

## MARKS OF VALUE ON TETRARCHIC NUMMI AND DIOCLETIAN'S MONETARY POLICY

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DIOCLETIAN AND HIS COLLEAGUES HOPED, through the lofty words of their monetary and price edicts, to inspire or to frighten the Roman public into accepting monetary reform, but the values the imperial government assigned its new denominations failed and they remain a subject as vexed and obscure to us as they perhaps were to many inhabitants of the Roman Empire. Until quite recently the valuation mark XXI, or its Greek equivalent KA, was considered the only direct evidence, however cryptic, of the values of Diocletian's currency.

After Aurelian reformed the coinage in 274, the reverses of antoniniani often bore either XXI or KA until Diocletian's reform of the currency in 293.<sup>1</sup> Diocletian introduced a silver-washed, laureate bronze coin, probably called a "nummus" (it is so referred to below). It evidently passed at the rate of 5 to 1 argenteus.<sup>2</sup> Within a few years it came to have valuation marks

My thanks to William E. Metcalf and to the anonymous referees for their criticisms and suggestions. The following are cited below by author's name: S. Bolin, *State and Currency in the Roman Empire to 300 A.D.* (Uppsala 1958); P. Bruun, "The Successive Monetary Reforms of Diocletian," *ANSMN* 24 (1979) 129–148; J.-P. Callu, *La politique monétaire des empereurs romains de 238 à 311* (Paris 1969, BEFAR 214); L. N. Cope, "The Argenteus Bronze Alloys of the Late Tetrarchic Folles of 294–307," *NC* 7 8 (1966) 114–149 (= Cope<sup>1</sup>), "Diocletian's Price Edict and the Second Coinage Reform in Light of Recent Discoveries," *NC* 7 17 (1977) 220–226 (= Cope<sup>2</sup>), "Diocletian's Price Edict and Its Associated Coinage Denominations," *SMB* 22 (1977) 7–12 (= Cope<sup>3</sup>); M. Crawford, "Finance, Coinage and Money from the Severans to Constantine," *ANRW* 2.2 (Berlin 1975) 560–593; K. T. Erim, J. Reynolds, and M. Crawford, "Diocletian's Currency Reform: A New Inscription," *JRS* 61 (1971) 171–177 (= Erim *et al.*); M. Giaccherio, "Il valore delle monete dioclezianee dopo la riforma del 301 e i prezzi dell'oro e dell'argento nei nuovi frammenti de Aezani nell'edictum de pretiis," *RIN* 76 (1974) 145–154; J. Jahn, "Zur Geld- und Wirtschaftspolitik Diokletians," *JNG* 25 (1975) 95–105; C. Jungck, "Die Neuen Funde zum Preisedikt Diokletians," *SMB* 26 (1976) 25–32; J. Lafaurie, "Réformes monétaires d'Aurélien et de Dioclétien," *RN* 6 17 (1975) 73–138; R. MacMullen, *Roman Government's Response to Crisis 235–337 A.D.* (New Haven, Conn. 1976); V. Picozzi, "L'iscrizione di Afrodisia e il valore delle monete dioclezianee," *RIN* 79 (1977) 91–108; E. Ruschenbusch, "Diokletians Währungsreform vom 1. 9. 301," *ZPE* 26 (1977) 193–210; and C. H. V. Sutherland, "Denarius and Sestertius in Diocletian's Currency Reform," *JRS* 51 (1961) 94–97, *Roman Coins* (London 1974, = Sutherland, *Roman Coins*).

<sup>1</sup>For Aurelian's reform, see Zosimus 1.61.3 with Callu 232–240 and Lafaurie 98–107. For the date of Diocletian's reform, see now Bruun 133–134.

<sup>2</sup>See Bolin 302–303; Callu 362, n. 1; Erim *et al.* 175; and Cope<sup>3</sup>. *Contra* Picozzi, who reads XCVI on argentei as 96 d.c. (105–108), though the view that it means 1/96 of a pound is almost certain.

similar to those on Aurelian's antoniniani. C. H. V. Sutherland first argued that these valuation marks, whether on antoniniani or on nummi, denoted the equation 20 sestertii: 1, and indicated coins rated at five denarii communes.<sup>3</sup>

A new inscription from Aphrodisias that records a retariffing of the currency effective September 1, 301, has caused doubts about this interpretation. The original restoration of the opening and the one I shall argue for:

. . . ut nummus a]rgenteus centum denariis [valeat et ut nummus vigint]/ti quinquae den[ari]orum potentia vige[at ?cui]us legis observantiae etiam fiscum no[st]rum subiectum/esse scire te comu[. . .]lt ut scilicet ex kal(endis) Se[pte]mbribus Titiano et Nepotiano cons(ulibus) vac. hii debitores quicumque/ esse novi coeperint etiam fisco geminata p[ote]ntia ea(n)dem tradant pecuniam parique condicione si usus e[st] xigat etiam fiscum adnumeret. vac. . . .

entails new values of the argenteus and the nummus of 100 d.c. and 25 d.c.<sup>4</sup> This gives

	284-293	293	ca 300	301
Aureus <sup>5</sup>	Floating	600 d.c.	?	?
Argenteus	—	25 d.c.	50 d.c.	100 d.c.
Nummus	—	5 d.c.	12-1/2 d.c.	25 d.c.
Radiate <sup>6</sup>	5 d.c.	2 d.c.	?	5 (?) d.c.
Laureate <i>aes</i>	1 d.c.	1 d.c.	?	2 (?) d.c.

It is true that the prologue to Diocletian's Price Edict (issued at an unknown date within 301) laments fourfold and eightfold increases in prices;

<sup>3</sup>Sutherland 93-94. For coins, see *RIC* 6, p. 665, nos. 30a-33b (Alexandria) and pp. 467-468, nos. 110-125 (Siscia). For views not interpreting XXI/KA as valuation marks, see Callu 325-328, Cope<sup>1</sup> 114-115, and D. Kienast, "Die Münzreform Aurelians," *Chiron* 4 (1974) 550-555.

<sup>4</sup>Text based on Fragment b in Erim *et al.* 173 and Crawford 578-579. Restorations of lines 1-2 follows suggestions of Jahn (98), Jungck (31), and Ruschenbusch (202).

<sup>5</sup>For the tariffing of the aureus at 24 argentei or 600 d.c. in 293 see Bolin 313-315. After 293 we have no evidence for any official values assigned the aureus, and it probably circulated by weight. Prices for gold and silver bullion have no convenient relationship to official values assigned coin denominations; see Bolin 301-310 and cf. remarks of G. Mickwitz, *Geld und Wirtschaft im römischen Reich das vierten Jahrhunderts n. Chr.* (Helsinki 1931) 68-69 and MacMullen 113-114.

<sup>6</sup>*PRyl.* 4.607 probably records the reduction of the radiate denomination from 5 to 2 d.c. See C. H. Robert and J. G. Milne, "ITAAIKON NOMIΣMA," *Transactions of the International Numismatic Congress, 1936* (London 1938) 246-249, Sutherland 96-97, and Ruschenbusch 208. The reform of 301 probably revalued the radiate and small laureate denominations to 5 and 2 d.c., so that they are the denominations implicit in the Price Edict. See Bolin 302-303 for need of these denominations. *Contra* Ruschenbusch and Picozzi, who argue for values of 4 and 2 d.c. because of the frequency of these prices in the Price Edict (Ruschenbusch 194-200, Picozzi 95-101 and 104-105). This view misses the crucial point that most prices are divisible by 5 or 2 d.c. Nor is it likely that these coins dropped out of circulation as suggested by Bruun (133); see T. V. Buttrey, *Gnomon* 41 (1969) 680.

even so we may wonder whether Diocletian really sanctioned a fivefold upward revaluation of the nummus, from 5 to 25 d.c., within eight years.<sup>7</sup> Moreover, in line four of the monetary edict, the emperors announced that the fiscus must honor the old currency "at its doubled value" (*geminata potentia*).<sup>8</sup> The Latin is clearly preserved so that there is little doubt that if the nummus were revalued to 25 d.c. in lines 1-2, then this "doubled value" should imply a previous and very awkward tariffing of 12-1/2 d.c. Again, if the argenteus and nummus were revalued at 100 and 25 d.c. respectively, such a change would shift the fundamental relationship between the two denominations from 1:5 to 1:4.

Accordingly Michael Crawford restores the crucial lacuna of line 1 thus: ". . . sed ut nummi radiat[i] quinquae den[ari]orum potentia vige[ant] . . ."<sup>9</sup> An argenteus of 100 d.c. cannot, of course, coexist with a nummus of 5 d.c. Thus, Crawford reasoned, the text must have specified the radiate denomination as the 5 d.c. piece and this coin, in Crawford's opinion, should be recognized as the 5 d.c. coin implied in the Price Edict, while the tiny laureate *aes* would be the 2 d.c. piece. Since his version of the text omits any mention of the nummus, Crawford applies the historic 1:5 ratio and obtains a nummus revalued at 20 d.c. The monetary edict, then, resulted in a doubling of the denominations of the issues in precious metals (if one may call the nummus a silver issue by courtesy) but no change in the denominations of the small *aes*. Therefore, Crawford summarizes the currency's changes under Diocletian as follows:

	284-293	293-301	301
Aureus <sup>10</sup>	Floating	800 d.c.	1600 d.c.
Argenteus	—	50 d.c.	100 d.c.
Nummus	—	10 d.c.	20 d.c.
Radiate	2 d.c.	5 d.c.	5 d.c.
Laureate <i>aes</i>	1 d.c.	2 d.c.	2 d.c.

<sup>7</sup>*Edictum de Maximis Pretiis* (CIL 3 pp. 802 ff. = ILS 642) *praef.* 14, with general complaints in *praef.* 6. See the editions of J. Lauffer, *Diokletians Preisedikt* (Berlin 1971), and M. Giacchero, *Edictum Diocletiani et collegarum de pretiis rerum venalium in integrum fere restitutum e Latinis Graecisque fragmentis* (Geneva 1974). For a suggested date of November-December 301, see J. Lafaurie, "Remarques sur les dates des quelques inscriptions du début du IV<sup>e</sup> siècle," *CRAI* 1965.196-197.

<sup>8</sup>See J. Guey, "Note sur le reforme monétaire du Dioclétien," *BullSocFrNum* 27 (1972) 263 and Crawford 580 for revaluation without altering the size of the coins. Note "*bicharata mo[neta]*" in fragment a, l. 1 as a possible reference to doubling of the denominations; see Crawford 581 and D. Sperber, "Moneta Bicharata-Disgim," *CQ NS* 24 (1974) 134-136.

<sup>9</sup>Erim *et al.* 175-176 and Crawford 580-581. For acceptance of Crawford's general views see Cope<sup>2</sup> 224-226, Cope<sup>3</sup> 7-11, Bruun 134, Giacchero 146-149, and Sutherland, *Roman Coins* 296, nn. 261 and 271.

<sup>10</sup>The values for the aureus are premised upon the assumption that the price of gold bullion is relevant to coin values; see above note 6. For the same values derived from a price of 60,000 d.c. per pound of gold in *PPanop* 2.215-217 (A.D. 300), see D. Sperber, "Denarii and Aurei in the

In Crawford's scheme the upward revaluation of the nummus, required by the depreciation in the buying power of the denarius, shrinks from 500% to 100%. In fact, it might be expected that the imperial government would adjust its official rates of exchange at a pace slower than the actual rate of inflation. In support of his version of the edict, Crawford sees the valuation marks XXI on Diocletian's nummi, usually dated to 300–301, as another record of the retariffing of the nummus to 20 d.c. The equation XXI is interpreted as 20 d.c. = 1 nummus and not 20 sesterii = 1 nummus, as previously argued.<sup>11</sup>

Yet Aurelian can hardly have meant his antoniniani to pass at 20 d.c., so Crawford has to reinterpret XXI on his coins. Aurelian, in Crawford's opinion, introduced XXI not as an equation, but as a number/denomination combination, in which XX means 20 and I is the old Roman abbreviation for as, to announce a new antoninianus of 20 asses. Eastern mints employed the Greek equivalent KA, 20 ἀσσάρια (= asses), on their antoniniani, which presumably were equated to the heavy civic bronze coins countermarked KA at certain Anatolian mints. A shift from reckoning by a denarius of 16 asses to reckoning by one of 10 asses Crawford explains as a reversion to the original meaning and value of the denarius some four hundred years earlier.<sup>12</sup> Therefore, Aurelian not only restored the antoninianus to a value of two denarii, but, in contrast to Diocletian's later reform, actually deflated the currency, because his new "aurelianianus" was based on a denarius of only 10 asses. The resemblance between XXI and KA on radiate coins prior to 293 and XXI on nummi is, in Crawford's view, purely coincidental.

The proposed restoration of line 1 in the inscription from Aphrodisias, as Crawford himself admits, is strained.<sup>13</sup> It is also difficult to explain the

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Time of Diocletian," *JRS* 56 (1966) 193–195. For the same method with different results see Giaccherio 151–154, Jahn 96–97, and Lafaurie 108–119. Earlier views are invalid because they are based on incorrect prices for gold and silver bullion in the Price Edict. These prices are now firmly established as 72,000 and 6,000 d.c. per pound, respectively; see R. and F. Naumann, *Der Rundbau in Aezani mit dem Preisedikt des Diokletians und das Gebäude mit dem Edikt in Stratonikeia* (*IstMitt* Beiheft 10, 1973) 57 and pl. 14, and M. Crawford and J. M. Reynolds, "The Aezani Copy of the Price Edict," *ZPE* 34 (1979) 176.

<sup>11</sup>Erim *et al.* 176–177 and Crawford 581–582; so already H. B. Mattingly, "Sestertius and Denarius under Aurelian," *NC* 5 7 (1927) 219–232, at 222.

<sup>12</sup>See Crawford 575–576, and earlier O. Seeck, "Sesterz und Follis," *NumZeit* 28 (1896) 171–173, and F. Ehrendorfer, "Der Denar des Aurelians," *NumZeit* 76 (1955) 12–15. For the countermark KA in Asia Minor see T. B. Jones, "A Numismatic Riddle: The So-Called Greek Imperials," *ProcAmPhilSoc* 107 (1963) 336–344, and M. C. Caltabiano, "Contremarche micro-asiatische di eta imperiale," *Quaderni Ticiensi* 1977.239–255.

<sup>13</sup>Erim *et al.* 175–176. See the criticisms of J.-P. Callu, "Remarques sur *JRS* LXI (1971), pp. 171–177," *BullSocFrNum* 27 (1972) 291–293, Jungck 29–31, Picozzi 94–95, and Ruschenbusch 202. Note that no evidence exists for a denomination called "radiatus," but some evidence exists for names similar to "antoninianus" and "aurelianianus." See *HA Aurel.* 9.7 and 12.1 and *HA Prob.* 4.5 (gold antoniniani), *HA Firm.* 15.8 (silver antoniniani), and *HA Prob.* 4.5 ("argenteos aurelianos").

absence of any mention of the nummus in this version. The nummus, a large, handsome coin minted in unprecedented quantities, was the most important denomination in daily use, and the success of any reform was tied directly to the acceptance of this coin.

The valuation marks, while it is appealing to associate them with the two edicts, do not support the existence of a 20 d.c. coin under Diocletian. When Siscia and Alexandria marked nummi XXI, Antioch employed the formula KV, which represents the Greek numeral 20 and the Latin 5.<sup>14</sup> On some of their nummi Antioch and Alexandria, both under the jurisdiction of Galerius, employed the same format for their separate formulae to express the same message on their nummi, as follows:<sup>15</sup>

*Mintmark of Antioch\**      *Mintmark of Alexandria\*\**

K	A-I	XX	A-€
V	I	I	I
ANT		ALE	

\*Taken from *RIC* VI, p. 620.

\*\*Taken from *RIC* VI, p. 665.

In each case the mintmark occupies the exergue, while the officina mark, represented by a Greek numeral, is placed in the upper right field. At Alexandria the valuation mark is split between the lower fields, with the higher numeral XX on the left and the smaller on the right. Antiochene nummi have an identical format, with K in the lower right field and V in the lower left field, just below the officina mark. Without much doubt XXI and KV can only be the numerical equations  $20 = 1$  and  $20 = 5$ , respectively. Since the notations XXI and KV were employed virtually simultaneously on the same denomination, the two should yield the same value. The only set of values which can satisfy both equations is that of nummus/denarii/sestertii so that KV must mean 20 sestertii = 5 denarii and XXI is 20 sestertii = 1 nummus. No other combinations of denominations will work. Thus, the nummus cannot be a 20 d.c. piece; nor can it offer any assistance in the restoration of the inscription from Aphrodisias. Nummi bearing XXI or KV have no connection with the provisions laid down in the monetary edict but must instead antedate the reform of 301.

The marks XXI or KA on antoniniani prior to 293 cannot designate a system of reckoning based on asses. Some specimens of antoniniani have the dotted form XX.I, a form suggesting an equation.<sup>16</sup> Crawford never ex-

<sup>14</sup>See *RIC* 6, pp. 602 and 620, nos. 54a–55b. *Contra* Crawford 581, n. 83, where it is suggested that V is a Greek abbreviation for drachmae.

<sup>15</sup>For a different format at Siscia, see *RIC* 6, pp. 445 and 467–468, nos. 110–125.

<sup>16</sup>See Mattingly (above, n. 11) 219. *Contra* Sutherland, *Roman Coins* 296, n. 271, with a proposed interpretation of XX as two denarii, but XX is the proper notation as Sutherland had stated earlier (95).

plains why the Roman government would cease to think in terms of sestertii and switch to asses as units of account. As Sutherland had quite correctly noted (94–95), the sestertius was the unit of financial reckoning within most of the empire during the Principate and it was still an actual coin as late as the 270s. The sestertius can be documented as a common coin of account as late as the reign of Constantine.<sup>17</sup> While the countermark KA on civic *aes* of Anatolia denotes 20 ἀσσάρια (= asses), there is no reason for this Greek provincial method of reckoning bronze coins to be related to the KA found on imperial antoniniani struck at eastern mints.<sup>18</sup> The marks XXI/KA most likely express a value for antoniniani and nummi in a unit long familiar to most Romans: the sestertius.

The value of 20 sestertii = 1 for antoniniani and Tetrarchic nummi best explains the purposes behind the reforms of 274 and 293. In 274 Aurelian could only have stabilized prices by facing the harsh reality that past imperial policy had so depreciated the denarius that the public refused to accept the official rate of exchange of two denarii for one radiate denomination. The value represented by XXI/KA on his radiate coins proclaimed a stabilization of the radiate denomination at a level higher than two denarii and more in line with current prices and the sunken value of the denarius.<sup>19</sup> It cannot reflect an effort by Aurelian, as Crawford asserts, to deflate the antoninianus from 32 to 20 asses. Aurelian and his advisers, blunt Balkan soldiers, were forced to acknowledge the effects of run-away inflation and they had little reason to recall the value and etymology of the Republican denarius as a coin of 10 asses.

Aurelian's revaluation of the antoninianus at five d.c. apparently succeeded in stabilizing prices at a high level and his radiate denomination, though subject to several minor, abortive reforms, survived until the next major reform under Diocletian. Diocletian introduced the nummus in 293 to replace the radiate denomination as the basic coin of the imperial monetary system. His moneyers discontinued applying the thin silver wash, so critical in upgrading the value of the *aes*, on the antoninianus and instead coated the nummus.<sup>20</sup> Likewise, the familiar XXI was transferred from the radiate coin to the nummus, probably to publicize the nummus as the new five d.c. piece. The pre-reform radiates continued to circulate, but at a reduced value

<sup>17</sup>See Crawford 558, n. 100, for evidence. See also C. E. King, "Denarii and Quinarii, A.D. 253–295," *Scripta Numaria Romana: Essays Presented to Humphrey Sutherland*, eds. R. A. G. Carson and C. M. Kraay (London 1978) 84.

<sup>18</sup>My thanks to Andrew Burnett of the British Museum and Christopher Howgego of Oxford for drawing my attention to the KA countermarks. For the practice of countermarking civic coins, see Callu 57–59, 93–95, and 109–111.

<sup>19</sup>See J.-P. Callu, "Approches numismatiques de l'histoire du 3<sup>e</sup> siècle," *ANRW* 2.2 608–609 and MacMullen 115–117.

<sup>20</sup>See Bolin 302–303, Sutherland 96, and Callu 369.

of perhaps 2 d.c., and they were fixed as equal to the post-reform radiates which contained no silver wash.<sup>21</sup> Therefore, the valuation marks in the reforms of both Aurelian and Diocletian announced a coin of five d.c. When in 293 Diocletian decreed that the nummus pass current as the successor of the radiate denomination, he also struck a tiny laureate *aes*, containing no appreciable amount of silver, as the *denarius communis* itself.

Sometime in the late 290s Siscia, Alexandria, and Antioch labeled certain issues of nummi as five denarii probably to reenforce imperial attempts to obtain public acceptance of the denomination at its artificially high rate.<sup>22</sup> Exactly how quickly the nummus and other denominations climbed to new rates is lost, but by 300 the imperial government might have already accepted the nummus at the value of 12-1/2 d.c. and the argenteus at 50 d.c. The inscription from Aphrodisias implies that these values were current just prior to September 1, 301, even though they shift the relationship of argenteus to nummus from 1:5 to 1:4. In support of the existence of these values, a papyrus of March 300 records donatives for the *Legio III Diocletiana* in which a *folles* or bag of coins is valued at 12,500 d.c. These *folles*, as indicated by later fourth century documents, probably each contained 1,000 nummi, worth 12-1/2 d.c. each.<sup>23</sup> At about the same time a mosaic at the imperial villa of Piazza Armerina depicts two prize bags each labeled as containing 12,500 d.c. and these *folles* too were most likely composed of 1,000 nummi worth 12-1/2 d.c. each.<sup>24</sup> When the imperial government retariffed the nummus from 5 d.c. to 12-1/2 d.c. and the argenteus from 25 to 50 d.c., the original ratio between the two was adjusted. Most Roman citizens, suffering ruinous inflation and taxation, probably cared little about the fine distinctions of a change from 1:5 to 1:4. In practice coins were worth whatever they could fetch in the market place on any given day and not what edicts pronounced. For some reason, by 300 a nummus with the awkward value of

<sup>21</sup>See Callu 369, nn. 1, 2; Crawford 578, n. 75; and Buttrely, *Gnomon* 41 (1969) 222–226. *Contra* schemes to distinguish different denominations among radiates in Lafaurie 117–119, Cope<sup>2</sup> 224–226, Ruschenbusch 195 and 205–207, and Picozzi 104–107.

<sup>22</sup>Other dates proposed for these nummi rest on no secure authority, notably *RIC* 6, pp. 97–98 and A. Jeločnik, “The Alternation of *Genio* and *Moneta Folles* in the Siscia Mint,” *Actes du 8<sup>ème</sup> congrès international de numismatique*, New York-Washington (Paris 1976) 325.

<sup>23</sup>See *PPanop.* 2.299–304 (March 300). For a *folles* of 12,500 d.c., see A. H. M. Jones, “The Origin and Early History of the *Folles*,” *JRS* 49 (1959) 34–38, but Jones believed the coin was the radiate. *Contra* Jahn 99–101, Picozzi 106, and Ruschenbusch 206–207, with the suggestion that the references in *PSI* 965 and *POslo* 3.83 refer to this upward revaluation in 300. Rather, as they mention values of 25 and 12-1/2 d.c. in connection with a reduction, they probably allude to Licinius’ reform.

<sup>24</sup>Jones *op. cit.* 34. For the mosaic, see V. Gentili, *The Imperial Villa of Piazza Armerina* (Rome 1956) 42 and fig. 26, and H. Kähler, *Die Villa des Maxentius bei Piazza Armerina* (Berlin 1973) 15–16. The date 300–301 is reasonable, but not indisputable; see J. Polzer, “The Villa of Piazza Armerina and the Numismatic Evidence,” *AJA* 77 (1973) 139–149.

12-1/2 d.c. was regarded as a functional denomination by the imperial government. Approximately twenty years later, Licinius also considered this denomination acceptable and indeed returned to it when he halved the nummus of 25 d.c.<sup>25</sup>

Even retariffing the nummus to 12-1/2 d.c. proved insufficient. The edict from Aphrodisias probably records the last stage in the inflation of Tetrarchic currency. According to the best rendition of the edict's text, the argenteus and nummus were revalued to 100 and 25 d.c. respectively. Thus, in less than a decade the official worth of the argenteus swelled by 400%, while the nummus increased by 500%. Such depreciation of the currency by itself could bring about the laments of the Prologue of the Price Edict and it in turn furnishes a powerful reason to regard the two edicts as related measures. Although the subsequent fate of the argenteus is obscure, the nummus, at least officially, stood at the rate 25 d.c. at the very beginning of the reign of Constantine, when the mint of Lugdunum marked a series of nummi as 100 sestertii (= 25 d.c.).<sup>26</sup> The new value marks were perhaps deemed necessary because the denomination had suffered a significant reduction in size and weight. In the wake of renewed civil war, the nummus, constantly shrinking in size, might have been consistently proclaimed at 25 d.c. by various imperial contenders until Licinius in ca 320 reduced it once more to 12-1/2 d.c.

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<sup>25</sup>See *RIC* 7, p. 12, Callu 368, n. 4, Jungck 28–30, and Crawford 589–590. See also *PSI* 965 and *POslo* 3.83, while *PRyl.* 4.607 more likely refers to the 293 reform.

<sup>26</sup>*RIC* 6, p. 263, nos. 286–303 (ca 308–309). *Contra* Crawford 568, where the reform is dated to 307 and it is suggested that a nummus of 20 d.c. was retariffed to 25 d.c.