## COMMODITY PRICES IN P.STRAS. 595

This papyrus, broken at the left but elsewhere complete, constitutes an accounting given through an epimeletes to a superior official for some disbursements of wine, meat and wheat, along with cash payments of wages to sailors. The papyrus is dated by references to indictions (11, 14 and 15, according to the editor), but the editor sought to find a more precise date by comparison of the prices attested in this text with those known from elsewhere; to this end, she provides a table of prices in other documents. <sup>1)</sup> From these she concludes, "on doit pouvoir dater notre papyrus entre 360 et 390 p.C.", and goes on to suppose that the date of the 15th indiction mentioned is 371/2, rather than 386/7. The prices on which this conclusion is based are the following: wheat, 200,000 denarii per artaba; meat, 250,000 den. per lb.; and wine, 500,000 den. per sextarius.<sup>2)</sup>

Despite the array of numbers in the editor's table, these figures are disquieting. An artaba of wheat, we see, costs less than a pound of meat, and only 40 per cent of what a sextarius of wine costs. This situation is wholly abnormal; for example, the price of wheat in A.D. 338 was eight times that of a sextarius of wine in 340,<sup>3)</sup> and while usable prices for meat are rather scarce, one papyrus gives 1 solidus as the price for 120 lbs. of meat,<sup>4)</sup> whereas a solidus would normally buy about 8–12 artabas of wheat,<sup>5)</sup> These relationships

 It should be pointed out that a typographical error has placed the price of wheat in P. Stras. 595 in the wine column, and that for wine under wheat; the editor's commentary makes it clear that this is not her intention.

2) The figure for meat is actually an approximation of the true figure, 253,333, while wheat actually works out to 234,483. The editor's note to line 5 seems to indicate that she arrived at her approximation, then tried to make the numbers fit it.

3) P.Oxy. 185, introd., compared to BGU 121. For the context of these prices and a list of known prices from the fourth century, see ZPE 24 (1977) 116–119. The conclusion on p.123 of that article, that PSI VIII 959-960 belong to the later 380's (and that this is also the date of CPR V 26) seems to us confirmed by the close relationship of these accounts to the horoscopes, which date as late as 385; see for a good presentation, O. Neugebauer and H.B. Van Hoesen, Greek Horoscopes (Philadelphia 1959) p. 66.

4) P.Oxy. XVI 1920; see A.C. Johnson and L.C. West, Byzantine Egypt, Economic Studies (Princeton 1949) 185 for a list of documents with meat prices. Most of these, however, are undated and give prices in copper currency.

5) See ZPE 24 (1977) 123 n. 37.

suggest that some of the readings in P. Stras. 595 need examination. Thanks to a photograph kindly provided by Professor J. Schwartz, we have been able to find readings which suit normal price relationships better than those of the editio princeps. As we have a number of other new readings to suggest, we print a revised text.

Νεωτέρφ πρυτάνι δι(ά) Λεοντίου ἐπιμ(ελητοῦ)

2 [[c]είτου ...α...] και μιςθοῦ ναυτῶν. [] ἀξιῶ διαςταλῆ<ναι>] `νῦν δέ' γνούς {δέ} τὴν τούτων διαςτολήν,

3 ] [.] c. ἕcτι δέ· ὑπ(έρ) κρέως ιδ S/ λί(τραι) ρν (δηναρίων) Λ'Αω, ὑπ(έρ) οἴνου ιεS/ ξ(ἑcται) ρμς (δην.) Λ'[]ψ

] [[..... κ΄ ]] τῆς αὐτῆς ἰνδ(ικτίονος) α΄΄ νο(μιςμάτια) ε ι΄΄ κ΄΄ χωρήςαντα Cευηριανῷ πρεςβε( )

5 ] αςπδ

4

6 ct]του ιδS/ (ἀρτάβαι) νη (δην.)Λ/Ζτξ, μιςθοῦ ναυτῶν νο(μιςμάτια) ε ς΄΄ 7 ]

1 Acouttou: thou corrected 3 pup: 5 corrected fr. S (= 1/2); LES/: LE corrected from  $F (= \xi \xi c t a \iota)$  5 This line was certainly added as a supralinear note to line 6, perhaps by a second hand.

"[To ...] Necteros, prytanis, through Leontics the epimeletes, [from ...] of wheat ... and wages for sailors. But now, having come to know their report, [...] They are as follows: For meat of the 14th ind., 150 lbs., 1,800 myriads of denarii; for wine of the 15th ind., 146 sextarii, X,700 myriads of den.; [...] for the same ind. 1, 5 1/12 1/24 solidi paid to Severinus the presbe() [...] wheat of the 14th ind., 58 art., 7,360 myriads of den.; wages for sailors, 5 1/6 solidi..."

1. There is blank space before Neoteros' name; perhaps in the lacuna to the left another name (Flavius?) stood. The editor's commentary (p. 138) indicates that she considered that the text of line 1 would have continued after the blank space in which  $v\bar{v}v \delta \epsilon$ was later written as a correction to line 2. This conclusion seems to us completely without foundation. We cannot estimate the loss at the left, but it was probably considerable.

Probably the identity of the author of the document is lost in the lacuna, along with part of his title; what stands at the beginning of this line may perhaps be the ending of this title. We consider that ι '' κ'' are written here for ιβ'' κδ''.
The editor does not indicate the existence of any text in this line, but the abbreviated end of a word is probably present, possibly [cc3cn(μείωμαι).

The reader has seen that we do not consider that the thousands' digit in the price for wine is readable; in fact, all but the curve to mark the number as the thousands' digit is lost in a hole. The psi, rejected by the editor, is clear. For the remaining two prices, we arrive at a price of 120,000 den., or 80 talents, for a pound of meat, and 1,268,966 den., or ca. 846 talents, for an artaba of wheat. The relationship between artaba of wheat and pound of meat is thus established at about 10.5:1, which is very much in keeping with what we would expect. As to the price of wine, we are in ignorance of the quality of the wine. But it is worth noting that in P.Lond. III 984 (p.237) sextarii of wine and pounds of meat are added together as though equivalent and then calculated at a common rate. Other evidence suggests also that the ratio between wheat and wine was similar to that between wheat and meat. <sup>6)</sup> If this were the case in P.Stras. 595, one would arrive at a total cost for wine of 1,752 myriads of denarii. It is thus extremely likely that we should restore an alpha in the thousands' place in this price.

The question of an absolute date remains. The two meat prices which are helpful are the prices of 96 T. in A.D. 360 (P.Oxy. VII 1056) and 200 T. in 390 (P.Oxy. XIV 1753). With our new figures, it can be seen that P.Stras. 595 must come from a period near, but probably somewhat before, 360. It is hard to say if this suits so precisely the wheat price, since the last previous wheat price known is from 338, quoted above. But arakos is quoted at 1,200 T. per artaba in the same papyrus of 360 which furnishes the price for meat; it is hard to give an exact relationship between arakos and wheat because of the almost total absence of useful documentation, but we think that they probably did not differ very much in price. Barley cost 600 T. per artaba on 'advance sale' in 374, which probably indicates a true market price of more like 900 T.; on the historical 3:2 relationship of wheat to barley, a wheat price of ca. 1,350 T. at that time would be indicated.<sup>7)</sup> It need hardly be said

6) The prices of 338 and 340 quoted above show an 8:1 ratio; some allowance must then be made for two years' worth of inflation.

7) A discussion by Bagnall of the significance of price in this kind of document will appear in GRBS 18 (1977) 85-96.

that this is only a very rough approximation. It seems to us rather more likely, therefore, that the date of P. Stras. 595 (indiction 1) is 357/8 than that it is 372/3.

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