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SUPPLYING THE ROMAN ARMY: *O. PETR.* 245

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SUPPLYING THE ROMAN ARMY: *O. PETR. 245*¹

The question of military supply is important to our understanding of the effects of the army on the economy of the Roman world, but there are significant gaps in our knowledge. One of these is the relationship between soldier and civilian in the Roman world. The status of individuals is often difficult to establish, and the role of civilians in the supply of the army is generally unclear. This is one area, however, in which the amount of available evidence is increasing at an encouraging rate, principally the newly published material from Vindolanda, in Roman Britain; from Mons Claudianus in the Eastern Desert of Egypt; and from Bu Njem in Africa. This can be added to the evidence that we already possess from Egypt. There are a number of cases in which the involvement of civilians is reasonably certain.

Two ostraca from Wadi Fawakhir record deliveries made by waggoners to the garrison at this Eastern Desert location. In one the waggoner is not identified as a soldier and has an Egyptian name, which suggests that he is a civilian.² In the other, a waggoner named Dracon delivers fifteen loaves and a vase to the station, on the order of Rustius Barbarus, a soldier.³ This transaction is carried out through intermediaries; their status is uncertain, but Dracon is most likely a civilian.⁴ Another important example comes from Vindolanda in Britain.⁵ This is an account of goods delivered to a *beneficiarius* and some legionary soldiers. The editors note the familiar tone of the account, and suggest that it is a private one, and the preservation of a petition on the verso makes this all the more likely. This is written in the same hand and the author describes himself as a “hominem tra(n)smarinum et innocentem.”⁶ Given that the word trade (*mercem*) is used, it is likely that this individual is a civilian trader.⁷ While the involvement of civilians in these cases is likely, it is not completely certain, and indeed proof of their involvement is difficult to find.

It is the object of this paper to look more closely at one case of supply to the military where it is certain that civilians are involved. My intention is to demonstrate that, at least in this case, civilians supplied the Roman army, and that given this, it is not unreasonable to suggest that they were involved in a substantial capacity throughout the Empire, and that texts showing the same

¹ I should like to thank Dr. A.K. Bowman and Dr. J.B. Campbell for their valuable criticism on earlier drafts of this paper. The advice of Mr. M. Sharp, of Corpus Christi College, Oxford, was of great help. Clearly, for the views and any errors that follow, I alone am responsible.

² *O. Fawakhir* 9, see, Guéraud, O., ‘Ostraca grecs et latins de l’Wâdi Fawâkhir,’ *BIFAO* 41 (1942) 141-196. The texts date to the first or second century. At this early date in the Imperial period, it is unlikely that Egyptians would have served in the Roman army, even in auxiliary units, see Lewis, N., *Life in Egypt under Roman Rule* (1983) 20. This gradually changes during the late second century when we have evidence of Egyptians in military posts, see initially Fink, R.O., *Roman Military Records on Papyrus* (1971) nos. 78,1 and 78, 36.

³ *O. Fawakhir* 1.

⁴ It is likely that Dracon owns his wagon, and, as the army would normally requisition these, Dracon is probably a civilian. In the case of the intermediaries, their names are Popilius and Dutuporis. Guéraud suggests that the latter name is Thracian, which does little to help establish their status as either civilians or soldiers. In most cases, however, soldiers or cavalrymen are identified as such. In *O. Fawakhir* 1, Thiadices is identified as a cavalryman, and thus we can be reasonably certain that those not so identified were civilians.

⁵ *Tab. Vindol.* II no. 180.

⁶ *Tab. Vindol.* II no. 344.

⁷ See commentary in Bowman, A.K., and Thomas, J.D., *The Vindolanda Writing Tablets* (1994) 122.

phenomenon, but that fall short of being certain proof, are more likely to concern civilians. Of course, supply entails two different considerations, firstly, the transport of goods to military posts, and secondly, not only the transport, but the production and sale of goods. Although both activities are very closely connected, this paper is concerned more with the transport of goods to a military outpost.

An ostrakon published by Tait in 1930, *O. Petr.* 245, seems to show beyond reasonable doubt that there was some provision for regular supply to army garrisons in the eastern desert of Egypt.⁸ This ostrakon is part of the so-called archive of Nicanor, which concerns the business pursuits of Nicanor and his family during the first century A.D. Nicanor owned and ran a transport company that operated between Coptos, the main Nile emporium, and the important Red Sea ports of Myos Hormos and Berenice.⁹ It is well known that the roads in the Eastern Desert were garrisoned by Roman soldiers, who provided protection for caravans travelling from the Red Sea coast to the Nile valley, and for the workmen in the quarries and mines of this region. The soldiers also provided labour for the building and maintenance of the desert routes. This entailed long periods spent away from the Nile valley in the desert, for which, obviously, supplies would be essential.¹⁰

The army provided a source of income for private traders and contractors, and Middleton has described this well, stating that the army created “networks of contact that resulted in the interplay of Roman and native groups.”¹¹ This involved “the supplying of the army with basic necessities” and also “resulted in the generation of services around the military camps in response to the spending power of the troops.”¹² The army received supplies from various sources. Probably the most important source was from civilians, either in the form of requisitions, or of purchase at a set rate, which would be provided directly or collected through procurators.¹³ A soldier was expected to augment his entitlements by purchase or through gifts, generally from relatives.¹⁴ In normal circumstances this would mean buying goods from shops and inns that grew up in and near army camps.¹⁵ In the Eastern Desert, this was not the case, as the distances to be travelled were too

⁸ *O. Petr.* 245, published by Tait in *Greek Ostraca in the Bodleian Library and various other collections* (1930). Sidebotham, S.E., *Roman Economic Policy in the Erythra Thalassa* (1986) 92, seems to consider that our text may have been a transaction “of secondary importance,” carried out by one of Nicanor’s agents. I suspect that the text is of considerably more importance.

⁹ On these ports see initially Sidebotham, *Op. cit.* 48 ff.

¹⁰ See Bagnall, R.S., *The Florida Ostraca* (1976) 23-34.

¹¹ Middleton, P., “The Roman Army and Long-distance Trade,” in Garnsey, P., and Whittaker, C.R., *Trade and Famine in Classical Antiquity* (1983) 75, and n. 1. Middleton cites no evidence.

¹² Middleton, *Op. cit.* n.1.

¹³ Although in some cases soldiers may have been sent out from their posts in order to collect supplies. *P. Lond.* 2851 = Fink, R.O., *RMR* no. 63, mentions soldiers who were “in Gaul to get clothing,” and who may also have been collecting food. See also Speidel, M.P., *Roman Army Studies* (1984) 329-32, for a text concerning the collection of palm-wood spear shafts, from the Fayum, by a soldier.

¹⁴ See *P. Mich.* 467 and 468 (second century) in which a recruit to the fleet writes to his father asking him to send some clothes, as he wants to avoid buying new ones.

¹⁵ On *vici* on the northern frontier of Britain see Jones, G.D.B., ‘ “Becoming different without knowing it.” The role and development of *vici*,’ in Blagg and King (ed. 1984) 75-91. In Egypt considerations are slightly different. Military camps were placed near existing villages and towns - camps were reliant on them, rather than vice versa. The Eastern desert stations do not fit into this pattern because of their distance from the Nile Valley.

great. Thus soldiers would, of necessity, have relied on deliveries made to their garrison posts. Our text may give a clue as to how part of this system worked.

The text runs as follows;

Γάιος Ἰούλιος Λονγείνου στρατιώ(της) σπείρης ²Νίγρου Καμερησιανῆς Φιλο-
στράτῳ ³Πανήτος δι(ὰ) Κάστορος Ἐπωνύχου χα(ίρειν). ⁴Ἐχῶ παρ' ἐσοῦ ἐν
Ἀπόλλωνος Ὑδρεύμ(ατι) πυρο[ῦ] ⁵δημοσίου γόμον ἕνα, (γίνεται) γ(όμος) ᾧ
(πυροῦ) (ἀρταβῶν) ε ⁶λόγον Μεσορήι ἀπὸ γόμων τριά⁷κοντα πέντε ἡμισοῦ
τρίτου. ⁸(Ἔτους) Τιβερίου Καίσαρος Σεβαστοῦ ⁹ἐπαγομένων β.

1 read Λονγίνος 7 read ἡμισυ

Translation: Gaius Julius Longinus, soldier of the Cameresian Cohort of Niger, to Philostratus son of Panes by means of Kastor son of Eponychos, greetings. I have received from you at Apollonos Hydreuma 1 load of public wheat, makes 1 load = 6 artabas of wheat for the account for Mesore from 35 5/6 loads. Year ? of Tiberius Caesar Augustus, epagomenal day 2.¹⁶

O. Petr. 245 is the only ostrakon from the Nicanor group, that has a certain reading, not written at either of the two ports of Berenice and Myos Hormos. It was written at Apollonos Hydreuma, which was the eighth station on the route between Coptos and Berenice, and is linked with the transport company of Nicanor through the inclusion of his brother Philostratus. The latter was involved in the company during the years A.D. 26-33.¹⁷

The text opens a number of questions concerning military supply, and may provide some clues as to the size of the garrison at Apollonos Hydreuma. Gaius receives one load of “public wheat” from Philostratus, through his employee Kastor, who appears as a transporter on a number of the Coptos ostraca.¹⁸ The term “public wheat” suggests that it originated as a interest payment in kind on the lease of public land; this would indicate that it was not a personal delivery, but rather a delivery of official army rations. Wheat that was purchased privately would not be described in this way. There is evidence to suggest that, in some cases, wheat may have come from a private source. *P. Lond. II.* 482 (A.D. 130) is a receipt written by Serenus, a procurator, to the “hay contractors.” He states that he has received hay for the fellow members of his *turma* and that he has paid for the freight himself. Thus it is possible, though not entirely clear, that the wheat may have come from a private source, as the *conductores faenarii* may have been civilian and were obliged to supply the *ala* on a regular basis.¹⁹ It is not stated whether or not the transporters were civilian, but given that Serenus has paid for the freight, it is most likely that they were, as soldiers

¹⁶ The dates given for this ostrakon in Tait’s edition are A.D. 15-36. Given that none of the texts in the archive mentions Philostratus before AD 26 and after AD 33, it seems possible, *ex silentio*, to confine the date of our text to this period.

¹⁷ See Fuks, A., ‘Notes on the Archive of Nicanor’, *JJP* 3 (1951) 207-16.

¹⁸ *O. Petr.* 239, 245, 280, and possibly 285. An interesting point that can be made from the text of our document is that, although the type of animal that Kastor used is not stated, it is most likely that it was a camel, as we would expect. As the load is six artabas, and because there is only one load, a donkey could not have carried this weight of grain for any significant distance. Given the terrain covered by Kastor, the camel was the ideal beast of burden. Kastor’s employer, Nicanor, is described in *O. Petr.* 225 as a κομηλοτρόφος, the owner of a caravan of camels. Thus it is almost certain that a camel was used for transport in this instance. The role of pack-animals is an important aspect of the research on transportation in Roman Egypt with which I am currently engaged.

¹⁹ *P. Lond. II* 482 = Fink, *RMR* no. 80. See MacMullen, R., *Soldier and Civilian* (1963) 9.

would not have been paid directly for performing such a duty. Another text which may be mentioned briefly in this context is from Vindolanda, and concerns a despatch of goods. It is possible that both the sender and recipient of these items, which were wooden parts of wagons, were civilians working for the military under contract.²⁰ Thus, it seems that civilians may have transported goods that originated from 'public' sources, and this is probably the case in our document.²¹

The source of the wheat, in geographical terms, is central to our understanding of the supply system. In our text there are two alternatives; the Nile valley, or the Red Sea Coast. Naturally the former is the original source of the wheat, as there was no arable land on the coast, but it is possible that this load came from Berenice. It is interesting that on one of the two other texts from the Nicanor Archive that mention Kastor son of Eponychos, *O. Petr.* 280, a public granary in Berenice is mentioned.²² The grain is very likely to have been transported from this granary to the station, as the distance to the station from Berenice is less than from the Nile valley. Another possibility is that Kastor, and presumably colleagues, transported wheat from the Nile Valley to the public granary, and distributed supplies to stations along the routes as they travelled. It is not possible to be certain of the arrangements from our text. Given that the wheat was public, and its source may have been a public granary, this transaction is unlikely to have been a private one; but rather, military officials withdrew the requisite amount of wheat from the granary ready for transport by Nicanor's employees.²³

The size of the load is problematical for two reasons. Firstly, if the wheat was meant for Gaius alone, it is difficult to see how the monthly account can be explained since it is more than a month's ration for one person. Johnson states that the normal monthly ration of wheat for a soldier was 1 artaba, which is less than that quoted by Davies, admittedly for Roman Britain.²⁴ On Johnson's reckoning, therefore, Gaius receives six months' rations.²⁵ How are we to address this

²⁰ See Bowman, A.K. and Thomas, J.D., "New Texts from Vindolanda," *Britannia* 18 (1987) 140 = *Tab. Vindol.* II 309.

²¹ It may be useful to compare ostraca from Bu Njem, see Marichal, R., *Les Ostraca de Bu Njem*, (Suppléments de 'Libya Antiqua' VII) (1992).

²² A public granary in Berenice is mentioned also in *O. Petr.* 285.

²³ On military officials concerned with the grain supply to the army, see *P. Gen. Lat.* 1 recto part II = Johnson no. 407 = Fink, *RMR* no. 10 (AD 81-3?). Soldiers with similar responsibilities may have provided grain for Kastor to transport.

²⁴ Johnson, A.C., *Roman Egypt* (1936) 670-1; Davies, R.W., *Service in the Roman Army* (1989), Breeze and Maxfield (eds) 187. Johnson's estimate works out at 2 lbs of wheat per day, while Davies states that a soldier on the northern frontier would receive 3 lbs per day. *P. Oxy.* XXIV 2406 (sixth century) records the daily rations for a soldier as 3lbs of bread, 2lbs of meat and 2 pints of wine.

²⁵ In this case given that the load is 6 artabas, that 1 artaba is the equivalent of 3 Italic modii (Duncan-Jones, R.P., *The Economy of the Roman Empire* (second edition, 1982), 372), and the weight of 1 modius is 20.83 lbs (Pliny, *NH.* XVIII, 66), Gaius received 374.94 lbs of weight, which, at 2 lbs per day, would provide food for 187.47 days or 6.249 months (at 30 days per month). On the size of the artaba in comparison to the modius, see further, Duncan-Jones, R.P., 'The Choenix, the Artaba and the Modius,' *ZPE* 21 (1976), 43-53, especially 47; on how the size of an artaba varied, see Rathbone, D.W., 'The weight and measurement of Egyptian grains,' *ZPE* 53 (1983) 265-75. Valuable work on the consumption of wheat and its calorific value has been published by Foxhall, L., and Forbes, H.A., 'Σιτομετρεία: The Role of Grain as a Staple Food in Classical Antiquity,' *Chiron*, 12 (1984) 41-90. Foxhall and Forbes quote Engels' study of the logistics of the Macedonian army in the time of Alexander the Great. Engels considered the necessary ration of bread for each soldier to be 3 lbs, and Foxhall and Forbes calculate that this would require 2.25 kg of wheat, and that it would provide 3416 calories per man per day. This is a generous amount, considering their statement

problem? There are a number of possibilities. Firstly, the rations may have been stored, but since little archaeological evidence remains of the station, it is not clear whether or not there was a granary. If this was the case, how can we explain a monthly delivery of wheat, given that it can be stored for well over one month? Secondly, perhaps rather than writing a receipt for his own rations, Gaius had the responsibility of ensuring that all loads from Philostratus arrived at the station, and gave receipts to the transporters for each load. However, thirdly, there is evidence for soldiers receiving more than one month's rations at one time; an ostrakon from Pselchis records a soldier's receipt for a seven month supply of wheat.²⁶ It is unlikely, however, that Gaius would receive this every month. Perhaps we can resolve this problem by tentatively suggesting that Gaius was responsible for ensuring the delivery of a large consignment of supplies each month, of which wheat was only a part.

Secondly, the total figure of 35 5/6 loads which made up the full amount of wheat that Philostratus had contracted to transport to Apollonos Hydreuma for Mesore, is a substantial amount of grain, indeed it is enough to provide rations for, perhaps, 215 soldiers for one month. This is too large a garrison for this small station, if we assume that maintaining the hydreuma and various policing duties were the sum of its responsibilities. How can we explain this? The answer is, possibly, that some grain would be put in store, and that other monthly orders would be for wine or vegetables which would also be stored. Obviously, the soldiers 'could not live on bread alone', so other foodstuffs were obtained to supplement their diet. Vegetables such as lentils, swedes and radishes could be stored, as they were not immediately perishable, and meats were salted to aid their preservation.²⁷ Perhaps we can resolve the problem by suggesting that Gaius provides a receipt for part of a delivery that was intended to supply c. 35 soldiers for a six month period. At any rate, it is unlikely that the delivery is a private transaction on the part of Gaius, as the load is too large for this to be the case.²⁸ Gaius, unlike Serenus in the London papyrus noted above, does not pay for the delivery, which shows that he is only responsible for its receipt, suggesting that Philostratus' contract was held with a higher administrative level, rather than a private order.

Finally, the practice of delivering grain suggests that it is likely that soldiers made bread at Apollonos Hydreuma. Grain was much easier to transport in large quantities, in that it was lighter and less bulky than bread or flour, and kept better under harsh conditions. Very little equipment

that the total calorie requirement for a "very active" male is 3822 calories (p. 80ff) - indeed it makes 89% of the necessary total. This amount of wheat is greater than that said by Johnson to be the daily ration of a soldier. Here, however, we must consider a number of points. Firstly, Foxhall and Forbes consider Engels' estimate of rationing too high (p. 80 n. 129); secondly, that soldiers, especially in the Eastern Desert of Egypt engaged on garrison duty, could not be considered "very active," and thus would require fewer calories per day. For a highly readable account of life in the Eastern Desert, see Weigall, A.E.P., *Travels in the Upper Egyptian Deserts* (1909). It is likely that Johnson's estimate is accurate enough for our purposes.

²⁶ *WO* 1136 = Fink, *RMR* no. 78,6 (c. A.D. 182). *P. Clermont Ganneau* 4a = Fink, *RMR* no. 79 (second half of the second century) records the receipt of two months supply of grain by a cavalryman.

²⁷ The mention of such vegetables is common among the ostraca from Wadi Fawakhir, Wadi Hammamat, and Mons Claudianus. Ostraca from Pselchis (Fink, *RMR* no. 78) show wine, sour wine, salt and lentils being issued to soldiers.

²⁸ There is evidence for soldiers receiving grain for their own use, see specifically *Tab. Vindol.* II no. 180, 30. Ostraca from elsewhere in the Eastern Desert record the delivery of supplies which are private orders of soldiers, or gifts to them from friends and relatives; sample also the material from Wadi Fawakhir and Pselchis.

would be needed for the soldiers to make their own bread, indeed they may have used an open fire, or even hot rocks, of which there certainly was an abundance.²⁹ However, ovens may have been used at Mons Claudianus, and given this, it is likely they were used by garrisons throughout the Eastern Desert.³⁰ This was probably also the case at Bu Njem, considering the very large amounts of grain transported, and also the large size of the garrison would have made storage necessary.³¹

In summary, it seems clear that this receipt concerns one part of a consignment of wheat that made up the monthly ration for the garrison at Apollonos Hydreuma. From the context it is certain that transport was carried out on a monthly basis, presumably under some form of contract. Thus, there is provision, by the military through a civilian firm, for a regular supply of wheat to the station. The likely scenario is that Kastor collected his load from the military procurator, or other official in charge of supply, either at Coptos or at the public granary at Berenice. The load was then carried to Apollonos Hydreuma where, on its delivery, Kastor received this receipt from Gaius which was in turn given to Philostratus, his employer. The latter then took the receipt to be given up to the military authorities, either in Coptos or Berenice, for payment. This may help to shed more light on other similar texts.³² It is entirely possible that the hay contractors mentioned in *P. Lond. II. 482* supplied the army on a regular basis, that the merchant mentioned in the text from Vindolanda, who may have been well known to the garrison, given the familiarity of the tone of the account, supplied the soldiers there in a similar way. That there was a regular system of transportation, supplied by civilians, is certain from our text, and thus civilians were involved at all stages in the supply of the Roman army.

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²⁹ Foxhall and Forbes, *op. cit.* 81.

³⁰ *O. Claud.* 3-8 for bread delivered to Alkimos, the assistant to the cibariator Magios, possibly internally at Mons Claudianus; *O. Claud.* 159 (c. AD100-120) which may mention an oven. Salt, which was transported to desert stations, was used for baking bread, see Kayser, Fr., 'Nouveaux textes grecs du Wadi Hammamat,' *ZPE* 98 (1993) 127; see also *O. Fawakhir* 2, in which Rustius Barbarus writes to his brother telling him that he had requested the delivery of salt, as he wished to make bread.

³¹ See *O. Bu Njem* nos. 76, 77, 78, 79, and 81 for the large quantities of grain transported - up to 108 modii. On the supply of the garrison in general see Marichal, *Op. cit.* 99 ff.

³² It may be useful here to include a list of texts concerning supply and transport to the military, by either soldiers in person, or by civilians, that are of particular interest. It is neither intended to be exhaustive, nor confined to Roman Egypt. Many are discussed briefly in this paper. *O. Petr.* 273 - a lacunose text, the nature of which is uncertain; *O. Fawakhir* 1, 3, 8, 9, 12, 13, 14, 20, 21; *O. Claud.* 3, 4, 5, 6, 7, 8, 139, 140, 142, 145, 148, 159, 161, 162, 167; *O. Florida* 14; *Tab. Vindol.* II 180, 181, 213, 309, 343, 344; Bowman, A.K., and Thomas, J.D., *Britannia* 18 (1987) 140 = *Tab. Vindol.* II 309, for *Tab. Vindol.* Inv. no. 85/51, and *Britannia* 21 (1990) 41ff, for *Tab. Vindol.* Inv. no. 88/946; *P. Mich.* 467, 468; Strabo 3. 4. 20; *P. Gen. Lat.* 1 recto, part II = Fink, *RMR* no. 10; *P. Dur.* 82 = Fink, *RMR* no. 47; *P. Lond.* 2851 = Fink, *RMR* no. 63; *P. Gen. Lat.* recto, part I = Fink, *RMR* no. 68; sample the ostraca collected by Fink, *RMR* no. 78; *P. Clermont Ganneau* 4a = Fink, *RMR* no. 79; *P. Lond.* 482 = Fink, *RMR* no. 80; *P. Oxy.* IV 735 = Fink, *RMR* no. 81; *P. Giss. Bibl.* Inv. 282 = Fink, *RMR* no. 85; *P. Grenf.* I 48; *Stud. Pal.* XXII 92; *P. Oxy.* XXIV 2406; *P. Amh.* 107 = *Sel. Pap.* 387; *BGU* 1564 = *Sel. Pap.* 395; material from Bu Njem in Marichal, R.M., *Op. cit.*, especially nos 76, 77, 78, 79, 80, and 81; on Wadi Hammamat, see Kayser, Fr., *Op. cit.*, especially nos 21-29.