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NEW LIGHT ON MARITIME LOANS: P. VINDOB. G 40822

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I. Introduction¹

In 1985 H. Harrauer and P. Sijpesteijn published a papyrus that is unique.² The recto and verso are more or less contemporary, mid-second A.D., and both deal with a shipment of goods from India. This aspect of Egypt's trade, though well known, has up to now been scantily and only indirectly reflected in the documents from Greco-Roman Egypt.³

The recto contains part of an agreement that covers the transport of goods from the point on the Red Sea where these had been unloaded, no doubt Myos Hormos or Berenice (cf. Casson [n. 3] 94-97), across the eastern desert to Koptos and thence down the Nile to Alexandria (lines 1-12); it also refers to the provisions of a loan *κατὰ Μουζείριον* (line 12); Muziris was a major port on the southwest coast of India (cf. Casson 22-24, 296), and the loan in question must have been a maritime loan that made possible the acquisition of the goods. The verso contains an account of amounts of nard, ivory, and textiles, all of which figure regularly among India's exports (cf. Casson 16-17), and the calculation of their value for customs duty; the account on the verso, though in a different hand, unquestionably is related to the agreement on the recto, both dealing with the same shipment of goods (cf. Harrauer-Sijpesteijn [n. 2] 124, 150).

The papyrus has already evoked considerable discussion. Its publication was quickly followed by an important article by G. Thür in which he reprinted the text with some emendations, provided an extended commentary on the legal clauses in the agreement on the recto, and explicated in masterly fashion the entries in the account on the verso, many of which were extremely puzzling.⁴ There have also appeared two articles on the nature of the agreement on the recto, one by myself and a reply by Thür.⁵

In this present article I republish the text with several emendations, including a crucial one that throws light on the purpose of the agreement, and offer a new view of what that purpose was.

¹ I have had much welcome aid from my friend and colleague N. Lewis, including valuable suggestions concerning the text of the papyrus. I owe many thanks to H. Harrauer for informing me of an important new reading and for most helpful comments on several suggestions I presented to him.

² "Ein neues Dokument zu Roms Indienhandel, P. Vindob. G 40822," *Anzeiger der Österreichischen Akademie der Wissenschaften*, phil.-hist. Kl. 122 (1985) 124-55.

³ On the trade with India, see L. Casson, *The Periplus Maris Erythraei: Text with Introduction, Translation, and Commentary* (Princeton 1989) 11-35 (cited hereafter as Casson). On the papyrological evidence, see M. Raschke, "Papyrological Evidence for Ptolemaic and Roman Trade with India," *Proceedings of the XIV International Congress of Papyrologists* (London 1975) 241-46.

⁴ "Hypotheken-Urkunde eines Seedarlehens für eine Reise nach Muziris und Apographe für die Tetarte in Alexandria (zu P. Vindob. G. 40.822)," *Tyche* 2 (1987) 229-45, cited hereafter as Thür.

⁵ L. Casson, "P. Vindob G 40822 and the Shipping of Goods from India," *BASP* 23 (1986) 73-79; G. Thür, "Zum Seedarlehen *κατὰ Μουζείριον* P. Vindob. G 40822," *Tyche* 3 (1988) 229-33.

II. Text

The initial part of the papyrus, with the names of the parties and doubtless much else, is missing. At the point at which the preserved portion begins we are well into an agreement in which the party of the first part—*ego*, to use Thür's convenient term—agrees to take care of the transfer of goods across the eastern desert to Koptos and from there down the Nile to Alexandria, all of which goods are to be put in the name of the party of the second part—*tu*, to use Thür's term. Furthermore, in the event of non-payment by *ego* of a loan he owes, *tu* is empowered to take over the security specified in the loan contract; *tu*, thus, was the creditor of *ego's* loan, and the security unquestionably consisted of the goods involved in this agreement.

Recto

Column 2

- . . . ο. μένων σου ἐτέρων ἐπ[ι]τρόπων ἢ φροντιστῶν καὶ στήσας
 [δώσω τ]ῷ ϕ ρῶ καμηλίτη ἄλλα (τάλαντα) ἐ[ῖ]κοσι πρὸς ἐπίθεσιν τῆς εἰς Κόπτου
 [ἀνόδο]ν καὶ ἀνοίω διὰ τοῦ ὄρου μετὰ παραφυλακῆς καὶ ἀσφαλείας
 4 [εἰς τὰ]ς ἐπὶ Κόπτου δημοσίας παραλημπτικὰς ἀποθήκας καὶ ποι-
 [ήσω ὑ]πὸ τὴν σὴν ἢ τῶν σῶν ἐπιτρόπων ἢ τοῦ παρόντος αὐτῶν
 [ἐξουσία]ν καὶ σφραγεῖδα μέχρι ποταμοῦ ἐμβολῆς καὶ ἐμβαλοῦμαι
 [τῷ δέ]οντι καιρῷ εἰς ποταμὸν ἀσφαλὲς πλοῖον καὶ κατοίω εἰς τὴν
 8 [ἐν Ἀλεξ]ανδρείᾳ τῆς τετάρτης παραλημπτικὴν ἀποθήκην καὶ ὁ-
 [μοίω]ς ποιήσω ὑπὸ τὴν σὴν ἢ τῶν σῶν ἐξουσίαν καὶ σφραγεῖδα, ταῖς
 [τοῦ λοι]ποῦ ἀπὸ τοῦ νῦν μέχρι τεταρτολογίας δαπάναις πάσαις καὶ φο-
 [ρέτρου] ὄρου καὶ ναύλων ποταμίταις καὶ τῶν ἄλλων κατὰ μέρος ἀνα-
 12 [λωμά]των· πρὸς τὸ ἐνστάτος τοῦ ἐν ταῖς κατὰ Μουζεῖριν τοῦ δα-
 [νείου σ]υγγραφαις τῆς ἀποδόσεως ὠρισμένου χρόνου ἐὰν μὴ δικαί-
 [ως τότε] εἰς χρεολυτῶν τὸ προκειμένον ἐν ἐμοὶ δάνειον τότε εἶναι
 [πρὸς σ]ὲ καὶ τοὺς σοὺς ἐπιτρόπους ἢ φροντιστὰς τὴν ἐγλογὴν καὶ ὄλο-
 16 [σχερῆ] ἐξουσίαν ὡς ἐὰν αἰρήσθε ποιήσασθαι τὰ τῆς πράξεως χωρὶς
 [διαστ]ολῆς καὶ προσκρίσεως, κρατεῖν τε καὶ κυριεύειν τὴν προκ[ε]ι-
 [μένην] ὑποθήκην καὶ τεταρτολογεῖν καὶ τὰ λοιπὰ ἐσόμενα μέρη
 [τρία μ]εταφέρειν οὐδ' ἐὰν αἰρήσθε καὶ πωλεῖν καὶ μεθυποτίθεσθαι
 20 [καὶ] ἐτ[έ]ρωι παραχωρεῖν ὡς ἐὰν αἰρήσθε καὶ τὰ καθ' ἑαυτὴν διοικονο-
 [με]ῖσθαι καθ' ὃν ἐὰν βούλησθε τρόπον καὶ ἑαυτῷ ὠνεῖσθαι τῆς ἐπὶ τοῦ
 καιροῦ φανησομένης τιμῆς καὶ ἐκκρού[ει]ν καὶ ἐνλογεῖν τὰ πεσοῦμενα
 [ὑπέρ τοῦ προκειμέν]ου δανείου τῆς πίστεως τῶν πεσομένων
 24 [οὔσης π]ερὶ σὲ καὶ τοὺς ἐπιτρόπους ἢ φροντιστὰς ὄντων ἡμῶν ἀκυκοφαν-
 [τήτ]ων κατὰ πάντα τρόπον. τοῦ δὲ περὶ τὴν ἐνθήκην ἐνλείματός
 [τ]ε καὶ πλεονάματος πρὸς ἐμὲ τὸν δεδανειζόμενον καὶ ὑποτεθει-

Column 3

- [μένον ὄντος

2: On the text of this line, see below under Section IV.

3 [ἀνόδο]υ: The editors restored [εἰσόδο]υ but, as N. Lewis points out, the required word is "road up" [sc. to Koptos]. On Thür's restoration of [συνόδο]υ in the sense of "caravan," see below under Section IV.

7 εἰς ποταμὸν ἀφ' ἁλῆς πλοῖον: L. Koenen conjectures ποτάμ(ι)ον.

10 λοι]ποῦ: The editors restored πλο]ῖου. λοι]ποῦ suits the context perfectly and is not excluded by the traces. Thür has accepted the reading: see *Tyche* 3 (1988) 232. L. Koenen, however, expresses doubts. According to his interpretation of the photography, the top of the vertical before ο suits ι better than π; and [τοῦ λοι]ποῦ, coupled with ἀπὸ τοῦ νῦν μέχρι τεταρτολογίας, is redundant.

11 κατὰ μέρος: I follow a suggestion by N. Lewis and understand this as an ellipsis for κατ' ἕμὸν μέρος.

11-12 φο]ρέτρου]: On Thür's restoration of the plural, see below under Section IV.

12 The editors assumed that between πρὸς and τὸ there is a considerable lacuna caused by a jump of the scribe's eye as he copied from an exemplar. N. Lewis offers a less drastic solution, namely that πρὸς τὸ is to be taken with εἶναι in line 14, the words in between being a clumsy insertion to explicate the condition involved; the scribe, on returning to εἶναι, added τότε to refer to this condition, and then continued in the infinitive mood. Asyndeton and, in the following lines, change to infinitive construction seem to result, but due to the fact that the beginning of the document is missing the syntax of the beginning of the extant portion of the document is unclear.

17 [διαστ]ολῆς: thus Thür; [προσβ]ολῆς edd. — προσκρίσεως: since the word is unattested, Thür assumes a miswriting for προσκλήσεως, a term that occurs in similar contexts.

κρατεῖν cé τε καὶ would have been clearer, but can easily be understood.

23 ὑπὲρ τοῦ προκειμέν]ου Thür; τοῦ προγεγραμμέν]ου edd. L. Koenen points out that Thür's supplement is a little too short and suggests 22 τὰ πεσοῦμενα | [κοι---.

24 ἡμῶν: The plural points to the use of agents by the borrower; cf. Thür 237, n. 31.

Verso

Column 1

↑		] μν(ῶν) νθ
		] μν(ῶν) ιδε
		] μν(ῶν) νη
4		] κ
	] ους ρξζ ὀλ(κῆς) (ταλάντων) ρκ μν(ῶν)	ιγ
	] .. (ταλάντων) κς μν(ῶν)	λ
	] ν τω τῆς τετάρτης	
8	ὀμ]οί(ως ὀλ(κῶν) μν(ῶν) ιαε	
	] (ταλάντων) κς μν(ῶν) ιηδ	
	] (ταλάντων) ιζ μν(ῶν) λγ	
	] (ταλάντων) δ μν(ῶν) κς	
12	] ..... π. ικω	
	] (ταλάντων) κδ μν(ῶν) κγδ	
	] ὀλ(κῆς) αL	
	] .ca	
16	] η	

		]. [.] δ
		]β[
		]δε
20		] [ ] ξ[
		] Γ ε μν(ων)
		] κ ἐξ ὧν [ἀ]ντι-
		ε]ται η υ
24		].....ριων
		] μν(ων) (δραχμῶν) ψοα
		(ταλάντων)] δ (δραχμῶν) λβ
		] μ δ
28		] [ ] τον

Column 2

[This is the closing portion of the account, since the final entry summarizes the shipment involved: six parcels loaded aboard the vessel *Hermapollon*. The preserved lines deal with three, so another three must have been described in the portion that is missing.⁶]

- ↑ νάρδου Γανγιτικῆς κικτῶν ξ ὧν ὁμοίως
τιμὴ λογίζεται ὡς τῆς κίκτης (δραχμαὶ) Ἄφ ἀργυρί-
ου (τάλαντα) με
- 4 ἐλέφαντος ὑγιοῦς μὲν ὀλκ(ῆς) (τάλαντα) σὴ μν(αῖ) νδε
ὧν ὁμοίως τιμὴ λογίζεται ὀλκ(ῆς) μὲν (ταλάντων) σὴ μν(ων) μ[γ]
τῶν γινομένων σταθμίοις τῆς τετάρτης τοῦ
ταλάντου λογιζομένου πρὸς λί(τρας) π̄ε, (γίνονται) λί(τραι) Ἱζουη,
- 8 ἐξ ὧν αἰρεῖ λογιζομένων εἰς τὸ τάλαντον λι(τρῶν) ο̄[
ὄφ συνήθως πρὸς τοὺς ἐμπόρους λογίζεται ὀλ[κ(ῆς)]
(τάλαντα) ος μν(αῖ) με, ὡς τῆς μν(ᾶς) (δραχμαὶ) ρ, (γίνεται)
(τάλαντα) ος (δραχμαὶ) Ἄφ,
- τῶν δὲ λοιπῶν ὑπὸ τῶν Ἀραβαρχῶν πλείω ὑπὲρ
- 12 τῆς τεταρτολογίας ἀρθέντων ἐν ἀριθμῷ ὀδόντων
παρὰ τὸ αἰροῦν καὶ τεταρτολογουμένων ὀδόντων μν(αῖ) ιαε
ὡς τῆς μν(ᾶς) τῶν Ἱζων (δραχμῶν) ρ [ἀργυρίου] (δραχμαὶ) Ἄροε,
γίν(εται) ἐπὶ τὸ [αὐτὸ] (τάλαντα) ος (δραχμαὶ) Ἐχοε
- 16 χιδῶν νδ ὀλκ(ῆς) (τάλαντα) ιγ μν(αῖ) θδ,
ὧν ὁμοίως τιμὴ λογίζεται ὀλκῆς μὲν (ταλάντων) ιβ μν(ων) μ[ζ]
τῶν ὡς πρόκ(εῖται) γιν(ομένων) ἐκ τοῦ μέρου σταθμίοις μὲν τετάρτης

⁶ Thür considers the verso to be a copy of the customs declaration itself (244-45, and cf. the title of his article [above, n. 4]). Thus he takes lines 6 and 18 to refer to the actual weighing of the goods in the customs house. But the verso could just as well be merely a draft of the declaration drawn up before arrival at customs. The exact weight of the items listed must have been known to the owner since he had no doubt purchased them by weight; thus lines 6 and 18 need not reflect an actual weighing but simply mathematical calculation, the conversion of the known weights expressed in talents and minas into weights expressed in Roman pounds, using the equivalents required by the customs regulations.

- λί(τραι) Ἄσιδ, καθὼς [καί] δὲ πρὸς τοὺς ἐμπόρους λογί-
 20 ζεται ὀλκ(ῆς) (τάλαντα) ιβ̄ μν(αῖ) κζ̄ ὡς τῆς μν(ᾶς) (δραχμαὶ) ο
 ἀργ(υρίου) (τάλαντα) η (δραχμαὶ) ἌςϚ,
 τῶν δὲ λοιπῶν πλείω ὑπὲρ τῆς τεταρτολογίας ἀρθει-
 cῶν ὡς πρόκειται μν(αῖ) κβ̄δ̄, ὡς τῆς μνᾶς τῶν
 24 ἴσων (δραχμῶν) ο ἀργ(υρίου) (δραχμαὶ) ἌφϚβ̄/
 γίνεται χιδῶν (τάλαντα) η (δραχμαὶ) Ἄωπβ̄/
 γίνεται τιμῆς ἐλέφαντος ἀργ(υρίου) [(τάλαντα) ος (δραχμαὶ) Ἄχοε]
 ἐπὶ τὸ αὐτὸ τιμῆς μερῶν ζ̄ τῶν ἐκπεπλευκότων
 28 ἐν τῷ [εμ] Ἐρμαπόλλωνι πλοίῳ φορτίων ἀργυ-
 ρίου (τάλαντα) Ἄρνδ (δραχμαὶ) Ἄωνβ̄

4 νδϛ̄: thus Koenen, or νδλδ̄Thür, approved by H. Harrauer from the original; for writing 3/4 the scribe indiscriminately used λΔ and the common combination of the two signs ϛ̄ (Ld = ϛ̄ ; throughout this paper Δ is transcribed as δ). νδλ edd.

7 Ἄςον: 78 t. @ 95 = 7410 lbs.; 43 m. at same rate = ca. 68 lbs; 7410 + 68 = 7478 lbs.

8 Thür plausibly suggests restoring the end of the line as ὀλκ(ῆς) [ἌςϚα].

10 (τάλαντα) ος (δραχμαὶ) Ἄφ: This, in other words, is the figure that will be used by the collector of the 25% customs duty at Alexandria., and it reflects a concession customarily made to merchants. The gross weight arriving there was 78 t. 43 m.
 but the weight the customs official would use in calculating the levy was only 76 t. 45 m.
 i.e., a reduction of 118 m.
 Merchants thus got a concession of 1/40 (78 t. + 43 m. = 4723 m.; 118/4723 = 1/40) or 2.5%

13 μν(αῖ) ιαϛ̄: or ιαλ̄[δ̄] Thür (see above on line 4), μν(ῶν) ιαλ̄ edd. These 11 3/4 m. are the difference between the gross weight that arrived at the Red Sea port of discharge 78 t. 54 3/4 m.
 and the gross weight arriving at the customs house at Alexandria - 78 t. 43 m.
 11 3/4 m.

It represents the amount that was levied by the Arabarchs at the Red Sea port of discharge, namely roughly 1/400 (78 t. = 4680 m. + 54 3/4 m. = 4734 3/4 m.; 11.75/4734.75 = ca. 1/403) or .25%. But even this was subject to the 25% customs duty and hence had to be reported to the customs office at Alexandria.

19 Ἄσιδ: The true figure is slightly less than 1214: 12 t. @ 95 lbs. to the t. = 1140; 43 m. at the same rate = 68; 1140 + 68 = 1208.

20 (τάλαντα) ιβ̄ μν(αῖ) κζ̄: The concession in this instance works out to slightly more than 1/40 (2.5%). The gross weight arriving at Alexandria was 12 t. 47 m.
 But the weight the customs office would use in calculating the levy was - 12 t. 27 m.
 i.e., a reduction of 20 m.
 Twelve talents, forty-seven minas = 767 m; 20/767 = 1/38 (2.63%)

23 μν(αῖ) Thür; μν(ῶν) edd. — κβ̄δ̄: These 22 3/4 m. are the difference between the gross weight that arrived at the Red Sea port of discharge 13 t. 9 3/4 m.
 and the gross weight arriving at the customs house at Alexandria - 12 t. 47 m.
 namely 22 3/4 m.

It represents the amount that was levied by the Arabarchs at the Red Sea port of discharge, a percentage considerably higher than the quarter of one percent levied on the ivory (13 t. 9 3/4 m. = 789 3/4 m.; 22.75/789.75 = ca. 1/35 or 2.88%).

III Translation

Recto, Column 2

[I have paragraphed the provisions for ease of comprehension.]

... of your other agents and managers. And

I will weigh and give to your cameleer another twenty talents for loading up for the road inland to Koptos, and

I will convey [sc. the goods] inland through the desert under guard and under security to the public warehouse for receiving revenues at Koptos, and

I will place [them] under your ownership and seal, or of your agents or whoever of them is present, until loading [them] aboard at the river, and

I will load [them] aboard at the required time on the river on a boat that is sound, and

I will convey [them] downstream to the warehouse that receives the duty of one-fourth at Alexandria and I will similarly place [them] under your ownership and seal or of your agents, assuming all expenditures for the future from now to the payment of one-fourth—the charges for the conveyance through the desert and the charges of the boatmen and for my part of the other expenses.

With regard to there being—if, on the occurrence of the date for repayment specified in the loan agreements at Muziris, I do not then rightfully pay off the aforementioned loan in my name—there then being to you or your agents or managers the choice and full power, at your discretion, to carry out an execution without due notification or summons,

you will possess and own the aforementioned security and pay the duty of one-fourth, and the remaining three-fourths you will transfer to where you wish and sell, re-hypothecate, cede to another party, as you may wish,

and you will take measures for the items pledged as security in whatever way you wish, sell them for your own account at the then prevailing market price, and deduct and include in the reckoning whatever expenses occur on account of the aforementioned loan, with complete faith for such expenditures being extended to you and your agents or managers and there being no legal action against us [in this regard] in any way. With respect to [your] investment, any shortfall or overage [sc. as a result of the disposal of the security] is for my account, the debtor and mortgager...

Verso, Column 2

[The translation is based on Thür's analysis of the entries (*loc. cit.* [n. 4] 238f. nn. 34-44). The abbreviation d. = drachmas, m. = Minas, and t. = talents (of weight when followed by m., of money when followed by d.)]

1-3 Gangetic nard, 60 containers,

whose value (sc. for the one-fourth customs duty payable at Alexandria), likewise, is being reckoned at 4500 silver drachmas per container 45 t.

4-10 ivory, sound condition, weighing 78 t. 54 3/4 m.

whose value (sc. for the one-fourth cus-

toms duty), likewise, is being reckoned
 on a weight of 78 t. 43 m.
 or, converted on the weight scale used
 by the one-fourth (customs duty) of
 95 lbs. to the talent, = 7478 lbs.,⁷
 of which the amount subject to duty (of one-
 fourth at Alexandria), converting lbs.
 per talent, is a weight of [7291 lbs.⁸]
 in accordance with the customary
 reckoning for merchants, or 76 t. 45 m.
 at 100 d. per m. 76 t. 4500 d.⁹

11-15 the remainder, representing the number in
 tusks removed by the Arabarchs, (which
 number is) over and above the number
 subject to duty (that will be available)
 for collection of the one-fourth (customs
 duty), which tusks are also subject to the
 collection of the one-fourth (customs
 duty) 11 3/4 m.¹⁰
 at the same rate of 100 silver d. per m. 1175 d.
 for a total of 76 t. 5675 d.

16-21 lengths of fabric, 54
 weighing 13 t. 9 3/4 m.
 which, likewise, the value (for the
 one-fourth customs duty) is being
 reckoned on a weight of 12 t. 47 m.
 which, as above, yields for the parcel
 on the weight scale used by the one-
 fourth (custom duty), (a weight of)
 1214 lbs.,¹¹
 but, in accordance with the custom-
 ary reckoning for merchants, a weight
 (for customs' purposes) of 12 t. 27 m.¹²
 at 70 silver d. per m. 8 t. 4290 d.

22-25 the remainder that was removed (sc. by the

⁷ See note to verso col. 2, line 7.

⁸ See note to verso col. 2, line 8.

⁹ See note to verso col. 2, line 10.

¹⁰ See note to verso col. 2, line 13.

¹¹ See note to verso col. 2, line 19.

¹² See note to verso col. 2, line 20.

	Arabarchs), which, as above, represents an amount over and above (what will be available) for collection of the one-fourth (customs duty) (to the amount of) 22 3/4 m. ¹³ at the same rate of 70 silver d. per m. 1592 d. 3 ob. total for the lengths of fabric 8 t. 5882 d. 3 ob
26	total for the value of the ivory 76 t. 5675 d.
27-29	grand total for the 6 parcels of the cargo exported on the ship <i>Hermapollon</i> in silver <u>1154 t. 2852 d.</u>

IV The Nature of the Agreement

In the original publication of the document the editors took the agreement on the recto to be the remains of a maritime loan that had been drawn up in Muziris between a shipowner (*ego*) who borrowed from a merchant (*tu*), pledging his ship as security. Both Thür and I independently pointed out the errors in this view.¹⁴ Such phraseology as "the date for repayment specified in the loan agreements" (lines 12-13) instead of "the aforementioned date for repayment" aut sim. makes it clear that this document is not itself the maritime loan, and some of the stipulations concerning the security (18-19) make it equally clear that the security was not a ship but items subject to the 25% customs duty on imports; almost certainly *ego* had secured his loan from *tu* by pledging the goods he would buy with the money,¹⁵ precisely as merchants had done centuries earlier in Demosthenes' day.¹⁶

But if the agreement in this papyrus is not itself the maritime loan, what is it? According to Thür, the contract between *ego* and *tu* was drawn up in Alexandria in two separate documents, one that spelled out the maritime loan and another that spelled out the security involved ("getrennte Darlehens- und Sicherungsurkunde"), and what the papyrus contains is a portion of the latter, the document that dealt with the security.¹⁷ In accord with his view that both were drawn up in Alexandria, he interprets ἄλλα in line 2 as referring to the return journey with its counterpart in the lost lines that precede referring to the outbound journey;¹⁸ he takes the plural ναύλων in line 11 as indicating both outbound and return journeys; and he restores the plural φο[ρέτρων] in 10-11 to cover both the outbound and return journeys (Thür [n. 4] 235, n. 14).

What of the words ἐν ταῖς κατὰ Μουζεῖριν τοῦ δα[νείου c]ονγραφαῖς in lines 12-13 which certainly seem to refer to "loan agreements at Muziris" and not at Alexandria? Thür

¹³ See note to verso col. 2, line 23.

¹⁴ Casson (n. 5) 76-78; Thür (n. 4) 239-41.

¹⁵ Casson (n. 5) 76; Thür (n. 4) 241.

¹⁶ Of the maritime loans mentioned in Demosthenes' speeches, in four instances out of six the loan was secured by the goods purchased with the proceeds (32.14, 34.6 [two loans], 35.10-13).

¹⁷ Thür (n. 5) 230; cf. Thür (n. 4) 241-243.

¹⁸ Thür (n. 4) 234, n. 7; Thür (n. 5) 232.

explains this by taking κατὰ Μουζείριν as an elliptical way of referring to "loan agreements (concerning a voyage) to Muziris."¹⁹

The drawing up of a loan contract in more than one document, despite the examples Thür offers,²⁰ is unparalleled. In this instance he attributes it to special circumstances, namely that the security consisted of goods from India which had to pass through customs. He points out that, if the debtor did not pay off his loan on time, the goods would remain in the customs house, and the creditor, in order to legitimize his right to the three-fourths that was left after the duty had been paid, would need a document issued by the debtor; the special "Sicherungsurkunde," as he sees it, served that purpose (Thür [n. 4] 243-44). Yet would not a single document that included both the details of the loan and the details of the security have served the purpose just as well? In any event, Thür's explanation does not account for the presence of the stipulations concerning the transport of the goods from the Red Sea port to Alexandria; these certainly have nothing to do with getting goods out of customs. There indeed were special circumstances in this instance that called for a separate document—but, as will be shown in a moment, the separate document was quite different in nature and purpose from Thür's "Sicherungsurkunde."

What militates most strongly against Thür's view is the new reading I referred to above. His view rests on the assumption that the agreement we are dealing with was drawn up, along with the loan contract, at Alexandria before the voyage to India ever began; the new reading makes it a virtual certainty that it was drawn up at a port on the Red Sea upon the safe arrival there of the goods from India.

In lines 1-3 the editors originally read *στήσαα [δῶσα τ]ῷ εἰ καμηλείτη ἄλλα (τάλαντα) ῥο (δραχμάα) ν πρὸς ἐπίθεειν τῆς εἰς Κόπτον [εἰκόδο]υ*. They took *στήσαα* to mean "wie vereinbart" and *ἐπίθεειν* to mean "Benützung". Thür rendered *στήσαα* the same way but rightly pointed out that 170 talents was far too great a sum to be paid out on tolls. His solution was to restore *[συνόδο]υ* at the beginning of line 3, giving it the meaning of "caravan," although that meaning has hitherto been attested only for *συνοδία*, and to translate *ἐπίθεειν* "Verladung," a sense also hitherto unattested but easily derivable from the use of the verb *ἐπιτίθημι* to mean "load" (Thür [n. 4] 234, n. 8). Yet the sum would be too great even for the loading of a whole caravan. The hire of a camel in the second century A.D. was at most four drachmas a day,²¹ and the journey from Berenice, the Red Sea port furthest from Koptos, took at most twelve days (Pliny, *N.H.* 6.103). This would indicate a maximum cost per camel for the trip of 48 drachmas—at which rate 170 talents would rent over 21,000 camels!

¹⁹ Thür (n. 4) 235, last line of n. 18; Thür (n. 5) 233.

²⁰ Cf. Thür (n. 4) 241-42. He mentions *SB* 7169, *Tab. Pomp.* 13, and *P. Vindob. G* 19792. The first, as he admits, is conjectural; the second, as he points out, may not concern a maritime loan; and the third is simply a notice of payment of the proceeds of a loan issued by a bank to the borrower (on this document, see now L. Casson, "New Light on Maritime Loans: *P. Vindob. G* 19792 (= *SB* VI 9571)," in R. Bagnall and W. Harris, ed., *Studies in Roman Law in Memory of A. Arthur Schiller* [Leiden 1986] 11-17).

²¹ *BGU* 921.12. Other entries reveal a rate half that or less. E.g., line 26 shows that on the 23rd of the month, 16 camels were hired for a drachma each. The rate must have varied according to the size of the load, the number of hours the beast worked, etc.

H. Harrauer has since reexamined the lines on the papyrus, and he kindly informs me that the proper reading in line 2 is ἄλλα (τάλαντα) εἴκοσι κτλ. The reading of the actual number may not convince everybody,²² but it is clear that there is no basis for the reading of a drachma sign. Its elimination provides the key to a solution of the difficulty. It permits us to take the talents here as units of weight, not money. By doing so, and by giving to κτήσαο here its well-attested sense of "weigh,"²³ we arrive at a meaning that suits the context perfectly: *ego*, along with all the other services he engages to perform to ensure the safe arrival of the goods at Alexandria, will take care of the assignment of the loads to the cameleers. In the lost lines just before the preserved portion opens, he had obviously agreed to assign at least one parcel to *tu*'s cameleer; in lines 1-3, he agrees to weigh out and assign another, this one, accepting Harrauer's reading, with a weight of 20 talents, a weight that would require no more than three to four camels.²⁴ The essential point is that arrangements such as these could hardly have been planned and set down in writing at Alexandria over half a year before *ego* had made a single purchase. They are the sort of arrangements that are made when the actual goods are at hand and are being readied for caravan transport. It follows that the agreement we have is one that was drawn up at Myos Hormos or Berenice right after the ship bearing the goods involved had arrived there from India.

What kind of agreement, then, is this which was made at such a time and place? A clue is to be found in the only complete text of a maritime loan to have survived, that in Demosthenes' *Against Lacritus*.²⁵ Both Thür and I have remarked on the fact that in a key respect the maritime loan involved in the papyrus and the loan cited by Demosthenes are alike:²⁶ in both, merchants take out loans pledging as security the goods they will purchase with the money they have borrowed. There is, I believe, another key respect in which they are alike.

The loan cited in Demosthenes' speech was made to a pair of borrowers for a voyage from Athens to the Pontus and back. Among the stipulations is one to the effect that, within twenty days after the safe arrival of the cargo—undoubtedly grain—taken on at the Pontus,

²² The word εἴκοσι would have been written narrowly and the traces which seem to appear on the photograph do not quite coincide with the expected pattern. The talent sign may be followed by a number filling the entire space, as L. Koenen has pointed out to me.

²³ LSJ s.v. ἴσθημι A IV; for examples in the papyri, see *P. Cair. Zen.* 59484. (3rd B.C.) and *P. Yadin* 21.15, 22.14 (both A.D. 130).

²⁴ There is naturally a great variation in the size of the loads reported since these varied with terrain, length of haul, size of beasts, etc. Although the papyri attest camel loads of wheat that run as high as 10 artabs (P. Sijpesteijn, *Customs Duties in Graeco-Roman Egypt* [Zutphen 1987] 53), they usually were 6 artabs, double the standard donkey-load of 3 (Sijpesteijn 52; cf. B. Boyaval in *Chr. d'Eg.* 53 [1978] 354). Assuming an artab of 40 choenices, the size ordinarily used in private transactions in the Roman period (cf. R. Duncan-Jones in *Chiron* 6 [1976] 242, 258; A. Bowman, *Egypt after the Pharaohs* [London 1986] 237), and assuming a choenix was more or less the equivalent of a liter (Wilcken, *Gdz.* lxviii), an artab of wheat would be somewhat heavier than a U.S. bushel (35.239 liters), which weighs 60 lbs. Thus 6 artabs would be in the neighborhood of 400 lbs. This agrees nicely with *Ed. Diocl.* 17.4 where a camel load is given as 600 Roman lbs = 430 averdupois. S. Goitein (*A Mediterranean Society* i [Berkeley 1967] 220, 335) gives figures for the twelfth century that indicate loads of. ca. 500 lbs. Thus, 20 talents (1200 lbs.) would require three, at most four, camels.

²⁵ Demosthenes 35.10-13. The text is probably a later insertion, but this does not detract from its value as evidence; cf. W. Ashburner, *The Rhodian Sea-Law* (Oxford 1909) ccxii.

²⁶ Casson (n. 5) 76, n. 10; Thür [n. 4] 229.

the borrowers are to pay off their debt. Moreover, "they will furnish to the lenders the security intact to hold title thereto until such time as they pay back the money due in accordance with the agreement" (παρέξουσι τοῖς δανείασι τὴν ὑποθήκην ἀνέπαφον κρατεῖν ἕως ἂν ἀποδῶσι τὸ γινόμενον ἀργύριον κατὰ τὴν συγγραφὴν, 35.11). In other words, the borrowers had twenty days in which to sell the cargo and pay back their creditors; during those twenty days, the creditors held legal title to the cargo.

In the agreement between *ego* and *tu* on the recto there are phrases that point unmistakably to the existence in their original loan contract of a similar stipulation. Just as the debtors in Demosthenes' speech agree that the creditors will "hold title to" the security until the loan is paid off, so *ego* agrees to put the goods that serve as the security "under the name and seal" of *tu* or his agents (lines 5-6, 9) until the goods reach the customs house; after clearing them through customs, *ego* will be free to sell them and pay off his debt.

In shipments from the Pontus to Athens in the fourth century B.C., the cargoes of grain were unloaded at the Peiraeus and sold right there;²⁷ twenty days no doubt was ample time for carrying this out, and, what is more, one of the creditors was an Athenian ("Androcles of Sphettus," 35,10) and thus able to keep an eye on what was going on. But, in a shipment from India to Egypt in the second century A.D., much more was required, both in effort and time. The goods could not be sold, thereby enabling the debtor to satisfy his creditor, until they had been brought from the point of unloading all the way to Alexandria and had gone through customs there. So much, indeed, was involved, that, I suggest, at the moment the ship arrived safely at its Red Sea port, a supplementary agreement was drawn up to spell out precisely what the responsibilities of the borrower were from this point on—and it is this supplementary agreement that is preserved on the papyrus.²⁸ The borrower was to form up a caravan and assign various parcels to cameleers for transport across the desert; he was to, assure protection of the caravan against brigands during the crossing; he was to check the parcels in at the public warehouses at Koptos; he was to arrange for safe water transport to Alexandria and check them in at the customs house there. These responsibilities were no doubt set out in such detail because of the costly nature of the shipment: the creditor wanted assurance that the precious goods would not travel on overloaded camels or in leaky Nile craft.²⁹ Wherever he registered the parcels, he was to place them not under his own name but

²⁷ See R. Garland, *The Piraeus* (Ithaca, N.Y. 1987) 85-86.

²⁸ In an earlier article (see above, n. 5), I had offered an explanation of the agreement which, like the present explanation, assumed that the document was drawn up shortly after the arrival of the shipment at the Red Sea port. However, I took it then to be a revised loan contract that replaced the original, but there are no parallels for such a procedure.

²⁹ One of the great contributions of the papyrus is the concrete evidence it furnishes of the huge amounts of money that the trade with India required. The six parcels of the shipment recorded on the verso had a value of just short of 1155 talents (col. 2, line 29)—almost as much as it cost to build the aqueduct at Alexandria Troas (7,000,000 drachmas, of which Herodes Atticus contributed 4,000,000 and Hadrian 3,000,000; see Philostratus, V.S. ii.1 [548] and cf. P. Graindor, *Un milliardaire antique: Hérode Atticus et sa famille* [Cairo 1930] 32, n. 2). The parcel of ivory and the parcel of fabric together weighed 92 talents and were worth 528,775 drachmas. A Roman merchantman of just ordinary size had a capacity of 340 tons (L. Casson, *Ships and Seamanhip in the Ancient World* [Princeton, 2nd ed. 1986] 172); it was capable of carrying over 11,000 talents of such merchandise. And the weather conditions on the route to India were such as to require the use of

under that of his creditor; they would remain that way until he made them his own by paying, off his debt.

The supplementary agreement then spells out what happens if the borrower does not pay off his loan "on the date for repayment specified in the loan agreements at Muziris"—specified, no doubt, the way it had been in the contract cited by Demosthenes, as a given number of days after safe arrival at Egypt. In that eventuality the creditor takes over the goods that had been pledged as security, and lines 15-27 tell exactly what he may do with them. In the original loan contract the terms concerning the security may well have been set forth only in a general way, since, if the ship went down, the security ceased to have any relevance. But it became very relevant indeed once the ship arrived safely, and this would explain why a detailed presentation of the terms regarding it was included in the supplementary agreement.

If we take the words *κατὰ Μυζεῖριν* to mean "(for a voyage) to Muziris" as Thür suggests, that original contract may have been drawn up at Alexandria. If we take them in their normal sense, as I prefer to do, the original contract was drawn up at Muziris. Either *ego* or *tu* or both may well have been members of the foreign colony resident there.³⁰

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vessels of at least this size (Casson [above, n. 3] 284-85, 289-91). Loaded with cargoes of the likes of that recorded in this papyrus, they were veritable treasure ships.

³⁰ On the foreign colonies at Muziris and elsewhere in India, see Casson (above, n. 3) 24-25.