the perspectives of both audience and issuer in an integrated manner.¹² We first consider the question of how Roman viewers might have interpreted the coins and only then turn our attention to the question of what the issuers intended. We take this approach because we believe that issuers would have considered possible audience reactions while designing coin types. Accordingly, to talk about intention without first considering reception would be to put the cart before the horse.

2.1. THE LEGEND

At first glance, it is tempting to take the legend **VESTA** as a caption or label to identify one or more of the components that appear below it. Interpreting the legend in this manner, however, has two major shortcomings: the reverse does not provide viewers with the information necessary to determine which of the other components the caption refers to, and the legend is too vague to function as a caption, even if we could identify the component to which it refers. Consequently, our putative caption could be — and, indeed, has often been — understood to identify the building as the *aedes Vestae* in the Forum. Alternatively, however, it could just as easily be understood to identify the building as a shrine to Vesta on the Palatine, the central figure as either Vesta or a cult statue of Vesta, or the whole assemblage as a temple complex dedicated to Vesta either in the Forum or on the Palatine. Accordingly, we reject the temptation to interpret the legend as a caption and instead interpret it in more general terms, as an indicator to the viewer of the general context against which the images should be interpreted.

¹¹ This aspect of our approach was inspired by the work of Tonio Hölscher, who persuasively interprets Roman art as a semantic system in which a ‘flexible interplay of elements together form a coordinated whole’ (Hölscher, 2004: 2; see also Hölscher 1980, 1982, 1984. Cf. Fuchs, 1969: 92–101; Elkins, 2009: 39–41; 2015).

¹² For the contrast between these two approaches to numismatic iconography, see Kemmers, 2006: 196–7; Elkins, 2009: 43.

2.2. THE BUILDING

The building has been identified as either the *aedes Vestae* in the Forum or a shrine that Augustus may have dedicated to Vesta on the Palatine.¹³ Of these identifications, the former is more plausible. There are serious doubts that the Palatine shrine ever existed,¹⁴ and, even if it did exist, we would have no reason to believe that our coins depict it rather than the *aedes Vestae*.¹⁵ For our purposes, however, the relative merits of these opposing viewpoints are immaterial. In accordance with the statement of method provided above, we do not seek definitive identifications or messages. Instead, we try to understand

¹³ Forum: e.g. Donaldson, 1859: 68–71; Brown, 1940: esp. 6, 10, 19; *BMCRE* p. xxvi; Cody, 1973: 48. Palatine: e.g. Hill, 1989: 31–2; Cecamore, 1994–5: 18–21; Cappelli, 1999; Marzano, 2009: 150–1. Non-committal: e.g. *RIC* II¹; Scott, 1999: 127; *RIC*. See also works cited in note 8.

¹⁴ Arguments for the existence of the Palatine shrine rely on four bodies of evidence: a reference by Ovid to an unspecified dedication to Vesta on the Palatine (*Fast.* 4.951–4); a lacunose passage in the *Fasti Praenestini* that may indicate the dedication of a shrine to Vesta on the Palatine (Degrassi, 1963: no. 17 = EDCS-38000281); iconographic analyses of coins and reliefs (esp. our aureus, a Tiberian dupondius (*RIC* I² p. 99 nos. 74–6), and the ‘Sorrento Base’) that have been interpreted as representing a shrine to Vesta on the Palatine (e.g. Rizzo, 1932; Guarducci, 1971; Cecamore, 2004); and a circular foundation on the Palatine that was initially — but only temporarily — identified as a shrine to Vesta (Cecamore, 2002: 156, contra Cecamore 1994–5). For a general discussion, see Fishwick, 1992. Because our argument does not require us to take a definite stance on the issue, we content ourselves with the following observations. None of the evidence can stand on its own merits; the *Fasti Praenestini*, for example, can be restored to indicate the dedication of a shrine (e.g. Guarducci, 1971: 91; Scott, 1982: 459 n. 107; Cecamore, 2002: 158–9), but the most economical restoration does not (Degrassi, 1963: no. 17: [*signu*]m et a[ra]), based on the fact that the *Fasti Caeretani* (Degrassi, 1963: no. 8 = EDCS-45300002) already indicate the dedication of a *signum* to Vesta on the Palatine). Arguments in favour of the shrine are invariably circular: for example, claims that the relevant coins and/or reliefs depict the shrine cite the *Fasti Praenestini*, while claims that the *Fasti Praenestini* refer to a shrine cite the coins and/or reliefs. As far as we can tell, the idea that Augustus dedicated a shrine (rather than just a *signum* and *ara*) owes its existence to an implausible restoration of the *Fasti Praenestini* by Mommsen (*CIL* I².1: 236): [*aedicula*] et a[ra]. As demonstrated first by Degrassi (1955: 144; 1963: no. 17), the letter preceding ‘et’ must be an ‘m’, there is only room on the stone for five letters before the ‘m’, and [*signu*]m is the most economical option, as indicated above. The idea of the *aedicula Vestae* on the Palatine has outlasted Mommsen’s restoration because, by the time his mistake had been recognized, enough coins and reliefs had been identified with the putative shrine to allow for the circular arguments discussed above. The resilience of this idea, despite the crumbling of its foundation more than six decades ago, is a particularly interesting example of scholarly inertia.

¹⁵ Many proponents of a Palatine shrine neglect to explain their identifications (e.g. Hill, 1989: 31–2; Cappelli, 1999). Others (e.g. Cecamore, 2002: 156–9; Marzano, 2009: 150–1) attribute their identifications to the fact that our coins show flanking figures to either side of the building, while other contemporary (e.g. *RIC* 492, 599–601, 639–40, 647–8) and near-contemporary (e.g. *RIC* I² p. 153 nos. 61–2) types that depict the *aedes Vestae* do not. Their arguments, however, rest on two traditional assumptions that have been thoroughly discredited: that Roman imperial coin types depict monuments as they actually were; and, consequently, that differences between numismatic depictions of monuments necessarily correspond to differences between the real-world monuments they depict. For discussion of these assumptions and their broader significance, see Fuchs, 1969: 92–129, esp. 116–29; Burnett, 1999; Elkins, 2015: 1–7.

how Roman viewers would have interpreted what they saw. And, once we turn our attention to this related, but nonetheless distinct question, answers become much easier to find. Regardless of whether or not there was a shrine to Vesta on the Palatine, the *aedes Vestae* in the Forum was both the most famous and the most recognizable shrine dedicated to Vesta. Crucially, moreover, the building depicted on our reverse bears a striking resemblance to both the *aedes Vestae* itself and representations of the *aedes Vestae* on coins that were already in circulation (e.g. Figs 3–4).¹⁶ Accordingly, we can be confident that most Romans who viewed these coins would have thought first and foremost of the *aedes Vestae* in the Forum.

2.3. THE CENTRAL FIGURE

In his standard reference text on Roman architectural coinage, Hill (1989: 132) identifies the central figure as the Palladium.¹⁷ Though he offers no explanation for this identification, it makes sense from a conceptual perspective: after its removal to Rome, the Palladium was housed within the *aedes Vestae*, and it was closely associated with Vesta in the Roman imagination.¹⁸ Furthermore, the specimen that Hill illustrates (our coin 47) shows a figure whose angularity and stiffness recall contemporary representations of the archaic Palladium. The other dies, however, invariably show a more lifelike figure, whose flowing robes and curving limbs are inconsistent with Hill's arguments and instead recall contemporary representations of Vesta herself.¹⁹ Accordingly, we reject Hill's identification and turn our attention to the majority opinion: that the central figure represents either Vesta herself or a cult statue of Vesta.

In the *Fasti* (6.295–8), Ovid clearly indicates that, in his time, the *aedes Vestae* in the Forum did not contain a cult statue of the goddess. This seems to be confirmed by depictions of the building on republican and early imperial coins, which all show it as aniconic. Indeed, some Tiberian dupondii even seem to highlight the absence of a cult statue by the presentation of negative space.²⁰ Beginning in the reign of Nero,

¹⁶ Similar types had been issued during the republic (e.g. *RRC* 428), under Tiberius (*RIC I*² p. 99 nos. 74–6) and under Nero (*RIC I*² p. 153 nos. 61–2); on the differences between these types and the Vespasianic aurei, see below.

¹⁷ Cf. R.-Alföldi, 1983: pl. 37, who claims that 'Vesta holds the small statue [sc. The Palladium] in her hand', but this is not supported either by the specimen she is commenting on (our coin 230), or by any other die we have seen.

¹⁸ Ov., *Fast.* 6.424–36; Plin., *HN* 7.45; Plut., *Vit. Cam.* 20.5; *Hdn* 1.14.4; cf. Dion. Hal., *Ant. Rom.* 2.66. Note, however, that Hill's identification of the building as a putative *aedicula Vestae* on the Palatine weakens the force of this argument.

¹⁹ The impression that Hill only considered this one specimen is reinforced by his identification of the acroterion as 'two horns', despite most dies showing palmettes with either three or four branches.

²⁰ *RIC I*² p. 99 nos. 74–6. These types employ two techniques commonly used to allow for the representation of cult statues, namely distorting the façades of the temples they depict by creating a gap between the middle columns and omitting the cella wall (Burnett, 1999: 147). Rather than fill the resulting space with a cult statue, however, the engravers of the Tiberian dupondii left it



Fig. 3. Aureus of Nero, Mint of Rome, c. AD 65–66, *RIC* I² p. 153 no. 61 (Münzkabinett, Staatliche Museen zu Berlin, 18220673. Photo by Dirk Sonnenwald).



Fig. 4. As of Domitian as Caesar, Mint of Rome, AD 73, *RIC* p. 105 no. 648 (Münzkabinett, Staatliche Museen zu Berlin, 18232904. Photo by Dirk Sonnenwald).

however, coins representing the *aedes Vestae* began to include a figure between the innermost columns of the façade (Fig. 3).²¹ The reoccurrence — on coins of gold, silver and bronze — of a figure within the building under both the Flavians and Severans has divided scholars into two groups: one that reads the coins as evidence that a cult statue must have been set up, and another that sees the figure as purely representational.²²

Of these contradictory viewpoints, the latter is more plausible. Arguments for the introduction of a cult statue fail to meet the burden of proof.²³ Nor can their

empty. Furthermore, they chose to emphasize this emptiness by carving out an additional declivity — a representation, as clear as possible, that there *was nothing there*. We interpret this unusual — indeed, unique, to our knowledge — choice to represent absence, in the very spot where viewers would normally expect to find a cult statue, as an indication that the temple under consideration must have been aniconic; and, consequently, that the famously aniconic *aedes Vestae* in the Forum is our best available choice.

²¹ *RIC* I² p. 153 nos. 61–2. These coins are dated by *RIC* I² to AD 65–6, on the basis that they commemorate Nero’s rebuilding after the Great Fire, but below we offer reasons to question whether the *aedes Vestae* was in fact destroyed at all. The Neronian aurei and denarii must predate AD 66, since Nero lacks the *praenomen imperatoris*, and they are clearly part of the first post-reform issue (MacDowall, 1979: 33–4), but given recent arguments to uncouple Nero’s reform from the fire of AD 64 (Butcher and Ponting, 2014: 229–33), we should be wary of trying to date them more precisely.

²² Cult statue: Scott, 1999: 127; Cecamore, 1994–5: 19–20. Purely representational: Hill, 1989: 23; Richardson, 1992: 412–13; Stewart, 2004: 212; Mekacher, 2006: 57 n. 445. Non-committal: Fischer-Hansen, 1990: 419; Scott, 2009: 21 n. 23, 74; Lindner, 2015: 15–16.

²³ Evidence for the introduction of a cult statue is entirely numismatic, and its proponents rely on the same problematic assumptions as proponents of the Palatine shrine to Vesta — namely, that Roman imperial coinage depicted monuments as they actually were; and that, consequently, substantial differences between numismatic depictions of a single monument necessarily indicate

proponents explain how or why the putative cult statue changed so substantially over time — going from seated, with a patera in its right hand and a sceptre in its left, under Nero; to standing, with similar attributes, under the Flavians; and then back to seated, but this time with no discernible attributes, under the Severans.²⁴ For our purposes, however, the relative merits of these viewpoints are immaterial. In either case, most of the Romans who viewed the *aedes Vestae* reverse would have taken the figure to represent the presence of the goddess in her shrine.

2.4. THE FLANKING FIGURES

We begin our discussion of the flanking figures with a more detailed description than has hitherto been offered. Both figures stand on pedestals. The figure on the left appears in two variants. In series *r*, which we will later argue was struck at Rome, the figure's right hand is upraised and grasps an unidentifiable object (Fig. 1). Its left arm is bent down toward its hip or waist and may grasp a second unidentifiable object. The figure's body twists in an almost dance-like motion, and its arms curve in the shape of a diagonal S. Dies of series *l* — struck, as we will later argue, in Lyon — show a figure with similar posture and general appearance (Fig. 2). Its right hand, however, grasps a long staff or spear. The addition of this attribute does not seem to have been intentional, nor did it affect more than a small minority of the coins struck.²⁵ In the analysis that follows, therefore, we focus primarily on the variant that was struck at Rome.

The figure on the right appears in only one variant. Its right hand is outstretched at a downward angle and may grasp an unidentifiable object. Its left hand is upraised and grasps a long staff or spear, on which the figure leans. Similarly, but not identically, to the figure on the left, its body twists as though it were in motion, and its arms exhibit an eye-catching curve.

In trying to assess the possible reactions of Roman viewers to these flanking figures, one is struck by an apparent paradox. On the one hand, they are clearly important. When our aurei went into production, several types that were similar in most respects but lacked the flanking figures were in widespread circulation.²⁶ Accordingly, we can infer that the addition of the figures would have been particularly striking to viewers; and, consequently, that the figures

substantial alterations to the real-life monument they depict. For further discussion, see above, note 15. On the absence of both textual and archaeological evidence for substantial reconstructions of the *aedes Vestae* during the late 60s and early 70s, see Scott, 2009: 52–7.

²⁴ RIC IV.1, p. 171 nos. 584–6, 587A; p. 209 no. 868; p. 211 nos. 892–3; p. 247 nos. 249–50; pp. 251–2 nos. 271–2; p. 274 no. 392; p. 311 no. 594; p. 313 no. 607. These Severan coins do, of course, postdate the destruction of the *aedes* in the fire of 191; see Hdn 1.14.4.

²⁵ See further below, Section 3.1. Note also the fact that the figure maintains the same posture, which is incongruous with the addition of a spear.

²⁶ RIC I² p. 153 nos. 61–2 (aurei of Nero; for dating see above, note 21), RIC 492 (asses of Vespasian; AD 72). All of the base metal coins of Vespasian with *aedes Vestae* types (RIC 492, 599–601, 639–40, 647–8) lack the flanking figures, except RIC 600 (AD 73), known from a single specimen, which was presumably modelled on the aurei.

would have played a central role in viewers' interpretation of the type overall.²⁷ On the other hand, the flanking figures would have been very difficult to identify. Aurei are only about the size of a ten-pence piece, and the figures themselves are less than half a centimetre high. Even with the benefit of microscopes and high-resolution photographs, modern scholars struggle to determine, for example, whether the rightmost figure is male or female; or what attribute it is holding in its right hand.²⁸ With the naked eye, such questions are impossible to answer. Accordingly, we have to recognize that the very elements whose novelty marks them out as particularly important would have been difficult if not impossible for their intended audience to identify.

To resolve this seeming paradox, we suggest that the flanking figures were not intended to represent specific entities. Nor were Roman viewers intended to identify them — at least not definitively, and not all in the same way. Rather, the figures were intended to shape the viewers' interpretation of the type as a whole by evoking three distinct but complementary associations: the lares, the penates and the Castores. While these associations are contradictory when viewed as identifications — the figures cannot, for example, be both lares and Castores — this is not the sense in which we intend our suggestions to be read. Rather, we seek to understand the directions in which the ancient viewer's thoughts would have turned. And, in this sense, the three associations are mutually reinforcing. Because the lares, penates and Castores were so similar conceptually and were represented in such similar ways, they were often conflated and confused.²⁹ Accordingly, thinking about one would naturally lead to thoughts of the others. Although the type's ideological message is conveyed most powerfully by the combination of all three associations, any one of them alone would lead the viewer towards a similar interpretation. The design therefore stands as an example of deliberate and constructive ambiguity, allowing different viewers to read the iconography in different ways, yet always leading them in the same general direction.³⁰

The first association begins with the leftmost figure, which recalls an image that would have been familiar to any first-century AD Roman: the so-called dancing *lar familiaris*, with rhyton upheld in one arm and the other downturned, grasping a patera or situla (Fig. 5). The *lares familiares* were the guardian gods of a Roman household and its constituent family members,

²⁷ On the importance of the flanking figures, see also Cecamore, 1994–5: 18–20. By contrast, Ziegert, 2020: 201, ignores the flanking figures and presents the type as a direct copying of the Neronian aurei.

²⁸ Note, for example, the many identifications proposed by Mattingly (*BMCRE* pp. xxxvi, lx, 90). On the difficulties presented by the small size of Roman coins, see Fuchs, 1969: 93.

²⁹ The literature on the relationship between the lares, penates and Castores (or Dioscuri) is vast. See esp. Waites, 1920; Weinstock, 1960; Piccaluga, 1961; Peyre, 1962; Masquelier, 1966; Radke, 1981; Dubourdieu, 1989; Giacobello, 2008; Buxton, 2014: 95–7. For discussion, see below. Note also that, in this particular case, the already strong tendency to conflate and confuse the lares and penates would have been reinforced by their shared association with Vesta (see below).

³⁰ For similar instances of deliberate ambiguity in coin iconography, see Cheung, 1998; Rowan, 2016.



Fig. 5. Bronze lar statuettes (Metropolitan Museum of Art 19.192.3 (left); 22.139.15 (right). Public Domain).

deities who were strongly connected with the hearth, the centre of the house, of which Vesta was the patron. Representations of the *lares familiares* are known from across the empire.³¹

The close connection between Vesta and the lares is attested by a range of literary, epigraphic and figural evidence. For our purposes here, the most important are Pompeian wall paintings, many of which show them together (Fig. 6).³² While other deities and animals sometimes appear alongside them, and Vesta's iconography varies slightly from case to case, two conventions remain conspicuously constant in depictions of the group: first, Vesta's position as (one of the) central figure(s); second, the placement of one lar to either side, each with his inner arm lowered, grasping a rhyton, and his outer arm raised, grasping a patera.

³¹ See the examples depicted and discussed in Tran Tam Tinh, 1992. See also Kaufmann-Heinimann, 1998: 181–315, on the contexts in which bronze statuettes of the lares have been found.

³² See e.g. Boyce, 1937: nos. 185 (= pl. 21.1), 236, 240, 247, 313 and 316 (= pl. 24.1).



Fig. 6. Wall painting showing Vesta flanked by the lares, from a bakery (VII, xii, 11), Pompeii (photo by Farrell Monaco/Tavola Mediterranea (2018) su concessione della Ministero della Cultura — Parco Archeologico di Pompei).

The *aedes Vestae* type bears more than a passing resemblance to these seemingly conventional representations; it not only groups Vesta with a subordinate to either side, but also depicts the leftmost figure in the distinctive, almost idiosyncratic posture of a lar and places in its hands objects that certainly could be the conventional rhyton and patera. Furthermore, the characteristic, round shape of the *aedes* itself simultaneously recalls two of the objects around which lares are most commonly grouped — a domed niche containing a cult image and a rounded altar — and thus provides an additional, visual, link between the *aedes Vestae* type and household shrines to the lares (Fig. 7). On the other hand, however, the comparison of our coin type with other depictions of the lares also reveals a critical problem: although the

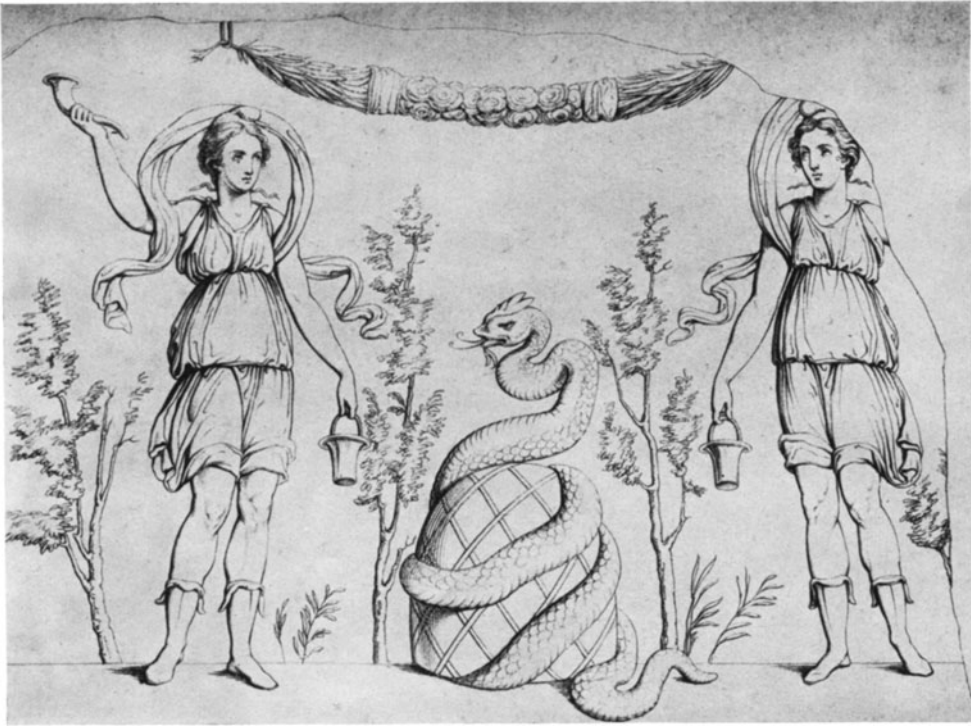


Fig. 7. Line drawing of a wall painting showing omphalos and serpent flanked by lares, from the House of Meleager (VI, ix, 2), Pompeii (Boyce, 1937: pl. 21.1. Public Domain).

rightmost figure exhibits the twisting posture we would expect of a lar, its iconography is clearly incompatible; we do not, therefore, have the twin lares that the iconography of household religion would lead us to expect. As a result, our first hypothesis — that the flanking figures might represent the lares — proves unsatisfactory, or at least insufficient.

The second association begins with the rightmost figure. Here, the iconography is profoundly unhelpful. A figure leaning on a staff or spear could represent almost any being, divine or mortal. In order to determine its identity, therefore, we need to take a second body of contextual knowledge as our point of departure. More specifically, we need to consider which of the many figures conventionally depicted with a staff or spear a Roman viewer would have been most likely to associate with Vesta and/or the *aedes Vestae*.

In her public manifestation at the *aedes Vestae*, Vesta was most closely associated with the *penates publici* brought from Troy by Aeneas and housed in the *penus Vestae*.³³ According to Dionysius of Halicarnassus (*Ant. Rom.* 1.68),

³³ At Verg., *Aen.* 2.293–7, for example, the ghost of Hector entrusts Aeneas with Vesta, the penates and other *sacra* simultaneously: “Troy commends its *sacra* and its penates to you: take them as companions to your fortune, seek great walls for them, which you will finally found once

the *penates publici* were depicted as two youths bearing spears, and his description may find support on the so-called ‘Aeneas Relief’ from the Ara Pacis, which shows two seated figures with spears, who have traditionally been interpreted as the penates in their temple on the Velia.³⁴ Furthermore, a variety of other sources suggests that the penates were both represented as and conflated with the Castores — who were also represented as youths bearing spears (Fig. 8).³⁵ Accordingly, the iconography of the rightmost figure set in the general context provided by the legend and the building would have been likely to provoke thoughts of the *penates publici*.

If we accept this second association suggested above, the grouping of the legend VESTA, the *aedes Vestae*, Vesta herself and one of the *penates publici* works from both an iconographic and a conceptual standpoint. However, the iconography of the leftmost figure is inconsistent with this interpretation. Furthermore, the *penates publici* are typically depicted as twins, and the flanking figures do not match. As a result, our second hypothesis — that the flanking figures represent the *penates publici* — also proves unsatisfactory, or at least insufficient.

Thus far, we have considered two possible interpretations of the flanking figures: that they represent the *lares familiares* and that they represent the *penates publici*. Although both of our hypotheses accounted for a majority of the semantic units that comprise the reverse, neither accounted for all five. In order to reconcile the inconsistencies, we need to take a deeper look into the relationship between the lares and penates. The available evidence indicates a close relationship between the lares and the penates, and the two pairs of deities were similar in many respects — so similar, in fact, that the Romans themselves sometimes confused or even conflated them. Of their many similarities, three pertain directly to the matter at hand: (i) both lares and penates were typically represented in pairs; (ii) both were strongly associated

you have wandered the sea.” So said [Hector] and with his hands brought forth filleted Vesta and the eternal fire from the sacred hearth’ (*sacra suosque tibi commendat Troia penatis: / hos cape fatorum comites, his moenia quaere / magna, pererrato statuas quae denique ponto’. / sic ait, et manibus vestamque potentem / aeternumque adytis effert penetralibus ignem*). See also Tac., *Ann.* 15.41; Serv., *ad Aen.* 3.12; Cic., *Nat. D.* 2.67–8. For discussion of the ties between Vesta and the penates, see esp. Radke, 1981; Dubourdieu, 1989: 292–8, 453–520.

³⁴ This interpretation was first proposed by Petersen, 1902: 57, and has since found wide acceptance: e.g. Sieveking, 1907: 186–8; Zanker, 1990: 201–6; Buxton, 2014: 95–7. For alternatives, see esp. Rehak, 2001 (who interprets the central figure as Numa), and Flower, 2017: 324–7 (who interprets the central figure as Titus Tatius). On Flower’s interpretation, the seated figures represent the *lares praestites* (on whom, see below).

³⁵ On the relationship between the penates and the Castores, see note 29. For depictions of the penates as Castores, see the denarii of Mn. Fonteius (RRC 307/1, with discussion by Crawford, 1961), C. Sulpicius (RRC 312/1, with discussion by Valverde, 2016) and C. Antius Restio (RRC 455/2). Similar types struck by members of the gens Fonteia (e.g. RRC 290/1) have traditionally been interpreted as representations of the Castores, but it is tempting to think they may represent the penates as well. For our purposes here, determining the ‘correct’ identification is unimportant; the ambiguity is the point.



Fig. 8. Altar of the Castores at the Lacus Iuturnae (American Academy in Rome, Fototeca Unione Collection FU.ROMA.LI.17. CC BY-NC 4.0).

with Vesta; and (iii) both have one manifestation that protected the individual *domus* and another that protected Rome as a whole. To elaborate, the domestic *penates* and the *lares familiares* protect the individual *domus*; the *penates publici* and the *lares praestites* protect the *patria* as a whole.

The *lares praestites* were represented with iconography that was indistinguishable from that of the *penates publici* (Fig. 9).³⁶ Accordingly, they help resolve the inconsistencies noted above: as *lares* who had both the same role and the same iconography as the *penates publici*, they provide a bridge between the two apparently incompatible interpretations. On this hybrid interpretation, the aureus reverse brings together Vesta herself, the *aedes Vestae*,

³⁶ Cf. Flower, 2017: 325, who identifies the spear-bearing twins depicted on the 'Aeneas Relief' of the Ara Pacis as the *lares praestites*. On the traditional interpretation of these twins as the *penates publici*, see above, note 34.



Fig. 9. Denarius of L. Caesius, Mint of Rome, 112–111 BC, RRC 298/1 (Bibliothèque nationale de France REP-6326).

the *lares familiares*, the *lares praestites* and the *penates publici* — all under the legend VESTA.

To summarize, we have argued (i) that the iconography of the leftmost figure, the posture and bearing of both flanking figures, and the overall composition of the reverse would have drawn the Roman viewer toward the initial hypothesis referenced above; and (ii) that the iconography of the rightmost figure and knowledge of the close association between Vesta, the *aedes Vestae* and the *penates publici* would have drawn him or her toward the second hypothesis. Crucially, however, the Roman viewer would not have interpreted these impulses as contradictory. Rather, he or she would have interpreted them as complementary indicators of a nuanced message that conflated the protective deities of the *domus*, on the one hand, and the *patria*, on the other.

At first glance, the interpretation offered above may seem implausibly complex. In other words, it may seem unlikely that any Roman viewer would have recognized (i) the iconography of the lar, (ii) the conceptual ties between Vesta, the *aedes Vestae* and the *penates publici*, and (iii) the close relationship between the lares and the penates. However, this third component provides a solution to the apparent difficulty: because of the strong relationship and even overlap between the lares and the penates, recognition of one would have actually facilitated recognition of the other; likewise, the fact that the lares, penates and Vesta are a common triad in both the literary and epigraphic record.³⁷ In order to provide additional support for this interpretation, we turn to a third sort of contextual knowledge that would facilitate identification by a particular subset of Roman viewers: familiarity with the topography of the Forum.

The *aedes Vestae* — which, as discussed above, housed the *penates publici* — was not the only structure in its vicinity that was connected to the worship of the lares and the penates. The city's primary temple to the penates, the *aedes deum*

³⁷ For example, CIL XIII 6709 (= EDCS-11000753), which is addressed 'to the *numina* of the *Augusti*, Jupiter Optimus Maximus, Fortuna, Vesta ... the lares, and the penates'. In similar fashion, Ascanius entreats Nisus in the name of the penates, the lares and Vesta at Verg., *Aen.* 9.258–60: 'I swear, Nisus, by the great penates, and by the lar of Assaracus, and by the shrines of hoary Vesta' (*per magnos, Nise, penatis / Assaracique larem et canae penetralia Vestae / obtestor*).

penatium in Velia, was probably located just across the *via sacra* (Dubourdieu, 1989: 387–419). A shrine to the *lares compitales* certainly stood nearby, even if its precise location is disputed.³⁸ The Regia complex just to the north has plausibly been associated with the development of the public lares and penates from the private household gods of the kings (Coarelli, 1983: 70–9, 269–70; Cornell, 1995: 240–1). Just a short way down the *via sacra* stood two buildings dedicated to the Castores — the Lacus Iuturnae and the Temple of the Castores — who had been associated with, and even assimilated to, the *penates publici* since the early first century BC at the very latest. Furthermore, the Lacus Iuturnae and the Temple of the Castores both held paired statues of the Castores, while the *aedes deum penatium in Velia* held statues of the penates as divine twins (Steinby, 1989–2012; Geppert, 1996).

Familiarity with the topography of the forum, we suggest, would have influenced certain viewers' interpretation of the *aedes Vestae* type.³⁹ More specifically, the density of buildings associated with the lares, penates and Castores would have reinforced the associations we have suggested above. So too would the proximity of so many statues depicting divine twins, which find echoes in the figures that flank the building on the *aedes Vestae* type.⁴⁰

In short, we have argued that the iconography of the flanking figures, combined with various forms of contextual knowledge that an educated Roman could be expected to possess, would have drawn a viewer's thoughts towards three sets of divinities: the lares, the penates and the Castores. The flanking figures were not intended to be identified as any of these three possibilities individually; indeed, their ambiguity was a feature not a bug. It was both deliberate and essential, because the lack of unambiguous attributes that would have cut off interpretive possibilities allowed viewers to interpret the flanking figures in a variety of distinct but complementary ways. Each of the three associations suggested above could have stood on its own, but would also have worked to reinforce rather than undermine the other two.

2.5. THE DYNASTIC IDEOLOGY OF THE *AEDES VESTAE AUREI*

Having discussed each of the individual semantic units, we now turn to a consideration of the reverse as a whole. Previous scholarship has interpreted the reverse as a single unit, commonly focusing on the edifice itself to the detriment

³⁸ The existence of a compital shrine in the vicinity of the *aedes Vestae* is demonstrated by *CIL* VI 30960 (= EDCS-18600557). Some scholars (e.g. Lanciani, 1882: 229–31; Pisani Sartorio, 1988: VIII,2; Scott, 2009: 72) have identified this shrine with the small aedicula discovered near to the *atrium Vestae*, a structure argued by Coarelli, 1983: 266–70, to have been dedicated to the *lares praestites*. Neither identification is secure; see Flower, 2017: 133–5. Lindner, 2015: 94–5, argues that the aedicula housed a statue of Vesta flanked by statues of the lares and penates.

³⁹ Cf. Fuchs, 1969: 98, on the importance of topographical situation for identifying architectural images on coins.

⁴⁰ Platt, 2018: 230–5, stresses the 'same but different' nature of the Dioscuri, which may be echoed in the 'same but different' nature of the flanking figures.

of the other elements. By contrast, we prefer to analyse the reverse as a complex of the five distinct but complementary semantic units discussed above. In this way, the multifaceted and nuanced message conveyed by the type becomes clearer.

The legend **VESTA** sets the stage. It does not merely identify either the structure or the central figure but rather indicates to the viewer the general context against which the type should be interpreted. In other words, it functions to activate the particular types of contextual knowledge necessary to read the remainder of the type. Proceeding to the images, the pairing of the *aedes Vestae* and the *penates publici* or the *lares praestites* emphasizes the civic aspect of the type. At the same time, however, the household triad of Vesta, lares and penates is best understood as a metonymy for hearth and home. The depiction of Vesta within her *aedes* and thus in a more public role establishes a point of contact and relationship between these two alternatives. Furthermore, the fact that both *lares* and *penates* functioned as metonyms for either the individual *domus* or the *patria* allows the reverse to suggest that the two can be actually conflated.⁴¹

Consideration of the figures in isolation reveals a second public–private axis: on the left, one of the *lares familiares*, who protect the individual *domus*; on the right, one of either the *penates publici* or the *lares praestites*, who protect the *patria* as a whole; in the middle, Vesta, who protects both the *domus* and the *patria* and therefore functions as a hinge and point of contact between them. On this interpretation, the role of all three figures as protective deities puts the conflation of *domus* and *patria* in the particular context of safety and security: the safety of the *patria* is the safety of the *domus*; ensure the one, and one ensures the other.

This connection of domestic security and the security of the state is of course realized most fully in the imperial family. It was the emperor who was entrusted with protecting the Roman state, but his continued guarantee of such security was only possible through his family: Titus and Domitian would continue in the role of the state’s guardian after Vespasian’s death. Their importance is highlighted by allusions to the Castores, with whom they were frequently equated (Rebeggiani, 2018: 118–19), and by the pairing of this type with obverses of both Flavian heirs. The safety of the imperial family was thus inextricably linked to the safety of Rome; the coin type emphasizes Vesta’s patronage of both.

It is quite logical that this connection between the safety of the imperial family and the safety of the Roman state should be made with reference to the *aedes Vestae*. It was here that the *pignora imperii* were housed, the symbols of Rome’s prosperity and the guarantee of her continued rule (Ov., *Fast.* 3.421–8; Livy 5.52.7, 26.27.14). Similarly, Titus and Domitian were symbols of the Flavian dynasty’s continuance. Moreover, by equating the public and private spheres, the

⁴¹ For the use of *lares* and *penates* as metonyms, see e.g. Cic., *Verr.* 2.3.125; Cic., *Sest.* 30; Luc., 2.384–5.

coins suggest that the *pignora* housed within the temple were pledges not just of Rome's *imperium*, but also of Flavian *imperium*.

In much of this Vespasian found a model in Augustus, the Roman dynastic founder par excellence (Acton, 2011: 178–236). Augustus, of course, had also intimately linked the prosperity of the Roman state to the continued power of his own family.⁴² Furthermore, Vesta had been a favourite goddess of Augustus, who was represented as a descendant of Aeneas, the hero who brought Vesta's flame from Troy, together with the penates and the Palladium.⁴³ Augustus had also shown favour to the cults of the lares, rebuilding the *aedes larum in summa sacra via*, and allowing the compital lares to share in his epithet with their new name of *lares augusti* (RGDA 19.2; Flower, 2017: 86–91, 255–347). Moreover, some scholars have argued that Augustus tried to assimilate his household gods with the public versions of the lares, penates and Vesta (Cecamore, 1994–5: 24–5; Kleiner and Buxton, 2008: 63–5). The subtle allusions on the *aedes Vestae aurei* to these actions and favoured deities of Augustus connected Vespasian to the first *princeps* and established the legitimacy of his and his family's rule.

Dynastic imagery was an integral part of Vespasian's coinage from the beginning of his reign (Seelentag, 2010; Ziegert, 2020: 185–7). The *aedes Vestae aurei*, however, represent a shift in how this imagery was presented. On aurei and denarii struck during the first three years of Flavian rule, Titus and Domitian appear primarily on reverses and are often represented in their official capacities, with legends outlining their precise offices.⁴⁴ For example, some of the earliest denarii struck in Rome after Vespasian's recognition by the Senate show the two Caesares either riding or seated on curule chairs, accompanied by the legend **TITVS ET DOMITIAN CAES PRIN IV** (RIC 5–6; Ziegert, 2020: 52–3). At the same time, numerous coin types from early in Vespasian's reign stress the security and stability of government, through images like Securitas or Fortuna with a rudder.⁴⁵ The *aedes Vestae* coins bring these two themes together by coupling images of Titus and Domitian on the obverse with an

⁴² On 'the assimilation of Augustus' successors into the national mythology', see Zanker, 1990: 215–38.

⁴³ Zanker, 1990: 207. Note also the numerous coins of Vespasian that depict Vesta seated (RIC 45–6, 359, 820, 889, 1002, 1086–8) or standing (RIC 360, 1556). The hoard analysis of Ziegert, 2020: 239–42, suggests that images of Vesta were among the five most common reverse types for Vespasian's denarii, accounting for between 5 and 10 per cent of all denarii struck under Vespasian.

⁴⁴ For example, RIC 5–6, 15–16, 54–6, 1132–3, 1301–2, 1344, 1362–3, 1401–5. Titus and Domitian had appeared on the obverse of some aurei struck in Judaea in 70 (RIC 1534–8), as well as aurei and denarii from Ephesus in 71 (RIC 1435–49), but the character of these coins is more that of provincial coinage than imperial issues: see introduction to RIC ad loc. Titus appears on the obverse of a few precious-metal types struck in Rome (RIC 365–71, dated 72–3) that may predate the *aedes Vestae aurei*.

⁴⁵ For example, **SECVRITAS P ROMANI**, Securitas seated (RIC 38, 281, 326–7); **SECVRITAS AVGVSTI**, Securitas seated (RIC 280, 1155–7, 1171–4, 1197); **FORTVNA AVGVSTI**, Fortuna standing with rudder (RIC 1116); **AETERNITAS P R**, Vespasian receiving the Palladium from Victory (RIC 32).

image concerning dynastic harmony and stability on the reverse. In contrast to earlier types depicting Titus and Domitian, which increasingly stressed the differences in status and rank that separated the male members of the Flavian house,⁴⁶ the shift to a more allegorical composition on the reverse on the *aedes Vestae* coins evokes the very concept of family and emphasizes the unity of the imperial household. In doing so, the type may have been responding to contemporary rumours of disharmony between the brothers (Suet., *Tit.* 9.3, *Dom.* 2.2; Tac., *Hist.* 4.85–6; Cass. Dio 65.3.4).

3. PRACTICE

Existing scholarship recognizes the Flavian period as a crucial turning point in the history of the Roman imperial coinage, establishing the pattern for generations to come.⁴⁷ More specifically, scholars have identified three major changes: the sharing of types with the imperial heirs (*RIC* p. 55), the centralization of all minting in Rome (*RIC* pp. 3–5) and changes to the internal operation of the mint (Carradice, 1983: 145–6; *RIC* pp. 5–7). In this section, we use the die study of the *aedes Vestae* aurei — the first precious-metal type to be struck for all three Flavians — to elucidate these changes, with particular attention to the question of whether the new prominence of Titus and Domitian on the coinage was accompanied by, or even necessitated, a reorganization of coin production. We conclude by examining the extent to which these practical considerations were interwoven with the dynastic messaging discussed in the previous section.

This section makes frequent reference to the die study, the results of which are set out in the catalogue provided as an appendix to this article. Since we are only dealing with one reverse type, and the obverse image is always a right-facing head of the relevant member of the imperial house, we use the word *type* to refer to groups of coins with the same obverse legend. Each type is individually numbered (Table 1), with separate numbering for series *r* and series *l*, the difference between which is set out below. Obverse dies are numbered within each type, whereas reverse dies are numbered continuously and are prefaced with the letter R and suffixed with a subscript *r* or *l*, depending on the series. Numbering of types and dies reflects our understanding of the chronology, as far as it is possible to ascertain, but there is a good deal of uncertainty; see Section 3.2 further below.

⁴⁶ Titus' higher status becomes particularly apparent on the coinage after he shared in his father's Jewish triumph in summer 71; see Seelentag, 2010: 175–7.

⁴⁷ Carradice, 2012: 375: '[Flavian coinage] emerged from the chaos of the Civil Wars and was formed into a settled and systematic production with characteristics that broadly changed little for the next century.' Cf. *RIC* II¹ p. 1: 'inaugurates a new and lasting tradition at Rome'; *RIC* p. 1: 'crucial in setting the pattern for the next few generations'.

Table 1. Conspectus of types.

Type	Portrait	Legend	Legend direction
Series <i>r</i>			
I	Vespasian	IMP CAES VESPAS AVG P M TR P III P P COS III	Clockwise, inwardly
II	Titus	T CAES IMP VESP PON TR POT	"
III	Titus	T CAES IMP VESP PON TR POT CENS	"
IV	Domitian	CAES AVG F DOMITIAN COS II	"
V	Vespasian	IMP CAES VESP AVG P M COS III CEN	"
VI	Titus	T CAES IMP VESP CEN	"
VII	Vespasian	IMP CAES VESP AVG CEN	"
VIII	Vespasian	IMP CAES VESP AVG CEN	Anticlockwise, outwardly
IX	Vespasian	IMP CAES VESP AVG CENS	"
X	Titus	T CAES IMP VESP CEN	"
XI	Titus	T CAES IMP VESP CENS	"
Series <i>l</i>			
1	Vespasian	IMP CAESAR VESP AVG CENSOR	Clockwise, inwardly
2	Vespasian	IMP CAES VESP AVG CEN	"
3	Titus	T CAES IMP VESP CEN	Anticlockwise, outwardly
4	Domitian	CAES AVG F DOMIT COS II	"
5	Vespasian	IMP CAESAR VESPASIANVS AVG	"
6	Titus	T CAESAR IMP VESPASIAN COS VI	"

3.1. MINT ATTRIBUTION

While the second edition of *RIC* attributes all of the *aedes Vestae* aurei to the mint of Rome, at least some of these coins have been assigned to other mints in older catalogues. The first edition of *RIC*, published in 1926, suggested that coins with the legend IMP CAESAR VESPASIANVS AVG (*RIC* II¹ p. 51 no. 304; our type 5) were struck at Lyon, while the other *aedes Vestae* types then known were given to Rome. Four years later, *BMCRE* went further and assigned a further three types to Lyon (*BMCRE* 411–12 and p. 83; our types III, 1 and 4), as well as one to Tarraco (*BMCRE* 365; our type VII) and one to an uncertain mint (*BMCRE* 372; our type I). Giard's corpus of the coinage of Lyon largely followed *BMCRE* in assigning three *aedes Vestae* types to that mint (Giard, 2000: nos. 59–61). (A summary of these mint attributions and a concordance with our type numbers is given in Table 2.) These attributions were made principally on stylistic grounds, a practice considered flawed by Carradice and Buttrey in *RIC* II.1², following Kraay's die study of the Vespasianic *aes*, which showed multiple die links between coins of different styles (Kraay, 1978; cf. *RIC* p. 3–5). Although we agree that many scholars have been too eager to seize upon minor differences of style to assign coins to different mints, we nonetheless believe that the question of the location of the mint for the *aedes Vestae* aurei needs to be revisited.⁴⁸

⁴⁸ Metcalf, 2015, questioned the mint attribution of various coins struck around the same time as the *aedes Vestae* aurei, but we cannot accept his conclusions; see below, note 50.

Table 2. Concordance of *aedes Vestae aureus* types (Mint of Rome unless stated).

Arcenas & Watson	RIC	Giard (2000)	BMCRE	RIC II ¹
I	–	–	372 (Uncertain mint)	–
II	510	–	–	–
III	530	59 (Lyon)	411 (Lyon)*	162
IV	537	–	p. 23n.	230a
V	524	–	90	59
VI	–	–	–	171a
VII	515	–	107; 365 (Tarraco)	69a
VIII	548	–	108	69b
IX	549	–	109	69c
X	557	–	–	171a
XI	558	–	120	171b
1 (Lyon)	516	–	p. 83n. (Lyon)	69B
2 (Lyon)	515	–	–	69a
3 (Lyon)	557	–	–	171a
4 (Lyon)	559	60 (Lyon)	412 (Lyon)	230
5 (Lyon)	550	61 (Lyon)	413 (Lyon)	304 (Lyon)
6 (Lyon)	–	–	–	–
F1 (forgery)	704	–	–	171a
F2 (forgery)	708	–	p. 29n.	180

*The note on p. 18 suggests that Mattingly also assigned some coins of this type to Rome.

It has already been noted that there are two distinct groups with respect to the iconography of the left-hand flanking figure on the reverse: series *r*, where the figure stands with raised right arm, and series *l*, where the raised arm also holds a staff. These two groups can be differentiated on other grounds as well. Series *l* invariably depicts the acroterion as a simplified palmette, or *anthemion*, with precisely three branches, while series *r* either omits the central branch entirely or replaces it with a simple dot or a replica of the remaining two suspended above them, without obvious means of support. The prominent antefixes pictured on every die of series *l* are conspicuously absent from those of series *r*, while the two groups also differ markedly with respect to the number and regularity of the steps leading up to the temple.⁴⁹ In addition to such specific differences, the dies of series *l* are noticeably cruder and more irregular than even the least sophisticated example of series *r*.

The two groups also differ in terms of certain technical properties. While coins of series *r* were struck with die axes of either twelve or six o'clock, the die axis of all series *l* coins, where recorded, is twelve o'clock. Furthermore, the two series differ with respect to both the ratio of obverse to reverse dies and the manner in which those dies were employed: series *l* used roughly twice as many reverses as obverses, and the dies were used one after another, in sequence; series *r*, in contrast, used more than three times as many obverses as reverses, and the dies

⁴⁹ Whereas series *l* shows only two or, at the most, three relatively crude and irregularly cut steps, series *r* shows at least three or, more often, four or five whose appearance is more uniform.

were used in parallel sequences, which suggests the operation of multiple workstations or die boxes (Esty, 1990; Watson, 2022).

Crucially, there are no obverse die links between reverses of series *r* and series *l*, and only two obverse legends are common to both groups (see Table 1). While the absence of evidence cannot, of course, be considered evidence of absence, the distinct iconographic characteristics of the two groups, their technical differences and the lack of links between them are suggestive of two separate units of minting. It is possible that these two units of production were simply different parts of the same mint, but we hold this to be unlikely given the differences in iconography between the two groups. Variations such as the staff held by the left-hand figure suggest fundamentally different conceptions of the type, conceptions that were, moreover, never altered by coming into contact with the other. This is suggestive of geographical distance between the two units of production, and we may therefore conclude that series *r* and *l* were struck in separate mints.

In light of the many die links between series *r* and other types generally accepted to have been struck at Rome, these coins can be assigned to that mint with relative certainty.⁵⁰ Series *l* shares many characteristics of coins from the mint of Lyon. While the obverse portraits are not quite as distinctive as other products of that mint, there is a certain similarity, and the lettering on the obverses certainly displays the ‘neat and close arrangement’ that Mattingly took to be distinctive of the Lyon mint (*BMCRE* pp. lviii–lix). The use of the unabbreviated **CENSOR** in type 1 — a form only otherwise employed in the coinage of Vespasian by the mint of Lyon — is also suggestive of Lyon as the origin of series *l*.⁵¹ While certainty is impossible, we believe that the balance of probabilities weighs in favour of assigning series *l* to the mint of Lyon.

Carradice and Buttrey (*RIC* p. 33) noted that many reverse types employed at the mint of Lyon in AD 70–2 were ‘adapted from contemporary types of the mint of Rome, but with apparently deliberate differences in detail’. We seem to have a similar instance in the case of the *aedes Vestae* aurei, and the addition of the staff to the left-hand figure is particularly interesting. If, as suggested above, the figure’s raised hand is intended to evoke the iconography of a dancing lar, the addition of a staff makes little sense. A plausible explanation would be that the Lyon mint was sent a coin or die, either perhaps slightly worn, from which the design was copied. The difference in detail results from the satellite mint’s different understanding of the visual information it received.⁵²

⁵⁰ For the die links, see below, Table 4. These die links also suggest that the arguments of Metcalf, 2015, for a short-lived auxiliary mint producing denarii of the **PONTIF MAXIM** type (e.g. *RIC* 546, 556) are mistaken.

⁵¹ Unabbreviated **CENSOR** appears only on *RIC* 1245–86. Ziegert, 2020: 114, explains the use of the full word on type 1, which he attributes to the mint of Rome, as ‘eine Abweichung von der Absprache’.

⁵² This hypothesis would be consistent with the suggestion of Beckmann, 2007: 88–9, that the Roman mint employed ‘archetypal dies’ upon the introduction of a new reverse type, from which later dies were copied.

3.2. CHRONOLOGY

Six elements of titulature appear in the obverse legends of the *aedes Vestae aurei* that can help with the absolute dating of the series. These are laid out in [Table 3](#).⁵³ [Buttrey \(1980\)](#) has clearly set out the chronology of the Flavian titulature, highlighting that titles could be used commemoratively, allowing them to appear on coins for longer than the office was actually held.

Table 3. Dates of relevant Flavian titulature.

Title	Office held	Appears on coins
Vespasian TR POT III	July 72–June 73	July 72–June 73
Vespasian COS III	January 72–April 72	January 72–January 74
Vespasian CENSOR	April 73–December 74	April 73 onwards
Titus CENSOR	April 73–December 74	April 73 onwards
Titus COS VI	January 77–February 77	January 77–January 79
Domitian COS II	January 73–February 73	January 73–January 75

The reconstruction of the chronology of series *r* presents few problems. The mention of Vespasian TR POT III, along with the absence of any reference to his censorship, fixes type I at some point prior to April 73. Type II, also omitting reference to the censorship, appears to be a parallel issue for Titus. The only known die of type II is linked, either directly or indirectly, to dies of types III, IV, V, VI and VII, and the frequent references to Vespasian and Titus' censorship fix the continuation of this sequence after April 73. Reference to Vespasian COS III in type V gives a *terminus ante quem* of January 74, but this sequence is more likely to terminate in mid-73. Dies of type VII are also linked to dies of the remaining four types of series *r*, which are dated to the second half of 73 or later by the direction of the obverse legend (*RIC* p. 25). Analysis of the die wear in this last sequence suggests that much of it was struck in parallel, and this fact, together with the lack of reference to Vespasian's fifth consulship, suggests that minting of the *aedes Vestae* type at Rome came to an end in late 73. In summary then, minting of series *r* seems to have begun in March/April 73 and extended in a continual sequence until around the end of the year. A possible reconstruction of the sequence of striking is given in the die chart shown in [Figure 10](#).⁵⁴

The dating of series *l* is more problematic, and for convenience we exclude type 6 from the initial discussion. Types 1, 2 and 3 must belong after April 73 because

⁵³ The reference to Titus TR POT in types II and III clearly alludes to his tribunician power *in genere*, but the lack of reference to a specific iteration means it is not helpful for dating purposes.

⁵⁴ [Esty, 1990](#), has shown that, in the case of die charts with crossings (such as [Figure 10](#)), the sequence of die links alone does not permit chronological inferences, but must be supplemented by external information, such as that regarding die wear. [Figure 10](#) takes into account our observations of wear, but even this does not provide enough information to definitively fix the precise order of each and every die.

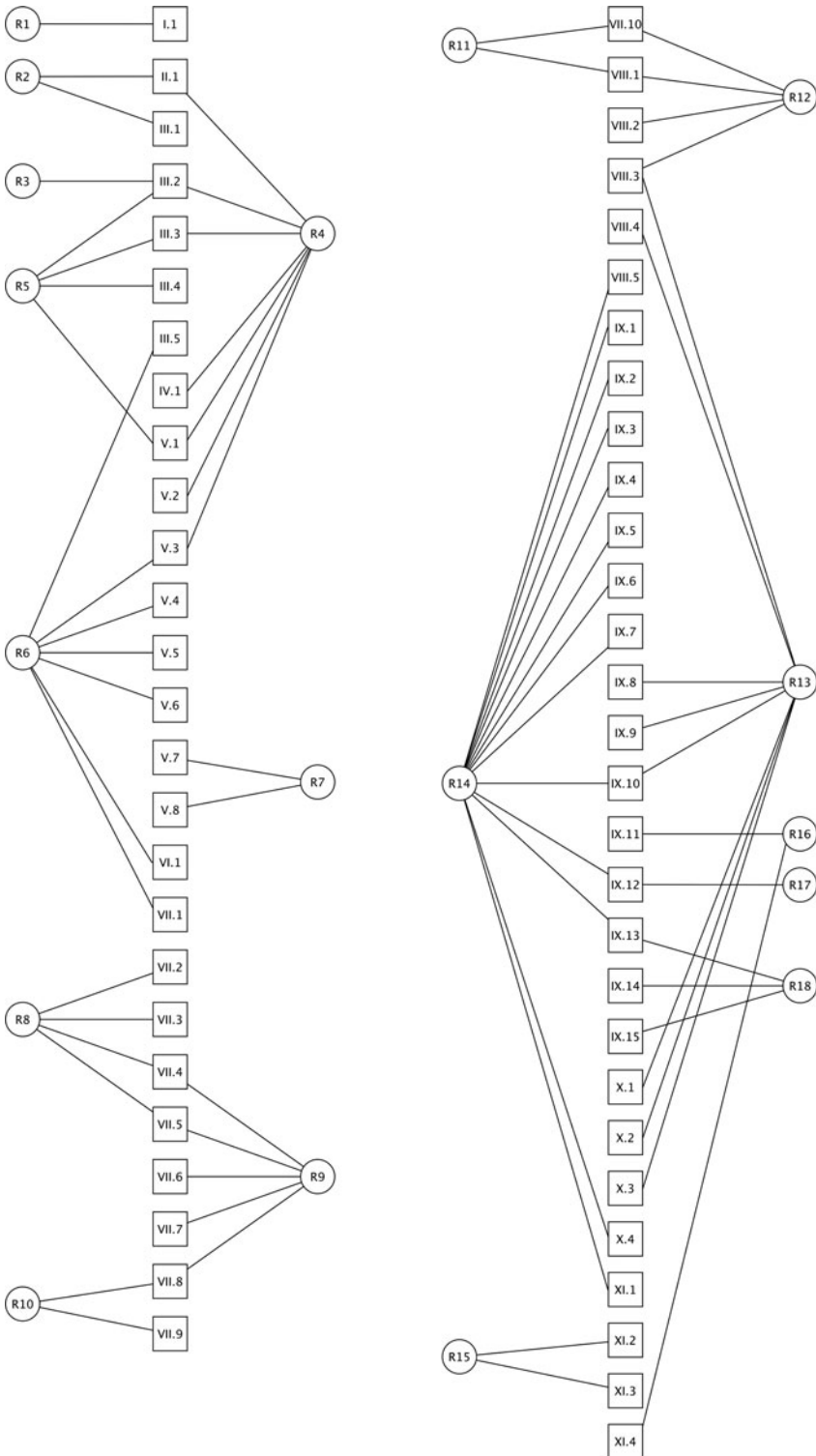


Fig. 10. Schematic representation of die links for series *r*.

of the reference to Vespasian and Titus' censorship, as must type 4, which is die-linked to type 3. There are, however, no other die links between types to help us any further. The lack of the **CENSOR** title on type 5 may suggest that it belongs prior to April 73, but the direction of the obverse legend suggests that it belongs with types 3 and 4. Two possible sequences therefore arise: 5–(April 73)–3–4–1–2, or (April 73)–1–2–3–4–5.⁵⁵ Although there is little to decide between the two, we tend towards accepting the latter, since in that reconstruction both obverse legends and obverse legend directions parallel the mint of Rome. It is not possible to set a *terminus ante quem* for the first five types of series *l*, but it seems reasonable to suggest that the minting ended roughly contemporaneously with series *r*, that is to say in late 73.

Type 6 refers to Titus' sixth consulship, and therefore dates to between January 77 and January 79, far later than any other types of the *aedes Vestae aurei*. Lyon is not known to have struck any precious-metal coins in this period, although it did produce a large volume of *aes* coinage in the years 77–8 (*RIC* 1204–94; Kraay, 1978: 56; Ziegert 2020: 168–73). Although type 6 is represented by only a single specimen, we see no reason to doubt its authenticity nor, given our arguments above, to assign it to the mint of Rome.⁵⁶ It appears, rather, that the resumption of minting at Lyon in 77–8 encompassed not just bronze coinage, as has long been recognized, but also a small volume of precious metal coins, perhaps as a sort of commemorative issue. The reverse type appears to have been chosen not for any particular relevance at that time, but simply because it was the last type used when the mint last produced aurei. We have not at present been able to identify any other aurei or denarii that belong to this issue, though these may appear in future; we note, however, the possibility that type 5 could also be dated to this later period.

3.3. MINT OPERATION

The die study allows us to assess the relative volumes of *aedes Vestae aurei* issued in the name of each of Vespasian, Titus and Domitian. Since each obverse die is likely to have struck approximately the same number of coins, the ratios of numbers of obverse dies depicting the three family members should give a rough indication of the number of coins struck in each of their names. At both Rome and Lyon, the vast majority of dies showed Vespasian, with far fewer for his sons. At Rome, thirty-eight dies depict Vespasian, fifteen show Titus, and just one is for Domitian; at Lyon, seven show Vespasian, two Titus, and one Domitian. Despite the fact that the reverse type stresses family harmony and

⁵⁵ Type 5 may of course come either side of types 3 and 4, but this makes little material difference.

⁵⁶ It is possible that the reverse die used for type 6 (R37₁) was used in 73 in a currently unattested die pairing, before being transferred to Rome when the Lyon mint stopped operating, meaning that type 6 was in fact struck at Rome. Such a convoluted explanation seems unlikely both on the principle of Occam's Razor, and because the obverse of type 6 shows no stylistic affinities with the coinage of Rome for 77–8.

seems appropriate for pairing with obverses showing family members, it is the emperor himself who in fact dominates the obverses of this coinage.

Despite the emphasis on Vespasian, there is little to suggest any differentiation between members of the imperial family in terms of the operation of the mint. At Rome, coins of all three are die-linked, either directly or indirectly, to one another, while at Lyon coins of the two Caesars are similarly linked, even if their father's are not.⁵⁷ Working units within the mint, commonly labelled *officinae*, do not seem to have been divided on the basis of obverse portrait. There is also no sign of differing weight standards for the coins of the Caesars, as Duncan-Jones (1994: 240–2) has observed for denarii of Titus and Domitian during their father's reign.

The production of the coinage of Domitian does, however, seem less regularized than that of Vespasian or Titus. It has already been noted that Domitian's coinage was struck from just one obverse die at each mint, and, at Rome in particular, the striking for Domitian seems somewhat unplanned. In its pairing with obverse die IV.1 for Domitian, the reverse die R4_r is noticeably more worn than when paired with obverses of Vespasian (V.1, V.2, V.3) or Titus (II.1, III.2, III.3). This suggests that the Domitian obverse was employed right at the end of the sequence, almost as an afterthought. It is noticeable that obverse IV.1 was also utilized for the reverse type of Domitian on horseback (see Table 4), a type noted for its abundance (*RIC* p. 25; Carradice, 1998: 110). It seems probable that the obverse was principally intended for use with this type, and not with the *aedes Vestae* reverse. We hesitate to label Domitian's *aedes Vestae* aurei true mistakes, or 'mint mules', where obverse and reverse dies for different issues were accidentally paired together, since the striking of a parallel issue for Domitian at Lyon suggests some form of intentionality. It does appear, however, that the inclusion of obverses of Domitian in this issue was not the main focus of the mint.

It is clear that, at Rome at least, the *aedes Vestae* aurei did not form a discrete and separated unit of production. A by no means exhaustive search of readily available material has uncovered eleven obverse dies that were also used for other reverse types (Table 4). The majority of these external die links are to coins of the PAX AVG type, and the rest seem to have an exceptional character: four are to denarii, while the use of the obverse of Domitian (IV.1) for *RIC* 538 has been discussed above. This suggests that the *aedes Vestae* aurei and the PAX AVG aurei were produced by the same division of the mint, which was not much involved in the striking of other types during the same time period. The division of the mint does therefore seem to be based around different reverse types, even if we hesitate to label this an *officina*, or to speculate on the number of these divisions within the mint overall.⁵⁸

⁵⁷ Given that we are only dealing with a sample of the coins originally produced, it would be unwise to read anything into the lack of die links between coins of Vespasian and those of his sons at Lyon.

⁵⁸ The operational divisions of the Roman mint have occasioned much scholarly discussion. Control marks on the coinage of the mid-third century show that at that time the mint was

Table 4. Obverse dies used for other reverse types (*d* = denarius; * = this specimen illustrated in *RIC*).

Obverse die	Reverse type	<i>RIC</i>	Example specimens
II.1	PAX AVG	509	P 70*
III.1	PAX AVG	529	Goldberg 100 (5/IX/2017) 2185
III.1	Titus in quadriga	531 <i>d</i>	<i>BMCRE</i> 94*
III.4	FIDES PVBL, clasped hands	528 <i>d</i>	<i>BMCRE</i> 91A*
IV.1	Domitian on horse	538	<i>BMCRE</i> 121*
V.3	PAX AVG	521	<i>BMCRE</i> 409*
VII.4	PAX AVG	512	<i>BMCRE</i> 95*
VII.8	PAX AVG	512	B 18219187
IX.13	PAX AVG	543	P 81*
X.1	PAX AVG	551	P 93*
X.1	PONTIF MAXIM	553 <i>d</i>	Emporium Hamburg 70 (14/XI/2013) 139 (= Metcalf 2015, fig. 4)
X.4	PAX AVG	551	<i>BMCRE</i> 110
X.4	PONTIF MAXIM	553 <i>d</i>	O*, <i>BMCRE</i> 112
XI.3	PAX AVG	552	B 18203222

The use of obverse dies for other reverse types also to a certain extent explains a strange technical feature of the *aedes Vestae* aurei of series *r*, namely that obverse dies outnumber reverse dies by more than 3:1.⁵⁹ Since reverse dies took the direct force of the hammer strike, they tended to wear out faster, and die studies therefore normally show that more reverses were used than obverses. The striking reversal of the normal pattern in the case of series *r* demands explanation. External die links offer some explanation — the types listed in Table 4 were struck from some of the same obverses, but different reverses, thus redressing the balance — but it would take a vast number of PAX AVG reverses coupled with very few new obverses to bring the ratio even close to 1:1. Indeed, a number of die studies of Roman aurei have revealed more obverses than reverses, suggesting that this may actually have been a common pattern (Bland, 2013: 279–80).⁶⁰ Beckmann's suggestion (2000: 133) that obverse dies may have been more frequently inspected for signs of wear, and thus replaced sooner, is plausible but by no means the only possible

divided into six *officinae*, each responsible for the production of a different reverse type. This has led to many attempts to discover a similar system operating in the earlier principate, chief among which is Carson, 1956. Some scholars have questioned whether reverse types can be seen as the principal indicator of internal divisions of the mint (e.g. Clay, 1979: 23; Beckmann, 2011: 177), though for at least one period of Domitian's reign this does seem to have been the case (Carradice, 1983: 143–6). Woytek, 2012: 113–17, offers the most recent review of the evidence and concludes that we are in a position neither to define what constituted an *officina* in the first and second centuries, nor to determine how many there were.

⁵⁹ Fifty-five obverses and eighteen reverses were observed. The discrepancy is exacerbated by looking at the estimates for the original numbers of dies used: see above, note 5.

⁶⁰ Martin Beckmann (*in litt.*) has advised us that another example of the same pattern is found for aurei of Hadrian struck in the years AD 117–29.



Fig. 11. *Aedes Vestae* denarius of Vespasian, Mint of Rome (Coin 145; Münzkabinett, Staatliche Museen zu Berlin, 18221692. Photo by Dirk Sonnenwald).

explanation. It is also possible, for example, that Roman aurei of the imperial period were struck with the reverse fixed in the anvil and the imperial portrait upon the loose die.⁶¹ More studies are required to determine how widespread this pattern is and what its cause may have been.

The comments above regarding die links to other types and the ratio of obverses and reverses are relevant only to series *r*, which we have attributed to the mint of Rome. We have found no evidence that obverses in series *l* were used for other reverse types.⁶² The ratio of obverses to reverses in series *l* is a far more normal 1:1.9.⁶³ This difference in the practicalities of the use of dies between the two series is further support for our assertion that they were struck in different mints.

Our study has also uncovered two denarii of the *aedes Vestae* type (Fig. 11); *RIC* does not list any genuine coins of this type in silver.⁶⁴ They are both of good weight and struck from a die pair that also produced aurei (obverse IX.12 and reverse R14_r), and there can therefore be little doubt that they are genuine products of the mint. However, given that these silver coins are known from only one die pair, we are inclined to view them as accidental products resulting from confusion in the mint over which dies were to be employed for which metals, and not as an intentional and substantial issue. Along with the die links to other denarius types (Table 4), the *aedes Vestae* denarii do, however, provide evidence for the same internal division of the mint producing coins in both gold and silver.

⁶¹ A ratio of more obverses than reverses would also occur if reverse dies — but not obverse dies — were ‘hubbed’, that is to say, impressed by a positive punch that produced many dies. This is unlikely given that (a) hubbing would be far more likely with a standardized design such as the imperial portrait than with a detailed and intricate design like the *aedes Vestae* reverse, and (b) there is no evidence for hubbing in antiquity: see Stannard, 2011.

⁶² We cannot, of course, state for certain that no die links exist or existed. We have, however, consulted all of the illustrations in *RIC*, as well as the published catalogues for the collections in London, Paris, Glasgow and Madrid, and the material available on the OCRE website (<http://numismatics.org/ocre>) as of June 2020 (totalling 556 coins that could possibly have shared a die with series *l*), and are confident that this lack of evidence is in fact evidence of a lack.

⁶³ The die studies summarized by Bland, 2013: 279–80, generally have ratios between 1:1 and 1:2.

⁶⁴ The Berlin denarius (our coin 145) is noted by Ziegert, 2020: 117 n. 600, and explained as a hybrid. *BNC* III Vespasian 434 is a plated denarius of the *aedes Vestae* type in Paris. The coin was mentioned by *BMCRE* p. 11n., with no indication that it is suspect, and by *RIC* II¹ p. 19n., with a note that it is plated. Cohen, 1880: 413, notes a plated specimen in Paris with a different obverse legend, but this is presumably the same coin and Cohen has misread. Eckhel, 1796: 332, records aurei and denarii of the *aedes Vestae* type, but it is not clear whether he had seen any genuine coins in silver or only plated specimens.

3.4. PRACTICALITIES OF MINTING FOR A DYNASTY

We began this section by posing the question of whether Flavian reforms to minting practice were linked with the shift towards a more dynastic coinage, of which the *aedes Vestae aurei*, with their dynastic reverse type and obverses for all three family members, may be seen as something of an apogee. The answer that emerges from the foregoing discussion is a resounding ‘not at all’. The appearance of all three male members of the imperial family on obverses, and the sharing of reverse types between them, was not the driver for the centralization of precious-metal minting in Rome. This occurred later, and the initial issues of the new dynastic coinage were struck both in the capital and in the branch mint. The internal divisions of the mint do not seem to have been restructured around the family members. We could imagine, for example, one unit producing coins of Vespasian and another those of Titus and Domitian, but this is not the case. The internal structure of the mint remained based around reverse types.

Although negative conclusions such as these may be unsatisfying at first glance, there is an important point to be made here. It is all too easy to present a teleological account of Flavian coinage, in which all changes are part of the same march towards the stable system that continued into the second century. We see that Titus and Domitian appeared first on the obverses of bronze coins, then on the precious metal, and it seems logical that the next step should be that they shared precious-metal reverse types with their father. The *aedes Vestae* reverse, which we have argued had a programmatically dynastic message, would appear to be the obvious choice for this final step. In reality, however, the process was far messier, and one is left with the impression that the coupling of the *aedes Vestae* reverse with obverses of all three members of the imperial house was somewhat improvised. This is shown most clearly by the fact that Domitian appears on only one obverse die at Rome, and that die seems to have been utilized in a rather ad hoc manner. The brief reutilization of the type for a small issue at Lyon in 77–8 reinforces the impression that the practicalities of Roman imperial coin production were often improvised. The *aedes Vestae aurei* are, therefore, not the beginning of the truly dynastic era of Flavian coinage, but rather one step in the series of trials and errors that made the Flavian coinage what it was.

4. CONCLUSIONS

Recent scholarship on the iconography of the Roman imperial coinage has, in general, moved away from the detailed investigation of individual types that was common in the first half of the twentieth century.⁶⁵ This has been replaced

⁶⁵ The introductions to individual reigns in *BMCRE* stand as paradigmatic of this approach.

by attempts to discern trends and developments over longer periods of time — perhaps the reign of one or more emperors — often accompanied by quantitative analyses that use coin hoards and finds to determine the relative importance of each coin type.⁶⁶ This ‘quantitative turn’ has reinvigorated discussion of Roman coin iconography, moving beyond what had become a stale debate about who chose types and why to focus instead on the question of how Roman viewers might have interpreted the coins they encountered in circulation. This welcome shift in numismatic scholarship has substantially improved our understanding of the role these images played in Roman society, but it has rather left gold coins lying by the wayside, since they do not appear frequently enough in hoards and finds to reward quantitative analysis.⁶⁷ The iconography of gold coinage is therefore easier to investigate in terms of production, as we have done in this paper, rather than use. Nonetheless, we believe that there are a number of points of intersection between our more old-fashioned analysis of a single aureus type, and the new quantitative approach to Roman coin iconography, and we aim to highlight some of these, and to draw out their significance, in this conclusion.

In order to detect the broad patterns and trends emphasized by scholarship of the ‘quantitative turn’, recent iconographic studies tend to group coinage into themes: for example, military types, religious types or types referring to current events. Our study suggests that detailed analysis of individual types is a necessary complement to quantitative analysis along these lines. Prior to our study, the *aedes Vestae* aurei might have been classified either as religious or as referring to current events (if they were to be connected with the rebuilding or rededication of the temple), but scarcely anyone would have thought them dynastic. Clearly the complexity of Roman imperial coin types requires study at both the macro and micro scale (cf. Rowan, 2013: 551).

The most striking pattern in Vespasian’s coinage is the proliferation of ‘imitative’ types that are based on earlier precedents.⁶⁸ At first glance, it seems tempting to interpret the *aedes Vestae* type as a simple manifestation of this tendency: it closely follows the Neronian precedent and may draw on other numismatic representations of the *aedes Vestae* more indirectly.⁶⁹ Our analysis, however,

⁶⁶ Noreña, 2001, can be considered the progenitor of this approach, while Elkins, 2009, sets out a programmatic agenda. Specific examples include Manders, 2012; Rowan, 2012; Elkins, 2017. The shift in focus is highlighted by the overview of recent scholarship by Kemmers, 2019: 21–30, who lists two studies concerning individual types, and 21 that focus on longer-term trends.

⁶⁷ Noreña, 2001; Rowan, 2012; Elkins, 2017 all deal at best cursorily with gold coinage. Manders, 2012, is able to give more weight to gold coinage, since she bases her quantification on RIC types, but this methodology has been heavily criticized, for example, by Rowan, 2013.

⁶⁸ The literature on this topic is vast. Buttrey, 1972, is seminal, while Ziegert, 2020: 191–220, is the most recent contribution, with earlier bibliography.

⁶⁹ Ziegert, 2020: 201, for example, explicitly identifies our aureus as a copy of the Neronian issue. Note also the angular design of the temple on reverse die R15_r and the prominent antefixes on the dies of series I, both of which features strongly echo the Neronian dies. This suggests that at least some of the engravers were aware of the Neronian prototype.

suggests that it would be unwise to interpret the *aedes Vestae* type as a mere copy; the addition of the flanking figures provides the key to our interpretation of the type and allowed the coin issuers to convey a more complex message of dynastic stability. In this way, our study raises important questions about both the nature and the purposes of ‘imitative’ coinage that demand further investigation.

A further issue relates to audience, which has been a central concern of the new iconographic studies. Numerous studies have shown that coin iconography could be differentiated according to potential audience groups, either by selecting specific imagery for specific denominations (Metcalf, 1993; Marzano, 2009) or by supplying particular coin types to particular geographical areas (Kemmers, 2005; Barbato, 2014; Ellithorpe, 2017). What has received less attention is the possibility of the same coin type speaking to different audiences — and in different ways.⁷⁰ Our reading of the flanking figures takes us in this direction, since the three associations that we suggest these images may have evoked need not have been thought of by the same viewer. Different viewers with different cultural backgrounds and knowledge bases may have found that one or two of the associations spoke to them more. For example, it is unlikely that a resident of the provinces would have made the association with the Castores, since this requires knowledge of the physical location of the *aedes Vestae* within the *Forum Romanum*, but the imagery of the *lares familiares* is likely to have been known to them. Whether a viewer recognized one or all of the associations suggested above, a dynastic interpretation of the type as a whole would have been suggested. Such an approach to individual coin types has the potential to reconcile the subtlety of messaging that recent research has revealed with the search for the ‘meaning’ of individual types that was the focus of earlier scholarship. As such we believe it is a more fruitful route forward than any attempts to pin down a single authoritative intent behind the choice of each coin type.

We do not believe that this multiplicity of different possible associations came about by chance. The very complexity of the iconography of the *aedes Vestae aurei* suggests that coin issuers could have been aware of — and taken into consideration when designing types — the different possible reactions that viewers might have had to coin images. Though coin issuers could not have considered every possible reaction, it seems reasonable to suggest that they were savvy enough to think about a multiplicity of different interpretations. Thus, an integrated approach that considers both the intent of coin issuers and the possible reaction of different viewers appears to be the most promising angle from which to approach the iconography of complex coin types like the *aedes Vestae aurei*.

Closely connected with older investigations of individual types was the question of who chose the designs to be put on coins, which was considered crucial to discovering the intent, and therefore the meaning, behind the images.⁷¹ This issue has rather been sidestepped by the new iconographic

⁷⁰ The brief remarks of Cheung, 1998: 54–5, remain the only steps in this direction.

⁷¹ Scholars who wanted to downplay the importance of coin images suggested that types were chosen by lowly mint-workers (e.g. Buttrey, 1972), while others have suggested mid-ranking

scholarship, but it is not entirely ungermane.⁷² The state of our sources means that we are unlikely ever to be able to identify a particular official with the responsibility for choosing coin types.⁷³ We have attempted in this paper to address the question of intentionality from a different perspective. Our investigation of the practicalities of the production of the *aedes Vestae* aurei revealed a somewhat haphazard approach, a far cry from the seemingly well-planned iconographic programmes that much recent scholarship proposes. The reuse of the type at Lyon in 77–8, apparently because it was the last type used by the mint four years previously, suggests that the choice of types was not solely governed by issues of communication. This is not to downplay the ideological content of the iconography, or the impact that it could have had on viewers, but simply to state that not every single aspect of that iconographical programme was micromanaged and well thought through. It is these kinds of insights that can only be drawn out by combining iconographic study with detailed investigation of the context of production.

5. POSTSCRIPT: SOME MODERN FORGERIES

Three *aedes Vestae* aurei, struck from two obverse and two reverse dies, have not been included in our analysis, since we judge them to be modern forgeries (Figs 12–14).⁷⁴ The first coin has obverse legend CAESAR VESPASIANVS AVG (our type F1; RIC 704), a type not otherwise known for *aedes Vestae* aurei and attested elsewhere in the coinage of Vespasian only in the years 77–8 (RIC 963–70, 977, 979–84). RIC notes that the coin is ‘unique and unusual’, and dates it to 74 only with serious reservations. We cannot, however, accept it as genuine. Neither obverse nor reverse is die-linked to any other coin. The style of the obverse portrait is very unusual, while the reverse exhibits a number of anomalous features, notably the stylized ‘m’ of the acroterion, the embellishments atop each of the columns, and the staff held under the left-hand statue’s left arm. None of these features are paralleled on any other dies in our sample. Moreover, the reverse has been engraved with great regularity, and both the baseline of the temple and the lines of the steps are straighter than even the most regular die in series *r*. The coin has been in the British Museum

officials (Levick, 1982), or even those close to the emperor himself (Sutherland, 1986). For an overview of the debate, see Wolters, 1999: 255–63.

⁷² For example, the long-running debate is alluded to by Noreña, 2001, in just one sentence and one footnote (p. 147 n. 3). Note, however, the dissatisfaction of one reviewer (König, 2018) with the treatment of the issue by Elkins, 2017.

⁷³ The suggestion of Claes, 2014, on the basis of the coinage of Nero and Domitian, that type selection was controlled by the *procurator a rationibus* is convincing, but not necessarily transferrable to other reigns.

⁷⁴ It should be stressed that the acceptance of any of these coins as genuine would not alter our conclusions.



Fig. 12. Modern forgery of an *aedes Vestae* aureus (Coin 237; L 1931,0602.1 © Trustees of the British Museum).



Fig. 13. Modern forgery of an *aedes Vestae* aureus (Coin 238; Courtesy of Classical Numismatic Group, LLC; www.cngcoins.com).



Fig. 14. Modern forgery of an *aedes Vestae* aureus (Coin 239; Münzkabinett, Staatliche Museen zu Berlin, 18229423. Photo by Dirk Sonnenwald).

since 1931, but can be provenanced a little further back, to 1926. We therefore suggest that it is the product of an engraver operating in the early twentieth century, perhaps even from the workshop of the Tardanis, father and son forgers who operated around this time (Amandry, 2009).

The other two coins were struck from the same die pair, with the obverse legend **T CAESAR IMP VESPASIAN** (our type F2; *RIC* 708). This obverse legend is also unknown for genuine *aedes Vestae* coins and is suitable only for the years 74–6 (*RIC* 705–8, 780–6, 804–5, 807, 809–10, 856–65). Both obverse and reverse dies are only known from these two coins. As with the previous type, the reverse exhibits a number of anomalies, namely the absence of a plinth for any of the three statues, their curiously rounded limbs, the missing right arm of the central figure, apparently a feature of the die, and the omission of a third, decorated course from the entablature of the temple. The third and fourth of these are particularly noteworthy, because they

resemble worn examples of genuine coins. Both coins are also suspiciously heavy: at 7.47 g and 7.54 g they are the heaviest two coins in our sample.⁷⁵ One specimen is in trade and can be traced back through auctions to the Bunbury sale of 1895, while the other has been in the Berlin collection since before 1839; these coins therefore appear to be forgeries dating from the early nineteenth century or earlier.⁷⁶

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APPENDIX: CATALOGUE OF COINS

The following catalogue lists 234 genuine aurei of the *aedes Vestae* type, as well as two denarii and three modern forgeries of aurei. Two further aurei are known to us from hoards in Pompeii, but they are not included in the catalogue as we have not been able to obtain images (Cantilena, 2008: 345, 359). Each entry for a coin comprises, from left to right: a running number, metal, obverse die, reverse die, weight in grams, die axis expressed in hours of the clock, collection and/or publication information. For an explanation of the numbering of coins, types and dies, see Section 3 of the main article.

Coins 97 and 230 are illustrated in the main text (Figs 1–2), as are one example of the denarius version of the type (coin 145; Fig. 11) and the three coins we identify as modern forgeries (coins 237–9; Figs 12–14). One example from each obverse and reverse die is illustrated on the pages following the catalogue; an asterisk before the coin's catalogue number indicates that that coin's obverse die is illustrated, while an asterisk after the coin's catalogue number indicates that that coin's reverse die is illustrated. In addition, where the coin number in the catalogue is printed in bold, an image of the coin can be accessed by visiting the URL formed by appending the coin number to 'https://rebrand.ly/aedes_vestae_'. So, for example, an image of coin 1 (= *BMCRE* 372) can be found at https://rebrand.ly/aedes_vestae_1.

For abbreviations used in the catalogue, see the list in the References.

⁷⁵ The mean weight of the 106 aurei in our catalogue for which weight data are available is 7.21 g, with standard deviation of 0.27 g. A survey of good weight coins by Butcher and Ponting, 2014: 329, to establish the weight standard of Vespasianic aurei showed a mean of 7.31 g (standard deviation = 0.07 g); the heaviest coin they recorded weighed 7.55 g.

⁷⁶ This dating would coincide with the activity of the famous forger Carl Wilhelm Becker (1772–1830), but Becker is not known to have made any forgeries of this type: see Pinder, 1843: 34.

SERIES *r*: MINT OF ROME

Type I: IMP CAES VESPAS AVG P M TR P III P P COS III Clockwise, inwardly

1	AV	I.1	R1 _r	6.57	5	L 1923,1105.43 (= BMCRE 372 = ex Spink = Glendining (22/III/1923) 182)
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Type II: T CAES IMP VESP PON TR POT Clockwise, inwardly

2	AV	II.1	R2 _r	7.18	7	V RÖ 6691
3	AV	II.1	R2 _r	6.96	2	Trier (= Trier hoard 1308)
4	AV	II.1	R2 _r	6.85	6	Trier (= Trier hoard 1309)
5	AV	II.1	R4 _r	7.39		Leu/MMAG [Niggeler 3] (2/XI/1967) 1169 = Bourgey (16/XII/1913) 162
6	AV	II.1	R4 _r	7.13		Varesi 67 (18/XI/2015) 48 = Heritage 3040 (9/IV/2015) 29231 = Emporium Hamburg 72 (13/XI/2014) 443 = Emporium Hamburg 71 (8/V/2014) 118
7	AV	II.1	R4 _r	7.11	7	Madrid (= Alfaro Asins 139)
8	AV	II.1	R4 _r	7.07		Arquennes hoard 220 = Calicó 797
9	AV	II.1	R4 _r	7.04	7	Heritage NYINC Signature Sale 3098 (18–19/II/2022) 33286 = Roma Numismatics E-Sale 61 (22/VIII/2019) 669 = Heritage 3071 (6/II/2019) 32070 = CNG 26 (11/VI/1993) 456 = Classical Numismatic Review 18 (January 1993) 219

Type III: T CAES IMP VESP PON TR POT CENS Clockwise, inwardly

*10	AV	III.1	R2 _r	7.01		Artemide Aste XLIV (12/XII/2015) 211
11*	AV	III.2	R3 _r	6.84	6	Trier (= Trier hoard 1312)
12	AV	III.2	R4 _r	7.36	6	Roma Numismatics XVI (26/XI/2018) 703 = Bourgey (10/III/1976) E = Bank Leu 10 (29/V/1974) 106 = Hess/Leu 41 (24/IV/1969) 144
13	AV	III.2	R4 _r	7.30		Freeman & Sear List 10 (Spring 2005) 94
14	AV	III.2	R4 _r	7.27		Mazzini 349
15	AV	III.2	R4 _r	7.26		G GLAHM:24896 (= HCC p. 230 no. 5)
16	AV	III.2	R4 _r	7.03		Bologna MCA-NUM-30977 (= F. Panvini-Rosati, <i>La moneta romana imperiale da Augusto a Commodo: catalogo della mostra; Museo Civico Archeologico, 31 gennaio – 15 marzo 1981</i> (Bologna, 1981) 223)
17	AV	III.2	R5 _r	7.22	6	Morton & Eden 100 (2/V/2019) 333 = Calicó 796 = Lanz 28 (7/V/1984) 470 = ex Biaggi de Blasys coll. = MMAG 19 (5–6/VI/1959) 195
18	AV	III.3	R4 _r	7.14		Gorny & Mosch 207 (15/X/2012) 611
19	AV	III.3	R5 _r	7.43		Vico 109 (10/XI/2005) 1348 = Argenor (13/IV/2005) 138 = M&M GmbH 14 [Arthur Bally-Herzog] (16/IV/2004) 99 = ex J. Hirsch
20	AV	III.3	R5 _r	7.25		Naples 12575 (= ex Pompeii III, 7 garden hoard (3/XI/1959))
21	AV	III.3	R5 _r	7.07	6	CNG EA 479 (21/X/2020) 172
*22	AV	III.3	R5 _r	6.77	6	O HCR6830 (Keble College coll. = bought of Spink (2/II/1890) = Rollin and Feuadent [M. le Comte de D***] (27/V/1889) 307)
23	AV	III.3	R5 _r	7.10		R (= via Po hoard 132)
24	AV	III.4	R5 _r	7.34		Schweizerischer Bankverein 5 (16/X/1979) 429
25	AV	III.4	R5 _r	7.20	6	L R.10352 (= BMCRE 411)
*26	AV	III.4	R5 _r	6.91	6	Trier (= Trier hoard 1311)
*27	AV	III.5	R6 _r			TVB's files 297

Type IV: CAES AVG F DOMITIAN COS II Clockwise, inwardly

*28	AV	IV.1	R4 _r	7.20		Numismatica Ars Classica O (13/V/2004) 1957
29	AV	IV.1	R4 _r	6.98		Mazzini 614
30	AV	IV.1	R4 _r			Münzhandlung Basel 6 (18/III/1936) 1633

Type V: IMP CAES VESP AVG P M COS IIII CEN Clockwise, inwardly

31	AV	V.1	R4 _r	6.96	6	Trier (= Trier hoard 1035)
32	AV	V.1	R4 _r			R 87189
33	AV	V.1	R5 _r	7.07	7	V RÖ 6213
34	AV	V.1	R5 _r			Bickelmann List 20 (IX/1969) 2
35	AV	V.1	R5 _r			Rollin & Feuardent [Montagu] (25–28/IV/1896) 190
*36	AV	V.2	R4 _r	7.02		Or Gestion Numismatique (O.N.G.) e-shop (31/I/2013)
37	AV	V.3	R4 _r	7.06	6	Trier (= Trier hoard 1034)
38	AV	V.3	R6 _r	7.26	6	Brussels 44.30 (= Du Chastel 439 = Boscoreale hoard)
39	AV	V.3	R6 _r	7.08	6	Nomos obolos 18 (21/II/2021) 565 = G. Hirsch 137 (29/VI–2/VII/1983) 134 = G. Hirsch 130 (21–23/I/1982) 138
40	AV	V.3	R6 _r	7.05		Gaziantep 22252 (= A. Ergeç, 'The Kuşakkaya Hoard of Aurei' in R. Ashton (ed.) <i>Studies in Ancient Coinage from Turkey</i> (London, 1996) Nr. 11)
41	AV	V.3	R6 _r			Calicó 694 = ex Biaggi de Blasys coll. = Santamaria [Signorelli 2] (4/VI/1952) 1284
*42	AV	V.4	R6 _r	7.14		J. R. Subastas (4/III/1993) 79 = Aureo (31/III/1992) 52
43	AV	V.5	R6 _r	7.36		Gorny & Mosch 48 (2/VIII/1990) 815 = Monimat/Rauch (22/XI/1989) 236 = ANA Auction (Galeries des Monnaies/New England Rare Coin Auctions) 1 (1/VIII/1979) 2467 = Brandt & Sonntag (n.d.) List 6 no. 387
*44	AV	V.5	R6 _r	7.15		Hess (9/V/1951) 57
45	AV	V.6	R6 _r	7.35		A.E. Cahn 71 (14/X/1931) 1523
*46	AV	V.6	R6 _r	6.97	6	CNG EA 364 (2/XII/2015) 559
47	AV	V.7	R7 _r	7.33	6	L 1843,0116.17 (= BMCRE 90 = ex Nott coll.)
*48	AV	V.7	R7 _r	6.66	7	V RÖ 6212
49	AV	V.8	R7 _r	7.31	6	P IMP-7506 (= BNC Vespasian 77)
50	AV	V.8	R7 _r	7.19	6	Künker 376 (18–19/X/2022) 4938 = Leu Numismatik Web Auction 16 (22–24/V/2021) 3426 (7.23g) = Chaponnière & Firmenich 12 (18/X/2020) 74 (7.17g) = Maison Palombo 15 (22/X/2016) 41 = Vinchon (5/X/1989) 25
51	AV	V.8	R7 _r	7.15	6	Bertolami Fine Arts 9 (29/IV/2014) 476 = Bertolami Fine Arts 7 (20/V/2013) 544
52	AV	V.8	R7 _r	7.02	6	B 18219183 (= ex Landesmuseum Kassel)
53	AV	V.8	R7 _r	5.90	6	CNG EA 318 (15/II/2014) 634

Type VI: T CAES IMP VESP CEN Clockwise, inwardly⁷⁷

54	AV	VI.1	R6 _r	7.24	6	Heritage Dallas Signature Sale 3085 (5–7/VIII/2020) 30041 = Santamaria [Magnaguti 2] (16/III/1949) 594
*55	AV	VI.1	R6 _r	7.20	7	Cop BP 618.3
56	AV	VI.1	R6 _r			Hess Lucerne (24/XI/1937) 95 = L. Hamburger (19/X/1925) 695

⁷⁷ A further coin of this type appeared in trade too late to be fully included in the catalogue (Heritage Dallas Signature Sale 3102 (2–4/XI/2022) 32261). It is struck from obverse VI.1 and a new reverse die.

Type VII: IMP CAES VESP AVG CEN Clockwise, inwardly

*57	AV	VII.1	R6 _r	6.99	6	Trier (= Trier hoard 1027)
58	AV	VII.2	R8 _r	6.93		Cop GP 3147.1 (= A. Kromann, <i>Romersk guld: mønter i Den kgl. Mønt- og Medaillesamling</i> (Copenhagen, 1989) 78)
59	AV	VII.2	R8 _r	6.39	1	Trier (= Trier hoard 1030)
*60	AV	VII.3	R8 _r	7.10		Emporium Hamburg 98 (2–5/V/2022) 323 = Emporium Hamburg 95 (8–11/XI/2021) 430 = Emporium Hamburg 89–90 (22–24/IV/2020) 349
61	AV	VII.4	R8 _r	7.27		Madrid, Old Collection (= Alfaro Asins 1452)
62	AV	VII.4	R8 _r	7.12	1	CNG Triton XXI (9/I/2018) 734 (7.09g) = Roma Numismatics XI (07/IV/2016) 782 (7.12g)
63	AV	VII.4	R8 _r	7.10	12	Florange-Ciani (14–15/VI/1923) 15 = Dupriez 110bis (4/XI/1912) 1760
64	AV	VII.4	R8 _r	7.08		G. Hirsch 256 (5/V/2008) 481 = CNG Triton VIII (11/I/2005) 1117 = Lanz 97 (22/V/2000) 512 = Naville 8 [Bement] (25/VI/1924) 733
65	AV	VII.4	R8 _r	7.02	12	CNG 96 (5/V/2014) 766
66	AV	VII.4	R8 _r			private coll.
67	AV	VII.4	R9 _r	7.32		CNG 67 (22/IX/2004) 1360 = CNG EA 74 (1/X/2003) 74 (7.07g) = CNG 63 (21/V/2003) 1271 = M&M GmbH 11 (7/XI/2002) 276 = A.E. Cahn 71 (14/X/1971) 1522 (7.38g)
68	AV	VII.4	R9 _r	7.32	12	CNG Triton XXIV (19–20/I/2021) 150 = Spink 1302 (27/III/2002) 152 = Glendining (27/IX/1962) 181 = Numismatica Ars Classica XII (18/X/1926) 2806
69	AV	VII.4	R9 _r	7.25	12	L 1996,0316.13 (= Didcot hoard 13)
70	AV	VII.4	R9 _r	7.10		Bruun Rasmussen 764 (11/XII/2006) 5702 = J. Schulman [Vierordt 2] (17/VI/1924) 692 = J. Schulman [Vierordt] (5/III/1923) 1028 = Merzbacher (2/XI/1909) 1296
71	AV	VII.4	R9 _r	7.08	12	Trier (= Trier hoard 1025)
72	AV	VII.4	R9 _r	7.00		Arquennes hoard 188
73	AV	VII.4	R9 _r	6.90		Soler y Llach 1096 (04/V/2017) 126 = Hervera-Soler y Llach 63 (21/XII/2010) 3591
74	AV	VII.4	R9 _r			Gibbons coin list 9 (Spring 1976) 322
75	AV	VII.4	R9 _r			Gilhofer & Ranschburg/Hess [Trau] (22/V/1935) 585
76	AV	VII.4	R9 _r			Naville 3 [Evans] (16/VI/1922) 41
77	AV	VII.4	R9 _r			Page-Ciani [Couturier] (7–10/IV/1930) 109 = Egger 45 (12/XI/1913) 982
78	AV	VII.4	R9 _r			J. Schulman [Vierordt] (5/VI/1930) 359
79	AV	VII.4	R9 _r			Vitalini [Capo] (9/III/1891) 453
*80	AV	VII.5	R8 _r	7.11		P IMP-7521 (= BNC Vespasian 92)
81	AV	VII.5	R9 _r	7.19	11	V RÖ 6257
82	AV	VII.5	R9 _r	7.06		Numismatica Ars Classica 84 (21/V/2015) 1820
83	AV	VII.5	R9 _r	5.56	10	Budapest 105.1872.2
84	AV	VII.6	R9 _r	7.16	6	CNG Triton XX (20/I/2017) 689 = CNG 85 (15/IX/2015) 868
85	AV	VII.6	R9 _r	6.93		Künker 133 (11/X/2007) 8708 = Aureo (14/I/1992) 2039
*86	AV	VII.6	R9 _r	6.89	6	Trier (= Trier hoard 1028)
87	AV	VII.6	R9 _r			Vatican Vespasiano 206
*88	AV	VII.7	R9 _r	7.40	12	L R1874,0715.20 (= BMCRE 365 = ex Rollin & Feuarent)
89	AV	VII.7	R9 _r	7.27		Bolaffi 35 (28/XI/2019) 101 = Leu/MMAG [Niggeler 3] (2/XI/1967) 1160
90	AV	VII.7	R9 _r	6.87	12	Trier (= Trier hoard 1029)
91	AV	VII.8	R9 _r	7.12	12	Roma Numismatics XXI (24–25/III/2021) 555
92	AV	VII.8	R9 _r	7.03		Henzen List 258 (X/2013) = Henzen List 218 (XII/2010) = Henzen List 172 (X/2006) 349 = Henzen List 168 (V/2006) 346 = Henzen List 160 (VI/2005) 326 = Credit de la Bourse (22–23/IV/1992) 39
93	AV	VII.8	R9 _r	6.89	12	Boston 1975.778
94	AV	VII.8	R10 _r	7.30		Netherlands NNC RO-02893

95	AV	VII.8	R10 _r			Calicó 690 = ex Biaggi de Blasys coll. = Sambon & Canessa [Strozzi] (15/IV/1907) 1858
*96	AV	VII.9	R10 _r	7.16		Felzmann 150 (4/XI/2014) 297
97	AV	VII.10	R11 _r	7.38	12	ANS 1956.184.26
98	AV	VII.10	R11 _r	7.30	12	Luton (= Shillington hoard 82)
99	AV	VII.10	R11 _r	7.17	12	L 1912,0607.74 (= BMCRE 107 = Second Corbridge Find (1912))
100	AV	VII.10	R11 _r	7.11	12	CNG EA 392 (1/III/2017) 523
101	AV	VII.10	R11 _r	7.03	12	Trier (= Trier hoard 1026)
102	AV	VII.10	R11 _r	7.01		Künker 280 (26/XI/2016) 543
103	AV	VII.10	R11 _r	6.35	12	Trier (= Trier hoard 1031)
104	AV	VII.10	R12 _r	7.20		Afinsa (7/V/2002) 86

Type VIII: IMP CAES VESP AVG CEN Anticlockwise, outwardly

105	AV	VIII.1	R11 _r			Colosseum Coin Exchange 11 (31/VIII/2010) 59 = Aufhäuser 9 (7-8/X/1993) 289
106	AV	VIII.1	R12 _r	7.32	1	V RÖ 6258
*107	AV	VIII.2	R12 _r			Santamaria (16/II/1924) 189
108	AV	VIII.3	R12 _r	7.10	12	CNG EA 330 (31/VIII/2010) 333
109	AV	VIII.3	R13 _r	7.12		St. Paul (= M. Alram, R. Denk, W. Szaivert & F. Dick, <i>Die Münzsammlungen der Benediktinerstifte Kremsmünster und St. Paul im Lavanttal</i> (Vienna, 1983) No. 649)
*110	AV	VIII.3	R13 _r	6.91		Calicó 690a = M&M GmbH 11 (7/XI/2002) 275 = Sternberg & Apparuti 14 (24/V/1984) 292 = Hess (9/V/1951) 56
*111	AV	VIII.4	R13 _r	7.10	11	CNG EA 412 (17/II/2018) 502 (7.07g, 12h) = Roma Numismatics XII (29/IX/2016) 689
112	AV	VIII.5	R14 _r	7.28		Vinchon (7/XI/1977) 106 = Santamaria [Hartwig] (7/III/1910) 1179
*113	AV	VIII.5	R14 _r	7.23	12	L 1864,1128.40 (= BMCRE 108 = ex Wigan coll.)
114	AV	VIII.5	R14 _r	7.09	12	Nomos AG list (Winter/Spring 2014) 40 = J. Hirsch 30 (11/V/1911) 930
115	AV	VIII.5	R14 _r	7.06	12	Brussels 62.664 (= Liberchies hoard 109)
116	AV	VIII.5	R14 _r	6.84		Künker 204 (12/III/2012) 574

Type IX: IMP CAES VESP AVG CENS Anticlockwise, outwardly

117	AV	IX.1	R14 _r	7.22		MMAG 38 [Voirol] (6/XII/1968) 387
118	AV	IX.1	R14 _r	7.17	7	Toulouse 2000.14.95 (= 'Monnaies romaines en or de la République et du Haut-Empire, jusqu'à Titus' in <i>Les Monnaies d'or des Musées de Toulouse, Musée Saint-Raymond, Musée Paul Dupuy</i> (Toulouse, 1994) No. 95 = C. Roumeguère, <i>Description des médailles grecques et latines du Musée de la ville de Toulouse précédée d'une introduction à l'étude des médailles antiques</i> (Toulouse & Paris, 1858) p. 126 no. 185)
*119	AV	IX.2	R14 _r	7.24		Künker 168 (12/III/2010) 7709 (7.22g) = Numismatica Ars Classica 52 (7/X/2009) 373 = Künker 94 (27/IX/2004) 1870 = Spink 168 (15/IV/2004) 27
120	AV	IX.2	R14 _r			O. Voetter, <i>Sammlung Bachofen von Echt: Römische Münzen und Medaillons</i> (Vienna, 1903) No. 949
121	AV	IX.2	R14 _r			Egger 39 (15/II/1912) 797
*122	AV	IX.3	R14 _r	7.15		Goldberg 62 (01/II/2011) 3180 (7.13g) = Cederlind 156 (30/IX/2010) = Stack's (12/II/2009) 2270
123	AV	IX.4	R14 _r	7.24	11	Heritage ANA Signature Sale 3056 (3/VIII/2017) 30004 = ex Acre hoard (CH VII (1985) no. 243 p. 157)

*124	AV	IX.4	R14 _r	6.97	12	Trier (= Trier hoard 1043)
*125	AV	IX.5	R14 _r	6.70		Mazzini 578
*126	AV	IX.6	R14 _r	6.65	12	C CM.LS.3273-R (= Lewis coll.)
*127	AV	IX.7	R14 _r	7.27	12	L R.10303 (= <i>BMCRE</i> 109 = ex George IV, 1825 = ex George III)
128	AV	IX.7	R14 _r	7.18		MMAG 43 (12/XI/1970) 321
129	AV	IX.7	R14 _r			Glendining [Ryan] (20/II/1951) 1688
130	AV	IX.8	R13 _r	7.25	12	Künker 341 (1–2/X/2020) 5838 = Editions V. Gadoury (16/XI/2018) 62 (7.27g) = Santamaria [Brunacci] (24/II/1958) 1059 = G. Hirsch 9 (26/VI/1956) 431a = Dorotheum [Zeno] (06/VI/1955) 378
*131	AV	IX.8	R13 _r	7.20	12	CNG EA 460 (29/II/2020) 618 = Cayón (12/XII/2015) 67
*132	AV	IX.9	R13 _r	7.21		Heritage ANA Signature Sale 3094 (19–20/VIII/2021) 34213 = NAC Spring Sale 2021 (10/V/2021) 1249
133	AV	IX.10	R13 _r	6.12		Nomisma (San Marino) 51 (15/X/2014) 583 = Kölner Münzkabinett 76 (7/V/2002) 198 (6.10g)
*134	AV	IX.10	R14 _r	7.33		Calicó 691 = CNG 40 (4/XII/1996) 1422 = ex Biaggi de Blasys coll. = Glendining [Hall 2] (16/XI/1950) 1165 = Feuardent [Ready] (8/VIII/1919)
135	AV	IX.10	R14 _r	7.30		Hervera-Soler y Llach 1068 (25/X/2011) 200 (7.21g) = Hervera-Soler y Llach 61 (23/X/2010) 39
136	AV	IX.10	R14 _r	7.22	12	G GLAHM:24706 (= <i>HCC</i> p. 193 no. 43)
*137	AV	IX.11	R16 _r	7.16	12	Wilhering (= R.V.D. Dick, <i>Die Münzsammlungen der Zisterzienserstifte Wilhering und Zwettl</i> (Vienna, 1975) No. 272)
138	AV	IX.12	R14 _r	7.41	10	Sear, <i>Roman Coins</i> 2255 = Numismatic Fine Arts 26 (14/VIII/1991) 227 = Hess/Leu [ESR] (23/III/1961) 104
139	AV	IX.12	R14 _r	7.39		Harmers 1 (25/IX/2020) 61 = Künker 312 (8/X/2018) 2832 (7.41g) = Künker 280 (26/IX/2016) 544 = Gorny & Mosch 236 (7/IV/2016) 434 = Sotheby's 94 (6/X/1994) 34 = Hess [Löbbecke] (6/II/1926) 1017
*140	AV	IX.12	R14 _r	7.30	12	ANS 1944.100.39927 (= Sotheby's [O'Hagan] (13/VIII/1908) 195)
141	AV	IX.12	R14 _r	7.17	6	CGB (12/IX/2017) 98 = Vinchon (31/V/2017) 165 = Vinchon (3/XII/2015) 35 = Vinchon (X/1973) 57 = Gilhofer & Ranschburg/Hess [Trau] (22/V/1935) 586
142	AV	IX.12	R14 _r			L. Ciani [Collection F. M. . .] (25/X/1920) 164
143	AV	IX.12	R14 _r			Delaune list 1 (n.d.) 465
144	AR	IX.12	R14 _r	3.94	6	Harvard 1942.176.146
145	AR	IX.12	R14 _r	3.81	6	B 18221692 (= ex A.E. Cahn)
146*	AV	IX.12	R17 _r	7.26		Sotheby's (7/III/1996) 173 = Sotheby's Zurich [Brand] (1/VIII/1982) 7 = J. Hirsch 18 (27/V/1907) 678
147	AV	IX.13	R14 _r	7.19	1	V RÖ 6256
148	AV	IX.13	R18 _r	7.30	12	MMAG list 408 (II/1979) 21 = MMAG list 377 (IV/1976) 26 = L. Hamburger (19/X/1925) 666
149	AV	IX.13	R18 _r	7.28	12	Heritage Auctions C1CF Signature Sale 3032 (10/IV/2014) 23568 = Goldberg 53 (26/V/2009) 1880 (7.2g) = Künker 62 (13/III/2001) 366 (7.25g)
150	AV	IX.13	R18 _r	7.17		Pegasi 6 (8/IV/2002) 13
151	AV	IX.13	R18 _r	7.12	12	Roma Numismatics XXII (7–8/X/2021) 710
152	AV	IX.13	R18 _r	7.01	1	Brussels 62.665 (= Liberchies hoard 110)
153	AV	IX.13	R18 _r			Bruun Rasmussen 829 (2/V/2012) 5328
154	AV	IX.14	R18 _r	7.02		Edlins 131 (4/III/2000) 358 = Arquennes hoard 189
*155	AV	IX.14	R18 _r			Noble 106 (29/VII/2014) 3307 = Noble 96 (5/IV/2011) 4922 = Downies 263 (16/VII/1997) 748
*156	AV	IX.15	R18 _r	7.32		G. Hirsch 169 (20–22/II/1991) 791
157	AV	IX.15	R18 _r			Rollin & Feuardent [M. le Comte de D***] (27/V/1889) 293
158	AV	IX.15	R18 _r			Seaby's Coin & Medal Bulletin 707 (VII/1977) 1202

Type X: T CAES IMP VESP CEN Anticlockwise, outwardly

159	AV	X.1	R13 _r	7.39	1	Brussels 47.12 (= Du Chastel 441 = Rollin & Feuardent [Ponton d'Amécourt] (25/IV/1887) 163)
160	AV	X.1	R13 _r	7.32	12	Leu Numismatik 87 (6/V/2003) 13
161	AV	X.1	R13 _r	7.28	1	Heritage ANA Signature Sale 3094 (19–20/VIII/2021) 32032 = Roma Numismatics XX (29/X/2020) 575 = Roma Numismatics 4 (30/IX/2012) 535 = Calicó 794 = Sotheby's (8/VII/1996) 101 = Bank Leu 36 (7/V/1985) 247 = ex Biaggi de Blasys coll. = MMAG 13 (17/VI/1954) 666 = ex Boscoreale hoard
162	AV	X.1	R13 _r	7.27	12	P IMP-7528 (= BNC Vespasian 99)
163	AV	X.1	R13 _r	7.25		Künker 273 (14/IV/2016) 681 = Rauch 96 (10/XII/2014) 309
164	AV	X.1	R13 _r	7.17	12	CGB 60 (4/XII/2013) 34
165	AV	X.1	R13 _r			Vatican Tito 142
166	AV	X.2	R13 _r	7.15		J. Hirsch [Weber] (10/V/1909) 1223
167	AV	X.2	R13 _r	7.14		Künker 168 (12/III/2010) 7713 (7.09g) = Comptoir Général Financier 1 (28/XII/1996) 63
168	AV	X.2	R13 _r	7.08	12	Numismatica Ars Classica 114 (6/V/2019) 1476 = G. Hirsch 202 (25/XI/1998) 420 = Lanz 102 (28/V/2001) 513 = Elsen 42 (16/XII/1995) 193
169	AV	X.2	R13 _r	7.08		Numismatica Ars Classica 84 (21/V/2015) 1824
*170	AV	X.2	R13 _r	7.06	1	P IMP-7527 (= BNC Vespasian 98)
171	AV	X.2	R13 _r	6.93		Stack's (17/II/2020) 20098
172	AV	X.2	R13 _r	6.18	12	Trier (= Trier hoard 1328)
*173	AV	X.3	R13 _r	7.18	12	Rauch 91 (5/XII/2012) 319 = Künker 216 (8/X/2012) 878 = CNG Triton XV (3/I/2012) 1510 = Herrero (21/XII/2000) 134
*174	AV	X.4	R14 _r	5.40	12	B 18229420

Type XI: T CAES IMP VESP CENS Anticlockwise, outwardly

175	AV	XI.1	R14 _r	7.31	12	L R.10306 (= BMCRE 120 = ex George IV, 1825 = ex George III)
*176	AV	XI.1	R14 _r	7.24		G GLAHM:24901 (= HCC p. 231 no. 9)
177	AV	XI.1	R14 _r	7.14		Hess (09/V/1951) 73
178	AV	XI.1	R14 _r	7.05		Seville (= F.d.P. Pérez Sindreu, <i>Catálogo de monedas y medallas de oro: Gabinete Numismático Municipal</i> (Seville, 1980) No. 20)
179	AV	XI.1	R14 _r	6.98		Budapest 53.1960.39
180	AV	XI.1	R14 _r	6.67	12	Trier (= Trier hoard 1331)
181	AV	XI.1	R14 _r			R 87217
182	AV	XI.1	R14 _r			S.L. Cesano, <i>Catalogo della Collezione Numismatica di Carlo Piancastelli</i> (Forli, 1957) No. 905
183	AV	XI.2	R15 _r	7.18	12	Nomos 13 (7/X/2016) 269 = Leu Numismatik 91 (10/V/2004) 527 (7.32g) = Bourgey (5/XII/1977)
184	AV	XI.2	R15 _r	7.15	12	Heritage CICF Signature Sale 3024 (18/IV/2013) 24869 (7.17g) = Arquennes hoard 226
185	AV	XI.2	R15 _r	6.96		Sondermann e-shop (8/V/2013) = Künker 153 (14/III/2009) 8680 = Gorny & Mosch 147 (6/III/2006) 2049
*186	AV	XI.3	R15 _r	7.01	12	Trier (= Trier hoard 1329)
187	AV	XI.3	R15 _r	7.00	12	Münzhandlung Basel 6 (18/III/1936) 1627
188	AV	XI.4	R16 _r	7.31		Numismatica Ars Classica A (27–28/II/1991) 1778
189	AV	XI.4	R16 _r	7.12		Calicó 795 = Sear, <i>Roman Coins</i> 2423 = Gorny & Mosch 56 (7/X/1991) 441
190	AV	XI.4	R16 _r	7.01	12	Trier (= Trier hoard 1330)

SERIES L: MINT OF LYON

Type 1: IMP CAESAR VESP AVG CENSOR Clockwise, inwardly

*191	AV	1.1	R19 ₁	7.35		Rauch 98 (21/IX/2015) 372 = Gilhofer & Ranschburg/Hess [Trau] (22/V/1935) 587
192*	AV	1.1	R19 ₁	7.26		Netherlands NNC RE-07028
193	AV	1.1	R19 ₁	7.19	12	ANS 1944.100.39926
194	AV	1.1	R19 ₁	7.09		MMAG 17 (2/XII/1957) 421
195	AV	1.1	R19 ₁	7.06		Göttweig (= W. Szaivert, <i>Die Münzsammlung des Benediktinerstiftes Göttweig</i> (Vienna, 1983) No. 99)
196	AV	1.1	R19 ₁	6.97	12	Nîmes 18 (= <i>BMCRE</i> pl. 14 no. 10)
197	AV	1.1	R20 ₁	6.90	12	Peus 338 (27/IV/1994) 595 = Bickelmann 14 (22/XI/1986) 287 = Bickelmann 12 (23/XI/1985) 136
198*	AV	1.2	R20 ₁	7.11		J. Elsen 133 (10/VI/2017) 271
199*	AV	1.2	R21 ₁	7.17		G. Hirsch 368 (23/IX/2021) 3288 = G. Hirsch 364 (11/III/2021) 1267 = G. Hirsch 357 (18/VI/2020) 432 = G. Hirsch 352 (25-26/IX/2019) 2813 = Hess-Divo 336 (27/V/2019) 96 = Künker 204 (12/III/2012) 572 = Hess 257 (12/IX/1986) 236 = J. Schulman (18/I/1954) 672 = J. Schulman [Laugier] (5/V/1913) 122 = Scheiner D-37 (n.d.) 3867 = Scheiner D-35 (n.d.) 4150
200	AV	1.2	R22 ₁	7.21		Künker 111 (18/III/2006) 6643
201	AV	1.2	R22 ₁	7.11	12	B 18219188 (= ex Adler coll., 1821)
202	AV	1.2	R22 ₁	7.09		Mazzini 580 = Santamaria 16 (24/I/1938) 394
203*	AV	1.2	R23 ₁	7.30		Künker 347 (22-23/III/2021) 1078 = Künker 288 (13/IV/2017) 475 (7.32g) = G. Hirsch 319 (02/V/2016) 432 = G. Hirsch 314 (23/IX/2015) 2732
204	AV	1.2	R23 ₁	7.19		Rauch Sommerauktion 2013 (18/IX/2013) 537 = Bourgey (23/V/1910) 174 = J. Hirsch [Weber] (10/V/1909) 1192
205	AV	1.3	R19 ₁	7.22	12	Cop KP 294.13
206	AV	1.3	R23 ₁	7.36		MMAG 21 (19/III/1960) 30 = Bourgey [M. le Docteur Rousset de Philadelphie] (24/IV/1908) 272 = Sangiorgi [Strozzi] (15/IV/1907) 1859
207*	AV	1.3	R24 ₁	7.06	12	Trier (= Trier hoard 1032)
208	AV	1.3	R25 ₁	7.20	12	G GLAHM:24707 (= <i>HCC</i> p. 193 no. 44)
209	AV	1.3	R25 ₁			Calicó 693
210	AV	1.3	R25 ₁			Rollin & Feuadent [M. le Comte de D***] (27/V/1889) 294
211*	AV	1.3	R26 ₁	7.13		Numismatica Ars Classica 119 (6/X/2020) 27
212	AV	1.3	R26 ₁		12	Kölner Münzkabinett 65 (12/XI/1996) 585 = MMAG List 289 (VI/1968) 29
213	AV	1.4	R27 ₁	7.22		Bank Leu 20 (26/IV/1978) 260 (7.25g) = Myers 11 (11/IV/1975) 264 = Sotheby's (10/X/1974) 120

Type 2: IMP CAES VESP AVG CEN Clockwise, inwardly

214	AV	2.1	R28 ₁			Egger 41 (18/XI/1912) 1174
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Type 3: T CAES IMP VESP CEN Anticlockwise, outwardly

*215	AV	3.1	R29 ₁	7.20	12	L 1929,0704.1 (= Helbing 57 (20/VI/1929) 4162)
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Type 4: CAES AVG F DOMIT COS II Anticlockwise, outwardly

216	AV	4.1	R29 ₁	7.26	12	L BNK,R.19 (= <i>BMCRE</i> 412 = ex Bank of England coll., 1877)
217	AV	4.1	R29 ₁	7.14		Madrid, Old Collection (= Alfaro Asins 2268)
218	AV	4.1	R29 ₁	7.04		G GLAHM:24972 (= <i>HCC</i> p. 245 no. 1)
219	AV	4.1	R29 ₁	7.04		CNG 67 (22/IX/2004) 1381 = <i>Numismatica Ars Classica H</i> (30/IV/1998) 1895 (7.15g) = Gorny & Mosch 55 (14/V/1991) 538
220	AV	4.1	R30 ₁	7.37		<i>Numismatica Ars Classica</i> 101 (24/X/2017) 216 = Calicó 940 = <i>Numismatica Ars Classica</i> 24 (5/XII/2002) 56 = CNG Triton II (1/XII/1998) 866 = Leu/MMAG [Niggeler 3] (2/XI/1967) 1177 = Rollin & Feuardent [Evans] (26/V/1909)
221*	AV	4.1	R30 ₁	6.92	12	Cop RP 2878.1 (= C. Ramus, <i>Catalogus Numorum Veterum Graecorum et Latinorum Musei Regis Daniae. Pars II Moneta Romanorum</i> (Copenhagen, 1816) Domitian 15)
222*	AV	4.1	R31 ₁	6.77		Hess (9/V/1951) 85

Type 5: IMP CAESAR VESPASIANVS AVG Anticlockwise, outwardly

223	AV	5.1	R32 ₁	7.47		Peus 392 (4/V/2007) 4507 = <i>Numismatica Ars Classica</i> 34 (24/XI/2006) 13 = Astarte 14 (24/IV/2004) 400 = Calicó 695 = ex Biaggi de Blasys coll. = Santamaria [Larizza 2] (18/VI/1928) 159
224	AV	5.1	R32 ₁	7.28		Stack's (11/II/2010) 370
225	AV	5.1	R32 ₁	7.20	11	P IMP-7739 (= <i>BNC</i> Vespasian 310)
226	AV	5.1	R32 ₁	7.20		Münzhandlung Basel 8 (22/III/1937) 624
227	AV	5.1	R32 ₁	7.20		Varesi 56 (3/VI/2010) 70
228	AV	5.1	R32 ₁	7.17	11	CNG 106 (13/IX/2017) 723 (7.15g) = Noble 79 (26/VII/2005) 3341 = Lanz 117 (24/XI/2003) 618
229	AV	5.1	R32 ₁			Scheiner D-37 (n.d.) 3868
230*	AV	5.1	R33 ₁	7.33		Frankfurt (= M. R.-Alföldi, <i>Ancient Gold Coins from the Deutsche Bundesbank Collection</i> (Frankfurt, 1983) No. 37 = ex Money Museum, Zurich = Kress 102 (6/XII/1956) 246 = Dorotheum [Zeno] (13/VI/1955) 407)
231*	AV	5.1	R34 ₁	7.05		Künker 304 (19/III/2018) 1093 (7.03g) = Rauch 103 (23/IV/2017) 237 = Nomisma 49 (14/V/2014) 150 = Varesi 48 (7/XI/2006) 187
232*	AV	5.2	R35 ₁	7.33		Naples 12574 (= ex Pompeii III, 7 garden hoard (3/XI/1959))
233	AV	5.2	R36 ₁	7.38	12	L R.10353 (= <i>BMCRE</i> 413)
234	AV	5.2	R36 ₁	6.87		Madrid, Old Collection (= Alfaro Asins 1453)
235	AV	5.2	R36 ₁			Santamaria [Brunacci] (24/III/1958) 1060

Type 6: T CAESAR IMP VESPASIAN COS VI Anticlockwise, outwardly

236	AV	6.1	R37 ₁	7.31		Baldwin [The New York Sale XL] (11/II/2017) 1218
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MODERN FORGERIES

Type F1: CAESAR VESPASIANVS AVG Anticlockwise, outwardly

237	AV	F1	FR1	7.10	5	L 1931,0602.1 (= ex Baldwin = J. Schulman [Vierordt] (5/VI/1930) 360 = Naville/ <i>Ars Classica</i> 12 (18/X/1926) 2807)
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Type F2: T CAESAR IMP VESPASIAN Anticlockwise, outwardly

238	AV	F2	FR2	7.54	6	CNG 78 (14/V/2008) 1757 = Pars coins (e-shop 10/X/2006) = Goldberg 37 (10/IX/2006) 3457 = Astarte 17 (8/V/2005) 235 = Calicó 793 = Sotheby's Zurich [Metropolitan Museum of Art (Durkee)] (10/XI/1972) 61 = Sotheby's [Bunbury] (10/VI/1895) 580
239	AV	F2	FR2	7.47	6	B 18229423

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Abbreviations

Collections

ANS	American Numismatic Society, New York
B	Münzkabinett, Staatliche Museen zu Berlin (numbering refers to object numbers in the online catalogue)
Bologna	Museo Civico Archeologico, Bologna
Boston	Museum of Fine Arts, Boston
Brussels	Bibliothèque Royale de Belgique, Brussels
Budapest	Magyar Nemzeti Múzeum, Budapest
C	Fitzwilliam Museum, Cambridge
Cop	Nationalmuseet, Copenhagen
Frankfurt	Deutsche Bundesbank, Frankfurt am Main
G	Hunterian Museum, Glasgow
Gaziantep	Adiyaman Müzesi, Gaziantep
Göttweig	Benediktinerstift Göttweig
Harvard	Harvard Arts Museum, Harvard
L	British Museum, London
Luton	Wardown House Museum and Gallery, Luton
Mad	Museo Arqueológico Nacional, Madrid
Naples	Museo Archeologico Nazionale di Napoli
Netherlands	Nationale Numismatische Collectie, The Netherlands
NNC	
Nîmes	Musée de la Romanité, Nîmes
O	Ashmolean Museum, Oxford
P	Bibliothèque nationale de France, Paris
R	Museo Nazionale, Rome
Seville	Gabinete Numismático Municipal, Seville
St Paul	Benediktinerstift St Paul im Lavanttal
Toulouse	Musée Saint-Raymond, Toulouse
Trier	Rheinisches Landesmuseum, Trier
V	Kunsthistorisches Museum, Vienna
Vatican	Biblioteca Apostolica Vaticana, Vatican City
Wilhering	Zisterzienserstift Wilhering

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PLATES



I.1



II.1



III.1



III.2



III.3



III.4



III.5



IV.1



V.1



V.2



V.3



V.4



V.5



V.6



V.7



V.8



VI.1



VII.1



VII.2



VII.3



VII.4



VII.5



VII.6



VII.7



VII.8



VII.9



VII.10



VIII.1



VIII.2



VIII.3



VIII.4



VIII.5



IX.1



IX.2



IX.3



IX.4



IX.5



IX.6



IX.7



IX.8



IX.9



IX.10



IX.11



IX.12



IX.13



IX.14



IX.15



X.1



X.2



X.3



X.4



XI.1



XI.2



XI.3



XI.4



1.1



1.2



1.3



1.4



2.1



3.1



4.1



5.1



5.2



6.1



R1_r



R2_r



R3_r



R4_r



R5_r



R6_r



R7_r



R8_r



R9_r



R10_r



R11_r



R12_r



R13_r



R14_r



R15_r



R16_r



R17_r



R18_r



R19_i



R20_i



R21_i



R22_i



R23_i



R24_i



R25_i



R26_i



R27_i



R28_i



R29_i



R30_i



R31_i



R32_i



R33_i



R34_i



R35_i



R36₁



R37₁

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