

## AUREI AFTER TRADE: WESTERN TAXES AND EASTERN GIFTS

*A André Tchernia,  
pour sa retraite*

### 1. *Trade with the East: coin haemorrhage and fiscal revenues*

Attempts to evaluate the monetary impact of Roman trade with the East go back to the XVIII century. In his book inspired by no less than J.-B. Colbert himself, P.-D. Huet had focused his attention on a fated to be famous Pliny's passage<sup>1</sup>. Perhaps not to displease his patron, he misunderstood the sentence, inferring that Roman trade with India was an exchange of wares against wares and that Indian imports allowed considerable profits to Roman merchants<sup>2</sup>. Few decades later than the delayed publication of Huet's book, R. Cantillon, pointing to another plinian passage, equally fated to be famous<sup>3</sup>, overturned that optimistic interpretation: fuelled by the "fury of Luxury", Roman trade with the East originated a paradigmatically lethal haemorrhage of coins<sup>4</sup>. Before the posthumous publication of

<sup>1</sup> PLIN., *N.H.*, VI 101: [...] nullo anno minus HS D (centena milia) imperii nostri exhauriente India et merces remittente, quae apud nos centuplicato ueneant.

<sup>2</sup> P.-D. HUET, *Histoire du Commerce et de la Navigation des Anciens*, Lyon 1716 [but apparently written between 1665 and 1683], ch. LV 2: "Ce que je vois de plus remarquable dans tout ce traité de Pline, c'est ce qu'il dit, qu'il n'y avait point d'année que les Romains ne portassent aux Indes du moins pour cinq millions de marchandises, & qu'on ne gagnât le centuple sur celles qu'on en rapportoit".

<sup>3</sup> PLIN., *N.H.*, XII 84: [...] minimaque computatione miliens centena milia sestertium annis omnibus India et Seres et paeninsula illa imperio nostro adimunt.

<sup>4</sup> R. CANTILLON, *Essai sur la nature du commerce en général*, London 1755 [but probably written between 1730 and 1734], p. II, ch. VIII: "La fureur du luxe

Cantillon's work, Montesquieu had already reinterpreted, against Huet, the first plinian passage<sup>5</sup>. Juxtaposing Pliny's text and modern experience, Montesquieu theorized the immutable validity of a sort of natural law, according to which western trade with India had always been what at his own time was: exchange of western money for Indian commodities<sup>6</sup>. The haemorrhage of coins would have led to a shortfall of silver and to the increase of the face value of the Roman coins<sup>7</sup>. Evolutions of the gold : silver ratio suggested opposite deductions to E. Gibbon<sup>8</sup>. Objecting that it rose from 1:12.5 in the time of Pliny to 1:14.4 "in the reign of Constantine"<sup>9</sup>, he concluded that despite Pliny's alarm the produce of the mines balanced the export<sup>10</sup>.

augmenta toujours; & du tems de Pline l'Historien, il sortoit de l'Empire tous les ans au moins cent millions de sesterces, suivant son calcul. On n'en tiroit pas tant des Mines. [...] L'Empire Romain tomba en décadence par la perte de son argent, avant que d'avoir rien perdu de ses États. Voilà ce que le luxe causa, & ce qu'il causera toujours en pareil cas".

<sup>5</sup> CH. L. MONTESQUIEU, *De l'esprit des lois*, Genève 1748, l. XXI, ch. I: "Les Romains y portaient toutes les années environ cinquante million de sesterces. Cet argent [...] était converti en marchandises qu'ils rapportaient en Occident."; *ibid.*, ch. XVI: "Que si les marchandises de ce pays se vendaient à Rome le centuple, ce profit des Romains se faisait sur les Romains mêmes, et n'enrichissait point l'empire".

<sup>6</sup> *Ibid.*, ch. I: "Quoique le commerce soit sujet à de grandes révolutions, il peut arriver que de certaines causes physiques, la qualité du terrain ou du climat, fixent pour jamais sa nature [...] Tous les peuples qui ont négocié aux Indes y ont toujours porté des métaux, et en ont rapporté des marchandises".

<sup>7</sup> *Ibid.*, ch. XVI: "Je suis persuadé qu'une des raisons qui fit augmenter chez eux la valeur numéraire des monnaies, c'est-à-dire établir le billon, fut la rareté de l'argent, causée par le transport continuel qui s'en faisait aux Indes".

<sup>8</sup> E. GIBBON, *The Decline and Fall of the Roman Empire*, London 1776, ch. II: "[...] if we compare the proportion between gold and silver, as it stood in the time of Pliny, and as it was fixed in the reign of Constantine, we shall discover within that period a very considerable increase. There is not the least reason to suppose that gold was become more scarce; it is therefore evident that silver was grown more common; that whatever might be the amount of the Indian and Arabian exports, they were far from exhausting the wealth of the Roman world; and that the produce of the mines abundantly supplied the demands of commerce".

<sup>9</sup> Gibbon refers to ARBOUTHNOT, *Tables of Ancient Coins*, ch. V, but *Cth* XIII 2 (Arbouthnot's evidence) is an Arcadius', not Constantine's law.

<sup>10</sup> Both Montesquieu and Gibbon postulated that mostly silver coinage was exported to India, an assumption which turned to be false, as almost no silver coin later than Nero's *denarii* is found there: P. TURNER, *Roman Coins from India*, London

Elapsed centuries since Cantillon, Montesquieu and Gibbon provided new data, which compel us to a different approach. The chronological distribution of the Roman coins found in India so far suggests that volume and character of the Roman trade with the East were not uniform from I to VI cent. AD<sup>11</sup>: there is no ground for imagining that the coin haemorrhage complained by Pliny remained stable and had a cumulative effect in the long term. In fact, export of gold coins to India didn't hamper, in western late antiquity, the development of a strong monetary economy, anchored on the golden *solidus*<sup>12</sup>. Nonetheless, in the light of the predominance of the early imperial gold and silver coins in Indian findings and of the shortfalls of coinage revealed in 21 AD in Gaul, in 33 AD in Italy and in 60 AD in Britain<sup>13</sup>, Tiberius'<sup>14</sup> and Pliny's complaints are at least comprehensible in the short term<sup>15</sup>, until Vespasian's attitude to the *luxus* of the aristocrats<sup>16</sup> (and his reassessment of the custom duties<sup>17</sup>) stabilized the outflow of coins at more tolerable levels.

But coin haemorrhage was not the only, nor the major effect of trade with the East on Roman monetary economy. Its impact on circulation was far greater than one would estimate from the losses in the monetary mass. Shift in money from buyers to sellers of Oriental goods must have been considerable, especially during the Julio-claudian *belle époque*<sup>18</sup>. Apart from that, it can be shown that

1989; P. BERGHAUS, "Republican and Early Roman Imperial *denarii* from India", in *Ex moneta. Essays on Numismatics, History and Archaeology in honour of Dr. D. W. MacDowall*, A.K. JHA, S. GARG eds., New Delhi 1998, pp. 119–127.

<sup>11</sup> P. TURNER, *Roman Coins from India*, London 1989; P. BERGHAUS, in *SNR*, 71 (1992), pp. 226–247; S. SURESH, *Symbols of Trade. Roman and Pseudo-Roman Objects found in India*, Delhi 2004, pp. 165–170.

<sup>12</sup> BANAJI, *infra*, pp. 000.

<sup>13</sup> TAC., *Ann.*, III 40; VI 16–17; CASS. DIO LXI 2.

<sup>14</sup> TAC., *Ann.*, III 53.

<sup>15</sup> Notoriously, a different view is expressed by P. VEYNE, "Rome devant la prétendue fuite de l'or: mercantilisme ou politique disciplinaire", in *Annales (ESC)*, 34 (1979) 2, pp. 211–244, who denied the very reality of the coins haemorrhage.

<sup>16</sup> TAC., *Ann.*, III 55.

<sup>17</sup> F.DE ROMANIS, "Commercio, metrologia, fiscalità. Su P. Vindob. G 40.822 verso", in *MEFRA*, 110 (1998), pp. 11–60.

<sup>18</sup> PLIN., *N.H.*, IX 117; TAC., *Hist.*, I 20.

Eastern imports drove much more coins into State treasury than into foreign regions.

It was long ago recognized that Roman import from the East was subject, at least up to the second half of the II century A.D., to a 25% tax<sup>19</sup>. Nonetheless, and despite Strabo's emphasis on the fiscal revenues from trade with the East<sup>20</sup>, until a few decades ago nobody had a clear perception of the economic significance of such a tax. When, in 1986, P. Vindob. G 40 822 was published<sup>21</sup>, it was realized that fiscal value of the Indian goods was enormous: a container of Gangetic nard was reckoned at 4 500 HS, a talent of good ivory at 6 000 HS, a talent of σχίδαι at 4 200 HS. At these values, one single cargo (or a part of it) coming back from Muziris could be estimated at 6 926 852 HS and taxed as high as 1 731 713 HS<sup>22</sup>.

Of course, values within the Roman frontiers enormously differ from home prices, for which, unfortunately, we have no better indication than Pliny's claim that initial and final prices of Indian import had a ratio of 1: 100. Taken literally, this would mean that the goods of P. Vindob. G 40 822 verso, were valued at almost 7 000 000 HS and taxed for more than 1 700 000 HS, were bought to India for little less than 70 000 HS. Of course, Pliny may exaggerate the contrast; he may generalize a ratio valid for items like pepper, but surely not for others, such as pearls. Nonetheless, we can be sure that the cargo of the 'Hermapollon' was bought for much less than 17 000 *aurei*: as a general rule, custom duties on Eastern import cost ancient traders much more than the goods themselves.

Pliny's complaints are therefore unilateral, as fiscal revenues were far greater than losses in the monetary mass. It is not by chance that

<sup>19</sup> Cfr. e.g., S.J. DE LAET, *Étude sur l'organisation douanière chez les Romains, surtout à l'époque du Haut-empire*, Brugge 1949, pp. 306–310; 334–336.

<sup>20</sup> Strab. XVII 1, 13.

<sup>21</sup> H. HARRAUER/ P. SIJPESTEJIN, "Ein neues Dokument zu Roms Indienhandel, P. Vindob. G 40822", in *AAWW*, 122 (1985), pp. 124–155.

<sup>22</sup> Against the assumption that the τετάρτη was paid in kind (D. RATHBONE, "The 'Muziris' papyrus (SB XVIII 13167): financing Roman trade with India", in *BSAA*, 46 (2000), pp. 39–50), cfr. F. DE ROMANIS, "«Misura» della tetarte a Palmira. Una rilettura di PAT 2634", in *PdP*, 59 (2004), pp. 469–470, n. 27.

Tiberius, who in AD 22 complained that coins were exported to “alien or hostile countries”<sup>23</sup>, at his death was able to leave 2 700 000 000 HS in the state treasury<sup>24</sup>. Nor is it by chance that the same Vespasian, who raised the custom duties of Alexandria and discouraged the *luxus mensae* of the Roman aristocracy, promoted the militarization of the Eastern Egyptian desert in order to secure this unbalanced, but highly remunerative trade<sup>25</sup>.

## 2. Aurei and caravan trade: the munificence of a Palmyrene caravan leader

Even after the publication of P. Vindob. G 40 822, our perception of the order of the magnitude of trade with the East remains far from satisfactory. The addition of new quantitative data is therefore welcomed. In this respect, an exploration of the palmyrene inscriptions proved to be surprisingly rewarding. All the more so, as in the same *corpus* of evidence we also find some indication about the order of the magnitude of the expenses of a caravan from Spasinou Charax to Palmyra.

A famous bilingual inscription, in Greek and Aramaic, engraved on a column of the Great Columnade in Palmyra<sup>26</sup>, dated Xandikos/Nysn 193, contains a dedication from people coming back from Spasinou Charax (οἱ σύν αὐτῷ ἀναβάντες ἀπὸ Σπασίνου Χάρακος or *bny šyrt’ dy slqw ‘mh mn krk’*) to their caravan leader (συνοδιάρχης/ *rb syrt’*) Taimarsu, because he spent on them (*bdyldy h’sknwn*, the Greek has been restored as [κουφίσαν]τι or [ἀφειδήσαν]τι) “three hundred golden old denaria” (χρυσᾶ παλαιᾶ δηνάρια τριακόσια *dnryn dy dhhb ‘tyqyn tlt m’h*).

Since Waddington, the adjective “old” has attracted attention and

<sup>23</sup> TAC., *Ann.*, III 53.

<sup>24</sup> According to SUET., *Cal.* 37, 6; different figures (but see Xylander’s emendation ἔξ) in CASS. DIO LIX 2, 6.

<sup>25</sup> H. CUVIGNY *et al.*, *La route de Myos Hormos. L’armée romaine dans le désert Oriental d’Égypte*, Le Caire 2003.

<sup>26</sup> IGRRP, III, 1050 = CIS, II, 3948 = *Inv.*, III, 28 = *PAT*, 294.

solicited explanations. They have been given with reference to Gresham's law, supposing that the old *aurei* were heavier than the new ones. J. Guey thought that the old golden denaria were the pre-neronian *aurei*, which in 193 could not have been real, physical coins, but just an accounting figure, maintained in bookkeeping as equivalent to 1/40<sup>th</sup> of a Roman pound: "une simple monnaie de compte, en usage hors des frontières de l'Empire, dans les affaires notamment carovanières"<sup>27</sup>. Instead, according to T.V. Buttrey the old golden denaria were *aurei* of the neronian standard as opposed to the new lighter *aurei* of Pescennius Niger<sup>28</sup>. Though attractive, both explanations call for caution. In fact, I do not see why Palmyrene caravan leaders should have used an accounting figure which differed from real *aurei*, thus unnecessarily complicating every single record of payment. If the inscription really alluded to pre-neronian standard gold coins, we should infer that such coins were still in use among Palmyrene traders at the end of the II cent. AD. On the other hand, even if the *aurei* of Pescennius Niger were really of lighter weight<sup>29</sup>, the fact remains that the interval between the death of Pertinax (March 28) and the last day of month Xandikos/Nysn (April 30 or, at latest, May 18) may appear a gap too narrow, to let Pescennius' *aurei* conspicuously circulate in Palmyra.

Whatever may be the solution to this puzzle<sup>30</sup>, it seems remarkable that a Palmyrene συνοδιάρχης at the end of the II cent. AD, on his way from Spasinou Charax to Palmyra, spends gold coins, or reckons his expenditures in δηνάτια χρυσῶ. Exceptional as it is – among the epigraphic evidence of Palmyra, this is the only mention of *aurei* – reference to gold coins in Taimarsu's inscription is by no means strange.

<sup>27</sup> J. GUEY, "Autour des *Res Gestae Diui Saporis*, Deniers (d'or) et deniers d'or (de compte) anciens", in *Syria*, 38 (1961), pp. 261–274; see also ID., *BSNF*, 19 (1964) 7, pp. 383–385.

<sup>28</sup> T. BUTTREY, "«Old Aurei» at Palmyra and the Coinage of Pescennius Niger", in *Berytus*, 14 (1961–1963), pp. 117–128.

<sup>29</sup> But see R.F. BLAND, A.M. BURNETT, S. BENDALL, "The Mints of Pescennius Niger in the Light of Some New Aurei", in *NC*, 147 (1987), p. 65, n. 2.

<sup>30</sup> I wouldn't exclude that the old *aurei* were more appreciated just because (cfr. TAC., *Germ.* 5) *diu noti*.

In fact, in this case, the amount of money spent along the way between Spasinou Charax and Palmyra would justify the use of the gold coins. A rabbinical text whose date can be fixed not far from Taimarsu's voyage<sup>31</sup>, shows that *aurei* were considered the most convenient travel cash in relatively big size businesses. It is worthwhile quoting its translation *in extenso* and reporting some original expressions: "A man goes to Caesarea and needs to carry a hundred or two hundred *denarii* (*m'h zwz 'w m'tym*). If he carries them in small change, they will tire him with their weight and he will not know what to do. But changing small into large coins and taking tetradrachms (*sl'ym*), he can change them back into smaller money and spend them wherever he wishes. Similarly, he who goes to Beit Ilanim, to the market (*lbyt 'ylnym, lswq*), and needs to carry 100 minas or two myriads (*m'h mnh 'w sty rybw*' = 10 000 or 20 000 *denarii*), changing small coins in tetradrachms, they will tire him and he will not know what to do. But changing small into large coins and taking golden *denarii* (*dynary zhb*), he can change them back in small money and spend it wherever he may wish"<sup>32</sup>.

I have not been able to discover where Beit Ilanim is, nor what kind of trade was going on there. But, wherever Beit Ilanim was, whatever its business was, the text suggests that hundreds of *denarii* could be transferred in tetradrachms, while myriads of *denarii* would require *aurei*. Of course, these are not to be taken as strict rules<sup>33</sup>. Nonetheless, it should be noted that the money spent by Taimarsu for his fellows is not far from the lowest of the sums, for which, in the Sifré passage, *dynary zhb* are recommended. If we bear in mind that the Palmyrene caravan leader must have also spent money for his own business, and perhaps more than 300 *aurei*, we may conclude that his familiarity with gold coins is well in agreement with rabbinical common sense.

<sup>31</sup> D. SPERBER, *Roman Palestine 200–400. Money and Prices*, Ramat-Gan 1974, pp. 89; 232, n. 3.

<sup>32</sup> Sifré, *ad Deuteronomium*, 32, 2, pp. 338–339 Finkelstein; cfr. *Midrash Tanna'im*, p. 185 Hoffmann.

<sup>33</sup> But mentions of gold coins in SUET., *Dom.*, 7; *WChr* 480; CASS. DIO, LXXI, 32, 1; LXXVI, 1, 1; P. Dura 60; *ILS* 2177 are not exceptions, because the global expenditure of the paying offices is to be considered.



### 3. 'Measure' of the *τετόρη* at Palmyra: trade with the East and imperial revenues

Though we have many Palmyrene inscriptions relating to long-distance trade<sup>34</sup>, only in Taimarsu's dedication are expenditures of the caravan leader exactly reported: other documents of this kind are silent or vague on such matters. Quite unexpectedly, however, an aramaic inscription<sup>35</sup> gives important data – expressed with accounting figures related to silver coinage – about the volume of the import from the East through Palmyra. The inscription lies inside the funerary tower n. 70 on the Umm Belqis: it is engraved on gypsum in the room of its second floor. I give here the text as it was checked by me on July 8 and 10 2004.

1. 'rbw' 'mkyl yrh' 'h'd *zwzyyn*
2. rbw'n 'lpyn tryn wm'tn wltyn wšt
3. w'lpyn tš'h wštm'h w'rb'yn wh'd wm'yn *trtn*
4. hwyn sl'yn rbw'n h'mšm'h wh'mšyn wtš' w'lpyn *tryn*
5. w'rb'm'h wh'mš wzvz h'd wm'yn trtn hwyn kkryn
6. 'lpyn tlt' wšb'm'h w'sryn wtmn' wmnyn 'šrh
7. wšth wsl'yn h'mš wzvz m'yn trtn

l. 1 'rbw' 'mkyl *Hoftijzer/Jongeling* 'rbw' mkyl *Gawlikowski; PAT*

l. 6 w'sryn wtmn' wmnyn *ego w'sryn w<s>l' wmnyn Gawlikowski; PAT*

According to its first editor, Prof. M. Gawlikowski<sup>36</sup>, the text would give the totals of the interests and capital+interests of four different loans: the two amounts of money would be first expressed in

<sup>34</sup> A list in J.-B. YON, *Les notables de Palmyre*, Beyrouth 2002, pp. 263–264.

<sup>35</sup> M. GAWLIKOWSKI, "Les comptes d'un homme d'affaires dans une tour funéraire à Palmyre", in *Semitica*, 36 (1986), pp. 87–99 (l. 2 *wmt'n* misprint for *wm'tn*) = D.R. HILLERS, E. CUSSINI, *Palmyrene Aramaic Texts* (= *PAT*) (Baltimore and London 1996), 2634 (l. 6 *wšb'm* misprint for *wšb'm'h*).

<sup>36</sup> Gawlikowski's translation runs as follows: «Quatre comptes, un mois. Drachmes: intérêts deux mille deux cent trente-six et (capital) neuf mille six cent quarante et une, deux oboles; soit sicles: intérêts cinq cent cinquante-neuf et (capital) deux mille quatre cent cinq, une drachme et deux oboles; soit trois mille sept cent vingt grains, un sicle et (capital) seize mines, cinq sicles, une drachme, deux oboles» (in "Les comptes", cit. a n. 34, p. 89).



*zwzyn* (and *m'yn*), then in *sl'yn* (and *zwzyn* and *m'yn*) and finally in *kkryn* (and *sl'*) and *mnyn*, *sl'yn*, *zwz* and *m'yn*. Interests would amount to 2 236 *zwzyn* or 559 *sl'yn* or 3 720 *kkryn* + 1 *sl'*, while capitals plus interests would be 9 641 *zwzyn* + 2 *m'yn* or 2 405 *sl'yn* + 1 *zwz* + 2 *m'yn* or 16 *mnyn*, 5 *sl'yn*, 1 *zwz* and 2 *m'yn*<sup>37</sup>.

Serious objections may be raised against Gawlikowski's interpretation. I shall mention just few of them<sup>38</sup>:

- a) Gawlikowski assumes that a *sl'* is worth 4 *zwzyn*; a *kk* is worth 3/5 of a *zwz*; a *mn* is worth 600 *zwzyn*. The first equation is definitely right, the last two are hardly admissible: the normal value of a *kk* ("talent", in western semitic languages as well as in demotic and coptic<sup>39</sup>) should be 1 500 *sl'yn* (tetradrachms) or 6 000 *zwzyn* (drachms), while a *mn* ("mina") must equal 25 *sl'yn* (tetradrachms) or 100 *zwzyn* (drachms)<sup>40</sup>.

<sup>37</sup> Gawlikowski admits two small discrepancies in what he takes to be the sums of capital+ interests: 9 641 *zwzyn* make 2 410 *sl'yn* + 1 *zwz*, and not 2 405 *sl'yn*, 1 *zwz*. Moreover, according to him, 9 641 *zwzyn* would be equal to 16 *mnyn*, 10 *sl'yn* (and not 5), 1 *zwz*. Small inconsistencies due to a trivial mistake, either in calculation or in transcription, must be admitted in any case: see below.

<sup>38</sup> More details in F. DE ROMANIS, "«Misura» della tetarte", cit. a n. 22, pp. 460–471; R. CONTINI, "Osservazioni linguistiche", in *PdP*, 59 (2004), pp. 472–475.

<sup>39</sup> Cfr. J. HOFTIJZER, K. JONGELING, *Dictionary of the North-west Semitic Inscriptions*, Leiden/New York/Köln 1995, p. 500. In the Bible, when *kk* means a unit of weight or value, is invariably translated τάλαντον in the Septuaginta: Ex. 25, 39; 39, 1; 2, 4; 6 (= 38, 24; 25; 27; 29 t. m.); II Regn. 12, 30; III Regn. 9, 14; 9, 28 ; 10, 10; 14; 16, 24; 20, 39 (= 21, 39 t. m.); IV Regn. 5, 5; 22; 23; 15, 19; 18, 14; 23, 33; I Chr. 19, 6; 20, 2; 22, 14; 29, 4; 7; II Chr. 3, 8; 8, 18; 9, 9; 13; 25, 6; 9; 27, 5 ; 36, 3; Esdr. II 7, 22; 8, 26; Esth. 3, 9. For the demotic and coptic correspondences, cfr. W. ERICHSEN, *Demotisches Glossar*, Copenhagen 1954, p. 566; J.H. JOHNSON, *The Demotic Dictionary of the Oriental Institute of the University of Chicago*, in [www-oi.Chicago.edu/OI/DEPTPUB/SRC/CDD/CDD](http://www-oi.Chicago.edu/OI/DEPTPUB/SRC/CDD/CDD) s.v.; W.E. CRUM, *A Coptic Dictionary*, Oxford 1939, p. 824b; W. VYČIHL, *Dictionnaire étymologique de la langue copte*, Leuven 1983, p. 344a. *kk* is "talent" also in Ios., a.I. III 144: ἴσταται λυχνία ἐκ χρυσοῦ κεχωνευμένη διάκενος σταθμόν ἔχουσα μνᾶς ἑκατόν (ἑκατόν ὥς PS<sup>2</sup>L *centum quod* Lat: fortasse ἐξήλοντα). Ἑβραῖοι μὲν καλοῦσι κίγχαρες, εἰς δὲ τὴν Ἑλληνικὴν μεταβαλλόμενον γλῶτταν σημαίνει τάλαντον, where the reading ἑκατόν (ἑκατόν ὥς PS<sup>2</sup>L) possibly results from ἐ(ξή)κον(τ)α > ἑκατόν ὥς.

<sup>40</sup> A long exemplification is not necessary: see for instance the expression *m'h mn* 'w sty ryb'w' in the above quoted Sifré passage, where 10 000 or 20 000 are meant.

- b) At l. 6, Gawlikowski reads the word *sl''*, though recognizing that “le mot *sl''* n’est pas bien net, avec le *l* qui manque et le ‘ qui est raturé”<sup>41</sup>. Even from Gawlikowski’s own facsimile it was clear that the first letter was a *taw* rather than a *samekh* and that the second letter had too many strokes to be a simple ‘*ayin*’ with a suitable light, in the crucial spot, one can easily read *tmn'* “eight”<sup>42</sup>.
- c) For the word *rbw'n* (ll. 2 and 4), Gawlikowski excludes what he recognizes to be an alternative meaning, namely «myriads». But in Aramaic as well as in Greek it is quite usual to indicate big sums in myriads<sup>43</sup> and Gawlikowski’s statement “le sens alternatif de «myriades» est exclu par le contexte arithmétique”<sup>44</sup> is altogether unjustified: far from excluding the meaning «myriads», the arithmetic context requires it.

If we take *rbw'n* to mean «myriads», we should admit that numerals of ll. 2–3 refer to just one amount of *zwzyn*, which is converted, in ll. 4–5, in just one amount of *sl'yn*. Blindly translating the amount of money we get:

1. 'rbw' 'mkyl yth) 'h)d <b>zwzyyn</b>				
2. 10.000 · [(1000 · 2) + 200 + 30 + 6]	=	22.360.000	+	
3. (1.000 · 9) + (6 · 100) + 40 + 1 + m'yn 2	=	9.641, m'. 2	=	
		22.369.641, m'. 2		
4. which are <b>sl'yn</b>				
10.000 · (500+50+9) + (1000 · 2)	=	5.592.000	+	
5. (4 · 100) + 5 + zwz 1 + m'yn 2	=	405, z. 1, m'. 2	=	
		5.592.405, z. 1, m'. 2		
which are <b>kkryn</b>				
6. (1.000 · 3) + (7 · 100) + 20 + 8	=	3.728	+	
+ mnyn 10	=	mn. 10 +		
7. 6 + sl'yn 5 + zwz 1 + m'yn 2	=	mn. 6, s. 5, z. 1 m'. 2	=	
		3.728, mn. 16, s. 5, z. 1, m'. 2		

<sup>41</sup> GAWLIKOWSKI, “Les comptes”, cit. a n. 35, p. 92.

<sup>42</sup> Cfr. Plate

<sup>43</sup> In *CIS*, II, 3934 = *Inv*, III, 14 = *PAT*, 280 the expression *zwzyn rbw* translates the Greek ὀττὶκὰς μυριάς; in the above quoted Sifré passage *sty rybw'* are mentioned. Cfr. also n. 000.

<sup>44</sup> GAWLIKOWSKI, “Les comptes”, cit. a n. 35, p. 92.

That is:

<i>zwzyyn</i> 22.369.641, <i>m'yn</i> 2	<i>hwyn sl'yn</i> 5.592.405, <i>zwz</i> 1, <i>m'yn</i> 2 (= <i>zwzyn</i> 22.369.621, <i>m'yn</i> 2)	<i>hwyn kkryn</i> 3.728, <i>mnyn</i> 16, <i>sl'yn</i> 5, <i>zwz</i> 1, <i>m'yn</i> 2 (= <i>zwzyn</i> 22.369.621, <i>m'yn</i> 2)
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The first amount slightly differs from the last two, which perfectly coincide. We must admit a little mistake: either the drachms of the first figure were 22 369 121 or the tetradrachms of the second and third figures were, respectively, 5 592 410 and 10<sup>45</sup>. In any case, two peculiarities deserve to be pointed out: 1) enormous as it is (nearly 90 000 000 HS), the amount of money is not a round figure – indeed, even *m'yn* (“obols”) are recorded; 2) huge and precise, the sum is expressed in a triple way: in myriads of *zwzyn*, in myriads of *sl'ym* and *kkryn*.

In documentary papyri of the I–II cent. AD – more often from Judaea, rarely from Arabia – sums are sometimes expressed both in *zwzym* (*drachmai/denaria*) and *sl'ym* (*stateres*)<sup>46</sup>. In the Gospel and Flavius Josephus, big sums can be expressed either in myriads or in talents of *zwzyn* – never in both ways<sup>47</sup>. Using all these three accountancies, the Palmyrene inscription shows an unparalleled, bombastic redundancy.

A comparison with calculations of P. Vindob G 40.822, where the amount of money is given in talents of Egyptian drachms, suggests that the figure in talents (3.728 *kkryn*, 16 *mnym*, 5 *sl'yn*, 1 *zwz*, 2 *m'yn*) should be the original one, directly coming from the custom office accountancy. It was then translated in *zwzyn* and *sl'yn*, in order to express it in a fashion which should have been popular in the area, as Judean papyrological evidence suggests.

22 369 141 *zwzyn* and 2 *m'yn* is a considerable amount of money:

<sup>45</sup> The first hypothesis could be explained by a confusion between signs “20” (3) and “40” (33) in transcription from a draft in figures.

<sup>46</sup> See the evidence collected by (W. WEISER), H.M. COTTON, “*Geht dem Kaiser, was des Kaisers ist...*”. *Die Geldwährungen der Griechen, Juden, Nabatäer und Römer im syrisch-nabatäischen Raum unter besonderer Berücksichtigung des Kurses von Sela'/Melaina und Lepton nach der Annexion des Königreiches der Nabatäer durch Rom*, pp. 244–245.

<sup>47</sup> P.es., MATTH. 18, 24 (a fantastic debt of myriads of talents!); 25, 14–28 (5, 2, 1 talents); *Act. Ap.* 19, 19 (5 myriads); Ios., a.I. XVIII 151–160.

if the chronology of the inscription is not very far from the Judean papyri alluded to above<sup>48</sup>, the sum would represent nearly 20 000 lbs of gold. What it stands for it is stated at the beginning of the text. A plausible translation of the formula *'rbwē 'mkyl yrh 'h'd* could be “τετάρτη: measure of one month”. To my mind, reference of the word *'rbw'* to the 25% tax on Eastern import (τετάρτη) provides the only likely justification for the subsequently recorded amount of money and for the unusual way in which it is expressed<sup>49</sup>. From Palmyra, two contractors of the 25% tax (in greek: τεταρτώναι, in latin: *mancipes IIII merc.*, in aramaic: *dy rb''*) are known: M. Aemilius Marcianus Asclepiades (a *bouleutes* in Antiochia) and L. Antonius Callistratus. The former was honoured by caravan traders coming back from Spasinou Charax<sup>50</sup>, the latter by his own *actor* Galenus<sup>51</sup>. We may presume that while the τετάρτη was usually paid in Antiochia, the imported goods were already declared, in Palmyra, to the *actores* of the *mancipes IIII merc.*: in Egypt, the τετάρτη was paid in Alexandria, but imported goods were already registered at the Red Sea ports or at Coptos.

Still, it is to be decided if the ‘measure’ refers to the value of the goods (τιμή) or to the tax to be paid (τέλος). In the Tarif, the verb *kyl/kwl* (“measure”, hence the noun (')*mkyl*) indicates the act of evaluating the tax on salt<sup>52</sup>, but P. Vindob. G 40 822 verso, where the τιμή is assessed, provides a perhaps more homogeneous procedural model. 22.369.141 *zwyzn + 2 ma'yn* is just little more than 13 times the

<sup>48</sup> The tower n. 70 was built in the second half of the I cent. AD, but it was still used (CIS, 4206 = *Inv*, IV 1 = PAT, 562) in AD 234: GAWLIKOWSKI, “Les comptes”, cit. a n. 35, p. 89.

<sup>49</sup> GAWLIKOWSKI, *ibidem*, CONTINI, “Prove linguistiche”, cit. a n. 38.

<sup>50</sup> *Inv*, X 29 = PAT, 1373.

<sup>51</sup> *Inv*, X 112 = PAT, 1412.

<sup>52</sup> CIS, II, 3913 = PAT, 259, ll. 72–73 aramaic text: *mn dy ybw' lb mlh# btd[mr 'w btb#w]m' d[y]l t[dmry]' ykylnh ll...]* [']*py mdy' b'sr' b#d*, ‘celui qui possède du sel à Palmyre ou dans le territoire des Palmyréniens l’évaluera devant [le fermier] en modius à un as (par modius)’ (J. TEIXIDOR, “Un port romain du désert : Palmyre et son commerce d’Auguste à Caracalla”, in *Semitica*, 34 (1984), p. 102). An *as* per *modius* is the amount to be paid: cfr. CIS II 3913 = PAT 259, ll. 116–118 greek text; ll. 69–70; ll. 132–136 aramaic text.

value reckoned in P. Vindob. G 40 822, but if they represent only the tax (τέλος), the τιμή of the goods would be higher than 350.000.000 HS or 50 times the value of the cargo of the Hermapollon. As the 'measure' attained was apparently considered exceptional, I cannot say which solution is more likely. Moreover, it would be hazardous to estimate the annual import through Palmyra from monthly data, whatever it was. Palmyra's caravan trade was probably subject to quite strong seasonal variations: chronology of relevant inscriptions argues that caravans used to come back to Palmyra either January to May<sup>53</sup> or July to September<sup>54</sup>. In the first case, they brought back Indian wares, imported during the NE monsoon; in the second case, they carried Arabian goods arrived during the SO monsoon<sup>55</sup>.

Even if we cannot explain why the «measure of one month» of the τετάρτη was recorded inside a funerary tower<sup>56</sup>, we can put forward the hypothesis that the Palmyrene inscription, with its bureaucratic and pedantic bookkeeping, emanates from a τετάρτη contractor or from one of his *actores* in Palmyra. Taimarsu's honorific inscription in the Great Columnade displays a very different style<sup>57</sup>: though relatively modest, the expenditures of the caravan leader are accounted for in round figures of *dynryn dy dhh* – no mention of obols, drachms or tetradrachms.

Of course, the fact that the τετάρτη was assessed in drachms or tetradrachms does not mean that it was not paid in gold coins. Whether *mkyl* is τέλος or τιμή, 22 000 000 *denarii* or 22 000 000 HS could hardly have been paid in a month without resorting to some lakhs of *aurei* – not exactly a negligible part of the monetary mass circulating in the province of Syria.

<sup>53</sup> PAT, 0197; 0262; 0279; 0294; 0295; 0306; 0309; 1374; 1399; 1403; 1409; 1414; 1419.

<sup>54</sup> PAT 0270; 0274; 1373; 1376; 1411; 1412.

<sup>55</sup> Commercial links between Persian Gulf, Arabia and India: PME 27; 36; Palmyrene import of Arabian and Indian goods: APP., B.C., V 9.

<sup>56</sup> GAWLIKOWSKI, "Les comptes", cit. a n. 35, p. 89.: «[...] le contenu du texte n'a aucun rapport avec la fonction sépulcrale du monument».

<sup>57</sup> Different also from Plin., n.h. XII 65, where the expenses of a caravan from Thomna to Gaza are calculated in *denarii* (= *zwzyn*): 638 *in singulas camelos*.

### 5. *Roman gold coins in Indian evergetism*

Of course, Roman coins circulated in India in the forms the Indian society required and allowed. Hints of an uneven expansion of the ancient India monetary economy recommend a flexible approach to the subject and drastic statements simplifying a kaleidoscopic reality had better be avoided. Pausanias' famous passage, according to which "people sailing to India say that Indians give other merchandise for Hellenic goods and that coinage is unknown to them"<sup>58</sup>, may not be fiction. However, it must be admitted that in its second part it doesn't reflect the factuality of many Indian contexts. Our evidence suggests multiple functions for the Roman coins in India: quite often, we see them used as jewellery<sup>59</sup> or donated to religious institutions; sometimes, endowments in gold coins are to be lent to guilds in order to produce revenues – a detail which betrays connections with more dynamic aspects of the Indian economy<sup>60</sup>.

#### *a. The West Coast: gold coins to gods, Brahmins and poets*

Much earlier than in Taimarsu's inscription from Palmyra, a similar emphasis on gifts in golden coins is shown in a Prakrit inscription<sup>61</sup> from a Buddhist cave in Nāsik, the *Νασίκα* of Ptolemy, a centre which was not far from both the emporia of Suppara and Kalliena and the transpeninsular route Barygaza–Paithana–Tagara–Masalia<sup>62</sup>. The text says that in the year 45 of the king Nahapāna,

<sup>58</sup> PAUS., III, 12, 4.

<sup>59</sup> An *uratttha-dīṇāra-mālaya*, a "necklace of *dīṇāra*, wear on the breast", is mentioned in *Jinacaritra* 36 in H. JACOBI, *The Kalpasūtra of Bhadrabūhu*, Abhandlungen für die Kunde des Morgenlandes 1881, p. 44.

<sup>60</sup> G. SCHOPEN, "Doing Business for the Lord: Lending on Interest and Written Loan Contracts in the Mūlasarvāstivāda-vinaya", in *JAOS*, 114 (1994), p. 532.

<sup>61</sup> H. LÜDERS, *A List of Brahmi Inscriptions from the Earliest Times to about A.D. 400 with the Exception of those of Asoka*. Appendix to *Epigraphia Indica*, 10, Calcutta 1912, n. 1132; V.V. MIRASHI, *The History and Inscriptions of the Satavahanas and the Western Kshatrapas*, Bombay 1981, n. 38.

<sup>62</sup> Cfr. J. DELOCHE, *La circulation en Inde avant la révolution des transports. I. La voie de terre*, Paris 1980, p. 64.

Uṣavadāta, his son-in-law, actually delivered to gods and Brahmins, the 2 000 gold coins (*suvarṇa*), which had been donated in the year 41: their value corresponded to 70 000 *kārṣāpaṇa*<sup>63</sup>, as 1 *suvarṇa* was worth 35 *kārṣāpaṇa*. Nahapāna's emissions and chronology exclude that the *suvarṇa*'s were local coins or anything but Roman *aurei*<sup>64</sup>. Moreover, the redundant specification of their value suggests that people from Nāsik<sup>65</sup> were rather unfamiliar with them, presumably because, as foreign, high value coins, they had a restricted circulation within this kingdom.

Mention of δηνάριον χρυσοῦν (καὶ ἀργυροῦν) among the Roman exports to Barygaza<sup>66</sup>, the most important port of trade of the Nahapāna realm, helps one imagine how Uṣavadāta succeeded in getting so many foreign gold coins. Conversely, the fact that the reciprocal values of *suvarṇa*'s and *kārṣāpaṇa* were fixed without giving a *suvarṇa* the value of a fractional number of *kārṣāpaṇa* confirms that Roman coins, at least in Nahapāna realm, were not considered simply

<sup>63</sup> Il. 4–5: bhūyo nena datam vase 41 kātikaśudhe panarasa puvāka vase 45 panarasa niyutam bhagavatām devānam brāhmaṇāmca kārṣāpaṇasahasraṇi satari 70 000 paṃcatrīśaka suvarṇa krtā dina suvarṇasahasraṇam mūlyam phalakavāre caritratoti. Senart's translation («again the donation previously made by the same in the year 41, on the fifteenth of the bright half of Karttika, has in the year 45, on the fifteenth ... been settled on the venerable gods and Brāhmanas, viz. seventy thousand – 70 000 – *karṣāpaṇa*, each thirty-five making a *suvarṇa*, a capital (therefore) of two thousand *suvarṇas*») implies that 70 000 *karṣāpaṇa* and not 2 000 *suvarṇa* were actually given. This is not recommended neither by the syntax, as *datam* and *niyutam* refer to *dina suvarṇasahasraṇam mūlyam*, nor by Uṣavadāta's epithet *suvarṇadāna*, cfr. below.

<sup>64</sup> Nahapāna's coins are in silver and copper: E.J. RAPSON, *Catalogue of the Coins of the Andhra Dynasty. The Western Kṣatrapas, the Traikūṭaka Dynasty and the "Bodhi" Dynasty*, Oxford 1967 (repr.), pp. 65–70. For the Nahapāna's chronology, cfr. F. PAULI, "NAHAPĀNA/ MANBAN.Σ vor 78 n.Chr.? Ein epigraphischer Neufund aus Indien und seine Bedeutung für die antike Südasien-Chronologie", in *Studien zur alten Geschichte S. Lauffer zum 70. Geburtstag dargebracht*, H. KALCYK, B.GULLATH, A. GRAEBER eds., II, Roma 1986, pp. 743–753. The hypothesis of RAPSON, *Catalogue* cit., clxxxv, which identifies the *suvarṇa* with the gold currency of the Kuṣāṇas, is now untenable: H. FALK, "The *yuga* of Sphujiddhvaja and the era of the Kuṣāṇas", in *Silk Road Art and Archaeology*, 7 (2001), pp. 121–136.

<sup>65</sup> For three republican *denarii* found in Nāsik, cfr. P. BERGHAUS, "Republican *denarii*", cit. a n. 10, p. 120.

<sup>66</sup> PME, 49: προχωρεῖ δὲ εἰς τὸ ἐμπόριον [...] δηνάριον χρυσοῦν καὶ ἀργυροῦν, ἔχον ἀλλαγὴν καὶ ἐπικέρδειάν τινα πρὸς τὸ ἐντόπιον νόμισμα.



bullion. The author of the *Periplus Maris Erythraei* says that Roman gold and silver coinage had ἀλλαγή and ἐπικέρδειά τις πρὸς τὸ ἐντόπιον νόμισμα. MacDowall and Wilson interpret in the sense that “Roman denarii, treated as bullion, were utilized [...] for a precious-metal coinage that was minted with a mint surcharge, and [...] the resultant profit was shared between the suppliers of bullion and the minting authority”<sup>67</sup>. But such a procedure could have hardly been alluded to with δηνάριον χρυσοῦν καὶ ἀργυροῦν, ἔχον ἀλλαγὴν καὶ ἐπικέρδειαν πρὸς τὸ ἐντόπιον νόμισμα<sup>68</sup>. The wording of the text leaves no doubt that at Barygaza the Roman coins were overvalued<sup>69</sup>.

The remarkable size of Uṣavadātaís donation to Hindu gods and Brahmins deserves to be pointed out. The 20 buddhist monks who lived in the Nāsik cave were given, in the year 42, an endowment of 3 000 *kāhāpaṇa* and a field bought for 4 000 *kāhāpaṇa*. Seven thousand *kārṣāpaṇa* are a considerable donation: at Kanheri, at about the same time, a merchant from Kalliena could be proud of giving to the buddhist community an endowment of 200 *kāhāpaṇa* (1/15 of the Uṣavadāta donation in money) and a field of half-share ownership<sup>70</sup>. Nonetheless, the value of donations to the buddhist community of Nāsik totals just 1/10 of the gifts to Hindu religious institutions.

The scale of Uṣavadātaís *suvarṇa* donation to Hindu gods and Brahmins could be better correlated with the numbers of *kāhāpaṇa* (24 400, 14 000, 10 000, 10 001) recorded as part of sacrificial fees in an older, unfortunately very fragmentary, inscription from Nāṇeghāt<sup>71</sup>. But comparison between the two texts reveals a noteworthy difference: though considerable, Nāṇeghāt sacrificial fees, much older than Nahapāna’s reign, were paid in silver *kāhāpaṇa*. The “Greek ships”

<sup>67</sup> D.W. MACDOWALL, N.G. WILSON, “The References to the Kusānas in the Periplus and further Numismatic Evidence for its Date”, in *NC*, s. 7, 10 (1970), p. 236.

<sup>68</sup> ἀλλαγή is ‘agio’, ἐπικέρδεια is ‘profit on traffic’ (*LSJ*), cfr. also A. GARA, *Prosdiaographomena e circolazione monetaria. Aspetti dell’organizzazione fiscale in rapporto alla politica monetaria dell’Egitto Romano*, Milano 1976, pp. 159–171.

<sup>69</sup> In *PLIN.*, *N.H.*, VI, 85, the king of Taprobane was remarkably struck by Roman equity because the *denarii* were all equal in weight.

<sup>70</sup> LÜDERS, *A List*, cit. a n. 61, n. 1024; MIRASHI, *The History*, cit. a n. 61, n. 27.

<sup>71</sup> LÜDERS, *ibidem*, n. 1112; MIRASHI, *ibidem*, n. 3.

landing at Barygaza and exporting δηνάριον χρυσοῦν allowed Uṣavadāta to change the metal of the coins. In a sense, we may say that in Nahapāna's dominion the "Sifré rule" is observed: when the value of the donation is within thousands of *denarii*, silver coins are used, when it is over a myriad, one has to resort to gold coins.

This is not just a matter of convenience. Gifts of gold coins mark a stylistic change in traditional Indian evergetism. It is to be noticed that Uṣavadāta emphasizes his donation of gold coinage by the inclusion of the title *suvarṇadāna* in his never-ending self-representation. In another inscription from the same Nāsik cave we read: "Uṣavadāta, who gave three hundred thousand cows; who gave gold (*suvarṇadāna*); who built a ghat on the river Bārṇāsa; who donated sixteen villages to gods and Brahmans; who feeds a hundred thousand Brahmans annually; who got eight Brahmans married at the holy place of Prabhāsa; etc. etc."<sup>72</sup>.

However, gifts of Roman gold coins are not restricted to Nahapāna's realm or North-West India. Quite understandably, also in the southwest area of the subcontinent, the arrival of Roman gold coins introduced a new fashion in social relations. In each *patikam* (epilogue) attached to each surviving decade of the tamil anthology *Patirruppattu* ("The Ten Decades"), it is specified how the poet was rewarded for his songs in praise of Cēralar kings. After the formula *pātīp perra paricil* ("having sung he got the gift") we sometimes find gold coins (*pon* or *kāṇam*) mentioned in myriads, hundreds of thousands and even millions<sup>73</sup>. Like many other statements in the *Patikam* – "definitely of later origin"<sup>74</sup> than the poems themselves –, those concerning these marvellous gifts may not be historically true. Nonetheless, they reflect

<sup>72</sup> LÜDERS, *ibidem*, n. 1131; MIRASHI, *ibidem*, n. 43.

<sup>73</sup> *Nārpatu nūrāyiram pon* (4.000.000 *pon*: IV); *onpatu ponnum nūrāyiram kāṇamum* (nine measures of *pon* and a lakh of *kāṇam*: VI); *nūrāyiram kāṇam* (a lakh of *kāṇam*: VII); *kāṇam onpatu nūrāyirattōtu* (nine lakhs gold coins: VIII); *muppattirāyiram kāṇam* (thirty-two thousand gold coins: IX). We may notice that in *Patikam* VI the word *pon*, which is thought to mean "iron" sometimes (V.I. SUBRAMONIAM, *Index of Puranaanuuru*, Kottar 1962, s.v.; S.V. SUBRAMANIAN, *Grammar of AkanaanuRu*, Trivandrum 1972, s.v.), refers to bullion, while in *Akanānūru* 149 indicates the gold coins brought by the Yavanar.

<sup>74</sup> K.V. ZVELEBIL, *Tamil Literature*, Wiesbaden 1974, p. 17.

the fact that gold coins were considered one of the most prestigious gifts (*paricil*), which a south Indian king (or chieftain) could present to his “gift seeker” (*paricilar*) poets. In this context, it isn’t surprising that in a tamil song Roman gold coins are alluded to as *kalam tanta por paricam*, “the golden gifts brought by the ship”<sup>75</sup>.

*b. The East Coast: Roman gold coins and Vedic sacrifices*

Information provided by literary sources makes it easy to explain how in the emporia of the West coast of India — at Barygaza as well as in the Lymirike — Roman gold coins came to be known and appreciated in the I century AD. Their conspicuous circulation in Andhra Pradesh<sup>76</sup> at about the same time or little later it is more difficult to account for satisfactorily. Nonetheless, it should be remembered that in this area – which includes the Μαισωλία of the *Periplus Maris Erythraei*, a region also renowned for its production of σινδόνες<sup>77</sup> – Ptolemy puts the prominent emporia Kantakossyla and Alosygni. Many wealthy donors from *Kamṭakasōla* – among them a *mahānāvika* – are mentioned in the Prakrit inscriptions from the region<sup>78</sup> and lead coins found at Ghantasala show a double-mast ship on the reverse<sup>79</sup>. Ptolemy, on the other hand, styles Alosygni as τὸ ἀφετήριον τῶν εἰς τὴν Χρυσὴν Χερσόνησον εἰσπλεόντων<sup>80</sup>: few decades before, at the time of the author of the *Periplus Maris Erythraei*,

<sup>75</sup> *Puranānūru* 343, 5.

<sup>76</sup> P.L. GUPTA, *Roman Coins from Andhra Pradesh*, Hyderabad 1965; P. TURNER, *Roman Coins*, cit. a n. 10; P. BERGHAUS, cit. a n. 11, pp. 226–247; V.V. KRISHNA SASTRI, *Roman Gold Coins. Recent Discoveries in Andhra Pradesh*, Hyderabad 1992; SURESH, *Symbols*, cit. a n. 11, pp. 165–170.

<sup>77</sup> *PME*, 62.

<sup>78</sup> J. PH. VOGEL, “Prakrit Inscriptions from Ghantasala”, in *Epigraphia Indica*, 27 (1947/8), pp. 1–4. A donor from Kaṭakasōla at Amarāvātī.: LÜDERS, *A List*, cit. a n. 61, n. 1303; a donation in *Kamṭakasōla* mentioned in an inscription from Nāgārjunakoṇḍa in J. PH. VOGEL, “Prakrit Inscriptions from a Buddhist site at Nagarjunikonda”, in *Epigraphia Indica*, 20 (1929–1930), p. 22 (cfr. also Id., in *Epigraphia Indica*, 21 (1930–1931), p. 68) For a *nāvika* at Guntupalli, cfr. *South Indian Epigraphy*, 5 (1978), p. 56 [non vidi].

<sup>79</sup> I.K. SARMA, *Numismatic Researches. Critical Studies from Excavated Context*, Delhi 2000, pp. 185–189.

<sup>80</sup> PTOL., *geogr.*, VII 1, 15.

sea-routes from south-east coast of India to Ganges valley and Malay peninsula were plied by very big ships called something like κολανδιοφοντα(?)<sup>81</sup> – possibly the ships with two masts represented in Sātavāhana and later coins<sup>82</sup>.

Items such as silk, Gangetic nard and Malay tortoise shells, imported by them to the south-east coast of India, were re-exported to Lymirike by small local boats sailing along the coast<sup>83</sup>. κολανδιοφοντα(?) from Coromandel refrained from entering the western Indian Ocean and large Roman sailing vessels refrained from entering the Bay of Bengal: it was too dangerous to cross the Palk Straits and too long to sail all around Sri Lanka<sup>84</sup>. Nonetheless, though the μέγιστα πλοῖα<sup>85</sup> coming from Egypt usually didn't sail beyond the Palk Straits, Roman coins reached the emporia of the south-east coast of India<sup>86</sup> and Western merchants even settled in there, as both the pottery from Arikamedu<sup>87</sup> and Tamil literary traditions<sup>88</sup> prove.

The strategic importance, for Western traders, of the Μαισωλία's emporia is reflected by the popularity of Roman gold coins in Nāgārjunakoṇḍa, the capital of the Ikṣvāku, a dynasty that emerged as

<sup>81</sup> PME, 60.

<sup>82</sup> R. KRISHNAMURTHY, *The Pallava Coins*, Chennai 2004, pp. 46–48; 52–53; 55. One Pallava coin with doubl-mast ship has been found in Thailand: P. SHANMUGAM, “Two Coins of Tamil Origin from Thailand”, in *Studies in South Indian Coins*, 4 (1994), pp. 98–99.

<sup>83</sup> PME, 60.

<sup>84</sup> L. CASSON, “Rome's Trade with the Eastern Coast of India”, in *CH*, 33 (1998), pp. 304–308.

<sup>85</sup> PME, 56, for the correction μέ<γι>στα πλοῖα, cfr. F. DE ROMANIS, *Cassia, cinnamomo, ossidiana. Uomini e merci tra oceano Indiano e Mediterraneo*, Roma 1996, p. 178, nt.40.

<sup>86</sup> PME, 60: προχωρεῖ δὲ εἰς τοὺς τόπους τούτους πάντα τὰ εἰς τὴν Λιμυρικὴν ἐργαζόμενα καὶ σχεδὸν εἰς αὐτοὺς κατανατᾶ τό τε χρῆμα τὸ ἀπ' Αἰγύπτου φερόμενον τῷ παντὶ χρόνῳ καὶ τὰ πλεῖστα γένη πάντων τῶν ἀπὸ Λιμυρικῆς φερομένων <καὶ> διὰ ταύτης τῆς παραλίας ἐπιχορηγομένων. The clause καὶ σχεδὸν – ἐπιχορηγομένων explains πάντα τὰ εἰς τὴν Λιμυρικὴν ἐργαζόμενα “everything is exchanged in Limyrike”. τό χρῆμα τὸ ἀπ' Αἰγύπτου φερόμενον at least includes, therefore, Roman coins.

<sup>87</sup> V. BEGLEY *et al.*, *The Ancient Port of Arikamedu. New Excavations and Researches 1989–1992*, I, Pondichéry 1996, p. 23; A. TCHERNIA, “Arikamedu et le graffito naval d'Alagankulam”, in *Topoi*, 8 (1988), pp.

<sup>88</sup> *Cilappatikaram*, V, 9–10.

an independent power in the second quarter of the III cent. AD<sup>89</sup>. In inscriptions from Nāgārjunakoṇḍa, its founder, Cāntamūla I, is repeatedly referred to as “giver of (many) crores of *hiranya*, (of lakhs of kine and lakhs of “ploughs” (of land))”<sup>90</sup>. In literary sources such as Arthaśāstra, Mānavadharmasāstra and Jātaka the term *hiranya* appears as “a generic name for wealth or coin and not of any particular kind of coin or coin of any particular metal”<sup>91</sup>. The exceptional number of *hiranya* which Cāntamūla is credited to have donated – crores, against “only” lakhs of kine and “ploughs” of land – may suggest that they were not all, necessarily and exclusively, gold coins.

Nonetheless, Cāntamūla’s money donations were greatly emphasized: in one of the four panels of his memorial pillar, erected, after his death, by his sisters, mothers, wives and concubines, he is shown performing an act of donation and presenting what seems to be a mound of coins<sup>92</sup>. Besides, Cāntamūla appears also as a celebrated performer of Vedic sacrifices: sometimes as only “performer of *aśvamedha*”, sometimes as no less than “performer of *agnihotra*, *agniṣṭhoma*, *vājapeya* and *aśvamedha*”. In a Sanskrit inscription, engraved at least 41 years after his death, he is remembered as “performer of *agniṣṭhoma*, *vājapeya*, *aśvamedha*, *bahusuvarṇṇaka*”<sup>93</sup>. While *agniṣṭhoma*, *vājapeya*, *aśvamedha* are three well-known Vedic

<sup>89</sup> For the chronology of Ikṣvāku dynasty, cfr. R. SUBRAHMANYAM, *A Catalogue of the Ikṣvāku Coins in the Andhra Pradesh Government Museum*, Hyderabad 1962, pp. 5–22; E. ROSEN STONE, *The Buddhist Art of Nāgārjunakoṇḍa*, Delhi 1994, pp. 4–9.

<sup>90</sup> In prakrit, (*aneka*–)*hiramṇa*–*koṭi*(–*go*–*satasabasa*–*hala*–*satasabasa*)–*padāyī*: J. PH. VOGEL, “Prakrit Inscriptions from Nagarjunikonda”, cit. a n. 78, pp. 21; 24; ID., “Additional Prakrit Inscriptions from Nagarjunikonda”, in *Epigraphia Indica*, 21 (1930–1931) pp. 62–67; D.C. SIRCAR, “More Inscriptions from Nagarjunikonda”, in *Epigraphia Indica*, 35 (1963–1964), pp. 3; 9; D.C. SIRCAR, K.G. KRISHNAN, “Two Inscriptions from Nagarjunikonda”, in *Epigraphia Indica*, 34 (1961), p. 22; in sanskrit, *naika*–*hiramṇya*–*koṭi*–*pradātṛ* *go*–*śatasa*–*hasra*–*hala*–*śatasa*–*hasra*–*pradātṛ*: *ibid.*, p. 19; I.K. SARMA, “Select Inscriptions of Ikṣvāku Rulers of Nāgārjunakonda”, in *The Journal of Oriental Research*, 24 (1959/1960), p. 44.

<sup>91</sup> P.L. GUPTA, “Numismatic Data in the Arthaśāstra of Kauṭalya”, in *JNSI*, 22 (1960), p. 32.

<sup>92</sup> Fig. 000, cfr. E. ROSEN STONE, *The Buddhist Art*, cit. a n. 89, p. 34.

<sup>93</sup> I.K. SARMA, “Select Inscriptions”, cit. a n. 90, p. 44 = D.C. SIRCAR, K.G. KRISHNAN, “Two Inscriptions”, cit. a n. 90, p. 19.

sacrifices, the compound *bahusuvarṇaka* (“much gold”) is an unparalleled name of sacrifice. Perhaps, the sequence *aśvamedhabahusuvarṇaka* is reminiscent of a verse of the Rāmāyana, where *bahusuvarṇaka* is usually interpreted as an adjective of *aśvamedha*<sup>94</sup>. But even if a *bahusuvarṇaka* sacrifice was never performed and never existed, the inclusion of this word in Cāmtamūla’s titles two generation after shows that his sacrificial activity was connected with expenses in gold.

In fact, donations for crores of *hiraṇya* don’t exclude offerings in gold. Indeed, the two things largely overlap. It seems reasonable to assume that the “much gold” offered by the *bahusuvarṇaka-yājīn* was included – translated in a smaller accounting unit – in the “many crores of *hiraṇya*”. In other words, the astronomic number of *hiraṇya* given by Cāmtamūla could result from a translation in a smaller accounting unit of a much lower number of gold coins, just as the 2 000 *suvarṇa* given by Uṣavadāta to Hindu gods and Brahmins were translated in 70 000 *kārṣāpaṇa*. Probably, the accounting unit presumed was the Ikṣvāku lead coin<sup>95</sup>.

Cāmtamūla’s donations were made in a context where Roman gold coins were not uncommon. At Nāgārjunakoṇḍa, three *aurei*<sup>96</sup>, two imitations in copper<sup>97</sup>, two tiny coin-like gold medallions<sup>98</sup> and clay *bullae* imitating Roman coins<sup>99</sup> have been found. Reproduced in more accessible materials, the image of the *aurei* penetrated deeply in the Ikṣvāku society. All this, especially if seen in its regional frame<sup>100</sup>, is far from insignificant. But even more important is the fact that Ikṣvāku

<sup>94</sup> Rāmāyana I 1, 98: *aśvamedhaśatairīṣṭhvā tathā bahusuvarṇakaiḥ |gavāṃ śatasahasrāṇi babūni sa hi dāsyati*.

<sup>95</sup> At Nāgārjunakoṇḍa, nearly 3 000 such coins have been found: I.K. SARMA, *Numismatic Researches*, cit. a n. 79, pp. 117–118.

<sup>96</sup> Two from excavation, one from a stray find: *Archaeological Survey of India. Annual Report* (1936–1937), p. 61; K.V. SOUNDARA RAJAN, “Excavations at Nāgārjunakonda, District Guntur”, in *Indian Archaeology – A Review*, (1956–1957), p. 38.

<sup>97</sup> I.K. SARMA, *Numismatic Researches*, cit. a n. 79, p. 120.

<sup>98</sup> A.H. LONGHURST, *Buddhist Antiquities of Nāgārjunakoṇḍa*, Delhi 1938, pp. 21–22.

<sup>99</sup> E. ROSEN STONE, *Buddhist Art*, cit. a n. 89, p. 30.

<sup>100</sup> Cfr. *supra* n. 000.



inscriptions from Nāgārjunakoṇḍa record donations of *dīnāri* or *dīnārimāsaka*, providing the earliest epigraphic evidence of an Indian borrowing from the word *δηνάριον*/*denarius*.

##### 5. *Dīnāri* and *dīnārimāsaka* at Nāgārjunakoṇḍa.

The word *dīnāri* is found in three Prakrit inscriptions from Nāgārjunakoṇḍa. All of them concern gifts to Buddhist religious institutions and in two of them the word occurs in the compound *dīnārimāsaka*<sup>101</sup>. An inscription dated year 6 of Vārapuruṣadatta and related to the construction of the Great Stupa of Nāgārjunakoṇḍa says that queen Rudradharabhaṭārikā, wife of Vīrapurusadatta and daughter of a mahārāja from Ujjayinī, gave 170 *dīnārimāsaka* and erected an *ayaka-khambha*<sup>102</sup>. A permanent endowment (*[akhaya]-niv[i]*) of 150 *dīnārimāsaka* is mentioned in another (often forgotten) fragmentary inscription<sup>103</sup>. In a third text, also fragmentary and dating back to Ehavala-Cāmtamūla reign, a group of women of high social standing, but not belonging to the royal house, appears to build a temple and to give four endowments to guilds, in order to get revenues for religious institutions: 70 *dīnāri* is the first endowment and 10 *dīnāri* each the other three<sup>104</sup>.

What kind of coin is here referred to as *dīnāri*? What is the difference between *dīnāri* and *dīnārimāsaka*? As far as the identification of the *dīnāri*, various opinions have been expressed: according to B.D. Chattopadhyaya, the *dīnāri* was the silver coin of the Western Kṣatrapas<sup>105</sup>. A. M. Shastri thought it was the Roman (silver) *denarius*<sup>106</sup>.

<sup>101</sup> *dīnārimāsaka* is also mentioned in Angavijjā IX p. 66.

<sup>102</sup> J. PH. VOGEL, "Prakrit Inscriptions from Nagarjunikonda", cit. a n. 78, p. 19.

<sup>103</sup> D.C. SIRCAR, "Some Brahmi Inscriptions", in *Epigraphia Indica*, 34 (1961), p. 210.

<sup>104</sup> D.C. SIRCAR, "More Inscriptions", cit. a n. 90, p. 7.

<sup>105</sup> B. D. CHATTOPADHYAYA, *Coins and Currency Systems in South India c. AD 225-1300*, New Delhi 1977, pp. 107-108.

<sup>106</sup> A. M. SHASTRI, "Some Aspects of Roman Coins in India", in *Foreign Coins Found in the Indian Subcontinent. 4<sup>th</sup> International Colloquium*, 1995, D.W. MACDOWALL, A. JHA eds., Nasik 2004, pp. 49-50.



S. Suresh, stressing the paucity of Kṣatrapa silver coins in the Andhra country and the chronological hiatus between the Roman silver coins found in Andhra Pradesh (Augustus to Nero) and the mention of *dīnāri* in the Ikṣvāku inscriptions (III cent. AD), expressed the view that the *dīnāri* was the Roman *aureus*<sup>107</sup>.

In my opinion, an identification of the *dīnāri* with a silver coin, either Western Kṣatrapa or Roman, must be avoided. To Suresh's objections we may add that the accounting unit in the Western Kṣatrapa inscriptions is the *kārṣāpan'a*, not the *dīnāri*, and it is hardly believable that an amount of Indian silver coins were quantified after a foreign accounting unit. It is furthermore contradictory to explain the occurrence of the word *dīnāri* with the incidence of Roman coins and to deny that the *dīnāri* mentioned are real Roman coins. On the other hand, it must be pointed out that the *aurei* – already called *δηνάριον χρυσόν* in the I century AD<sup>108</sup> – remained the only *δηνάριον* exchanged in Indo–Roman trade, when silver *denarii*, perhaps not long after Nero<sup>109</sup>, ceased to be exported. At the time of the Ikṣvāku inscriptions (middle of the III century AD) they must have been by far the most common *δηνάριον* circulating in Andhra: it should be noted that the simple mention *dīnāri* was unambiguous to the contemporary reader. Last but not least, it should be admitted that an endowment of only 10 Roman (silver) *denarii* can hardly produce significant revenues.

But, if *dīnāri* is the *aureus*, what is the *dīnārimāsaka*? As in Sanskrit literary sources a *māṣaka* can be a weight unit equal to 1/16 of a *suvarṇ'a*<sup>110</sup>, it is often assumed that the value of a coin *dīnārimāsaka* is 1/16 of a coin *dīnāri*. Consequently, the *dīnārimāsaka* are identified

<sup>107</sup> SURESH, cit. a n. 11, p. 76.

<sup>108</sup> PME 49.

<sup>109</sup> Even accepting the theory of D.W. MACDOWALL, "Indian Imports of Roman Silver Coins", in *Coinage, Trade and Economy. 3<sup>rd</sup> International Colloquium*, 1991, A.K. JHA ed., Nasik 1991, pp. 145–163 (but see F. DE ROMANIS, "Graffiti greci da Wādī Menīh el-Hēr. Un Vestorius tra Coptos e Berenice", in *Topoi* 6 (1996), p. 739, n. 51), Roman silver *denarii* could have hardly been exported after Trajan's recall of the old worn out coinage (CASS. DIO LXVIII, 15, 3).

<sup>110</sup> Arthaśāstra II 19, 2–8; Mānavadharmasāstra VIII 134; Yājñavalka I 61–364.

either with some variety of low-weight punch-marked coins<sup>111</sup> or with the lead coins of the Ikṣvāku<sup>112</sup>. Both identifications seem to me unacceptable. It is difficult to understand why such small local coins should be named after a much higher foreign denominational value. Besides, if a *dīnārimāsaka* were either a silver punch-marked coin of 3.6 grains standard or a lead coin of ca. 50 grains standard, the gift of Rudradharabhaṭārikā – 170 *dīnārimāsaka* – would have been astonishingly miserable. Even allowing that a donation to a Buddhist community could have been far less considerable than a fee for an Hindu sacrifice, a donation of 170 small cash coins would have been hardly recorded by a mahārāja's daughter and a *bahusuvarṇṇaka-yājñin's* daughter in law.

If we identify the *dīnāri* with the Roman *aureus*, the donation of 100 *dīnāri* to Buddhist institutions in Nāgārjunakoṇḍa is in proportion to the 3 000 *kāhāpaṇa* (= 85.6 *suvarṇ'a*) given by Uṣavadāta to the Buddhist community of Nāsik. On the contrary, permanent endowments of 170 and 150 *dīnārimāsaka* would be considerably smaller (10.625 and 9.375 *dīnāri*, respectively), if a *dīnārimāsaka* were just 1/16 of a *dīnāri*.

We don't know any Indian gold coin weighing 1/16 of an *aureus*, nor do we know any Indian coin whose value could be approximately estimated 1/16 of an *aureus*. In Nahapāna's kingdom a *suvarṇ'a* equalled 35 *kāhāpaṇa*: it is highly improbable that at Nāgārjunakoṇḍa a Roman *aureus* (*dīnāri*) equalled only 16 either Sātavāhana silver or, even worse, Ikṣvāku lead coins. The theory that the ratio *dīnāri*: *dīnārimāsaka* was 1:16 must be therefore rejected and the interpretation of the compound *dīnārimāsaka* reconsidered.

In my view, it is not at all necessary to interpret *dīnārimāsaka* as 1/16 of a *dīnāri*. In fact, the polysemic *māsaka* (skt. *māṣaka*) can refer to a standard of weight equal to 1/16 of a *suvarṇa*, but it can also denote

<sup>111</sup> CHATTOPADHYAYA, *Coins and currency*, cit. a n. 105., p. 108, with reference to P.L. GUPTA, *Punch-marked Coins in the Andhra Pradesh Government Museum*, pp. 128–129.

<sup>112</sup> SHASTRI, "Some Aspects", cit. a n. 106. p. 51; with reference to R. SUBRAHMANYAM, *Catalogue of the Ikshvaku Coins*, cit. a n. 89, p. 2; SURESH, cit. a n. 11, p. 76 doesn't give any equation between Roman *aurei* and *dīnārimāsaka*.

– in the very same Arthaśāstra – the highest denomination in copper: “the Mint Master should cause to be minted silver coins [...]: one *paṇa*, a half *paṇa*, a quarter *paṇa* and one eighth *paṇa*; further copper coins [...]: one *māṣaka*, a half *māṣaka*, a *kākaṇī*, and a half *kākaṇī*”<sup>113</sup>. In the Dhammapada commentary, *māṣaka* is mentioned in a descending progression after *kāhāpaṇa*, *aḍḍha* (1/2 *kāhāpaṇa*), *pāda* (1/4 *kāhāpaṇa*), and before *kākaṇīkā* and *mudhā* (“gratis”)<sup>114</sup>. Compounds such as *jatumāṣaka* (“lac *māṣaka*”), *dārumāṣaka* (“wood *māṣaka*”) and *lohamāṣaka* (“metal *māṣaka*”), occurring in Pāli literature<sup>115</sup>, show furthermore that the word *māṣaka* can also refer to coins in any material regardless of their value: that it is to say, it can also express the general concept of “coin”. It goes without saying that the general concept of “coin” developed where a coin *māṣaka* was preponderant in the monetary circulation.

The sense of the compound *dīnārimāṣaka* in the inscriptions from Nāgārjunakoṇḍa should be understood in its local context, in connection with the names of the other coins circulating within the Ikṣvāku kingdom. We have seen that the title of “giver of (many) crores of *hiraṇyā*” implies a low accounting unit, perhaps modelled on the Ikṣvāku lead coins. We don’t know how they were named. But as its value must have been lower than a silver coin (whether Sātavāhana, Roman or punch-marked), as a silver coin should have been called *kāhāpaṇa*, and as a *māṣaka* is a fraction of a *kāhāpaṇa*<sup>116</sup>, that the Ikṣvāku lead coins were called *māṣaka* must be considered a possibility. *Dīnārimāṣaka* may therefore be understood not as a *tatpuruṣa*, “1/16 of a *dīnāri*”, but as a *karmadhāraya*, “the *māṣaka* called *dīnāri*”, “the coin called *dīnāri*”. In other words, the expressions *dīnāri* and *dīnārimāṣaka* are perfectly synonymous<sup>117</sup>. In conclusion, the Roman gold coin was

<sup>113</sup> Arthaśāstra II 12, 24.

<sup>114</sup> The Commentary on the Dhammapada vol. III p. 108 Norman.

<sup>115</sup> E.g. Atthasālinī 318, cfr. also D.C. SIRCAR, *Studies in Indian Coins*, Delhi 1968, p. 92.

<sup>116</sup> P.L. GUPTA, *Numismatic Data*, cit. a n. 91 pp. 19–25.

<sup>117</sup> The possibility that *dīnāri* and *dīnārimāṣaka* refer to the same coin was admitted by D.C. SIRCAR, “More Inscriptions”, cit. a n. 90, p. 5: “The coin called *dīnāri* may be the same as *dīnāri-māṣaka* known from other Nāgārjunakoṇḍa inscriptions or the coin of which the *dīnāri-māṣaka* was the 1/16<sup>th</sup> part in weight or value”.

called either simply with its metal (*suvarṇa*) or its foreign name (*dīnāri*) or by adding its metal (*suvaṇṇamāsaka*<sup>118</sup>) or its foreign name (*dīnārimāsaka*) to the name of the most popular local coin.

As both *dīnāri* and *dīnārimāsaka* are Roman *aurei* or their imitations, the donations recorded in the Ikṣvāku inscriptions ñ 170 *dīnārimāsaka*, 150 *dīnārimāsaka* and 100 *dīnāri* – are richer than the endowment of 3 000 *kāhāpaṇa* (= 85.6 *suvarṇa*) given by Uṣavadāta to the Buddhist community of Nāsik, but far poorer than the gifts of the same Uṣavadāta to Hindu gods and Brahmins (2 000 *suvarṇa*). However, all these figures sound realistically low with respect to the crores of *hiranya* boasted by Cāntamūla: allowing an accounting unit of 1/280 or 1/560 of *aureus*<sup>119</sup>, they would mean myriads of *aurei*. Difference in scale is not due, at least not entirely, to formulaic exaggeration: Uṣavadāta's gifts in money to Buddhist monks of Nāsik (3 000 *kāhāpaṇa*) is less than 1/23 of the 2 000 *suvarṇa* given to Hindu gods and Brahmins. The generosity to Hindu religion<sup>120</sup> displayed by Cāntamūla – a king who was “performer of *agnihotra*, *agniṣṭhoma*, *vājapeya* and *aśvamedha*” – must have surpassed by far the sums given by upper class women who patronized the Buddhist faith.

<sup>118</sup> Mentioned in Angavijjā IX p. 66.

<sup>119</sup> Taking 1 *suvarṇa* = 35 *kāṣṭhāpaṇa* and 1 *kāṣṭhāpaṇa* = 8 or 16 *māsaka*.

<sup>120</sup> For an Hindu temple at Nāgārjunikoṇḍa, cfr. ROSEN STONE, *Buddhist Art*, cit. a n. 89, pp. 11–12.