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NOTES ON THE PAY OF ROMAN SOLDIERS

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The publication of Roman Military Records on Papyri by R.O. Fink in 1971 (Philol. Monographs of the Am. Phil. Ass. 26, Ann Arbor; = RMR) has already revived the discussion of the pay of Roman soldiers, which seemed to be exhausted at the end of the fifties. M. Speidel has in the Journal of the Roman Studies 63 (1973) 141 - 147 (The Pay of Auxilia) on the basis of Fink's new reading 247 1/2 drachmae for the sum of the stipend in RMR 68 = PGenLat 1 been able to distinguish a deduction of 1 per cent from the stipendia common to both RMR 68 and 69 = PGenLat 4. As an explanation for this deduction Speidel has nothing better to offer than the exchange-fee for the conversion of denarii into drachmae, already presented by Watson.[1] Having thus explained the unevenness of the sum of the stipend, Speidel adopts the postion of A.C.Johnson and others,[2] that RMR 68 concerns the pay in *auxilia* and that the smallness of the stipend, 62 1/2 denarii compared with the well-known legionary stipend of 75 denarii, is due to this. Furthermore, this explanation, according to which the difference in the pay between the legions and the *auxilia* was rather slight, leads Speidel to new conclusions about the importance of the *auxilia* in the Roman military system.

Speidel has not put forth any new positive arguments for RMR 68 having belonged to the *auxilia* except that the amount of the stipend does not agree with our other information of legionary pay. But, on the other hand, he has convincingly proved false the strongest argument for the record having belonged to a legion, namely the fact that the two soldiers mentioned have the *tria nomina*, which would have been improbable in the *auxilia*. Speidel has referred to numerous documents including auxiliary soldiers nearly all with the *tria nomina*.[3]

Our third[4] pay record of soldiers, RMR 70 = PBerol 6866 + PAberd 133, has been unanimously regarded as belonging to the *auxilia*, but the problem of the sum of the stipend, 84 denarii 15 3/4 obols, has remained unsolved. In this document, the normal pay record of a soldier begins with the consular date of enlistment, then follows the name and the origin of the soldier. A third line begins with the obscure word *loricem* or *lorictitis*, followed by *in dep(osito) (denarios) c in viatico lxxv*. The normal record goes on:

accepit stipendi (denarios) lxxxiv ob(olos) xv (dodrantem)
ex eo collatio (denarios) iiii ob (olos) xxii (semis)

reliquos tulit (denarios) lxxix ob (olos) xxi (quadrantem)
habet in dep(osito) (denarios) c in viatico (denarios) lxxv

Exceptions from this normal record are not numerous. The first soldier mentioned (frag. a col. i, 1-3) — there may have been one lost column at the beginning — was enlisted in A.D. 171 or earlier; his record does not mention any stipend, but includes probably only a deposit of 243 denarii 10 1/2 obols; as Fink remarks, he may have died or been transferred or discharged. In addition, three soldiers have a deposit greater than the usual 100 denarii (frag. a col.ii, 14-22; frag. a col. ii, 37-42; frag. e), but all these have the normal *viaticum* of 75 denarii, and by these, as by all other men, the deposits remained unchanged during the period of the payment. The youngest soldier (frag. b col. ii, 7-17), enlisted in the very year of the record, A.D. 192,[5] has a deposit under 50 denarii; of his possible *viaticum* we know nothing. Five soldiers have not received any sipend; they have the normal deposit and *viaticum*, but as the *collatio* has been taken from them, too, they are all in debt already *ex priore ration(e)*, and this *collatio* is added to their debt, while the deposits remain untouched in spite of the debt. Finally, we may note that one soldier (frag. a col. ii, 14-22) has paid from his stipend in addition to the *collatio* a larger charge, the nature of which remains obscure; similar additional payments may also occur in connection with the youngest soldiers.

Before going into the sums, I should like to discuss the unit to which the record belongs, as this is of great importance for further conclusions concerning military pay. The names clearly indicate an auxiliary unit, and it has been taken as a century of a cohort. But it is very unlikely that the unit was as large as a century. An exact calculation of its size is not possible because of the mutilated state of the text. In any case, as the soldiers are arranged according to their years of enlistment, we can calculate that it had 11 soldiers enlisted in the years 172-180. Enlistments seem to have happened in most cases only every second year, and it is only from the year A.D. 190 that we have as many as four recruits, the average being under two in the cases in which conclusions are possible. We might consider this a unit of about 25-35 soldiers, which is not sufficient for a century, since this normally consists of at least 60 soldiers.[6] Much more probable is a *turma* of an *ala* or *cohors equitata* having about 30 mens.[7] Thus, here we cannot expect normal auxiliary pay, but the increased pay of an *eques cohortis* or *alae*.

This is another argument for the view the recorded pay of 84 denarii 15 3/4 obols cannot be that of a whole year, but of four months.[8] The sum of the stipend thus stands in approximately the same relation to the supposed legionary stipend at this time, 100 denarii, as the stipend of RMR 68, 250 drachmae, to the legionary stipend of 300 drachmae (RMR 69). Speidel has on this basis, in accordance with

Johnson and others, considered RMR 70 a proof of the auxiliary pay being 5/6 of the legionary pay, even if he takes into account the possibility that RMR 69 and 70 belong to cavalrymen, and forms two alternative pay scales.[9]

The point is, however, in that Speidel's pay scale explains the approximate size of the stipend in RMR 70, but not the exact sum of 84 denarii 15 3/4 obols. This same is true with the theory going back to Mommsen and lately defended by Marichal and Brunt,[10] that the basic sum was 100 denarii = 400 drachmae, but drachmae of billon comprising 6 obols each, which have been changed into drachmae of 7 obols.[11] This theory would give the sum of 85 denarii 20 obols, and the difference of 1 denar 4 1/4 obols from the actual sum remains unexplained. On the other hand, Watson's theory[12] that this sum, in the same way as that of RMR 68, was only a fraction of the stipend, from which different deductions were already made, explains naturally the unevenness of each sum, but is not very informative and hardly even probable: why would all other deductions be excluded from the pay record, and nothing but the *collatio* be recorded?

If we consider the difficulties in operating with such an   uneven sum of the stipend, we can hardly believe that it was arbitrary, that the amount of the stipend of, let us say, *equites cohortis* in the whole Empire was stated as 84 denarii 15 3/4 obols, in the same way as the salary of a Finnish university professor is given as 5187 Fmk per month. I believe that there is a mathematical explanation for this sum, in which a basic stipend in even *aurei* forms the starting point. This mathematical explanation cannot be approximative, but it must explain the last 1/4 obol. An interpretation of the stipend is possible only when we have found its mathematical foundation.

Unfortunately, all my attempts to find a mathematical solution to the problem of 84 denarii 15 3/4 obols have failed. However, if in RMR 68 and 69, one per cent was first deducted from the stipends, here we ought to take perhaps the same possibility into account, in spite of the time difference between the documents. 85 denarii 11 3/4 obols, from which a deduction of one per cent would, allowing for levelling up to the nearest 1/4 obol, yields our 84 denarii 15 3/4 obols, is not much more comfortable, but does in any case offer two possible solutions, which would be based on exact calculations. Thus, 85 denarii 11 3/4 obols is on the one hand 75 denarii + 5/12 x 25 denarii, or 75 denarii + 5/36 x 75 denarii, and, on the other, 100 denarii − 7/48 x 100 denarii, or 100 denarii − 7/12 x 25 denarii, or 100 denarii − 1/12 x 175 denarii. I would almost dare to maintain that no other calculation based on reasonable, even sums offers the exact sum of 84 denarii 15 3/4 obols.

After this, we have to look for an explanation for this mathematical cal-

culation, even if no explanation that I can suggest seems so obvious that the problem could be taken as solved. Of the two mathematical alternatives presented above, that one of a basic stipend of 75 denarii, i.e. three *aurei*, added by 5/36, has a certain psychological probability: it was easier to give to soldiers more money than was promised, than the other way round. But the additional pay of 5/36 x 75 denarii is very hard to explain. I can suggest two solutions, but do not believe either of them. One could, firstly, assume an increment of 125 denarii to the yearly pay of this soldier category, and that this increment was, however, not divided into the three stipends of the year, but was paid monthly, and that the monthly rate is here added to the stipend. The second suggestion is based on the fact that certain soldiers, possibly five in number, have in the list obtained no stipend, either because of some punishment or because they were temporarily under orders elsewhere. The pay of these five soldiers might have been divided into 36 parts and measured out between the soldiers of the unit, in such a way that each soldier obtained one thirtysixth part—the officers probably more.

The other alternative, 100 denarii as the basic sum deducted by 7/48 seems to me after all better. I should prefer to combine the deduction with the deposits of the soldiers. Nearly all men have a deposit of 75 denarii in the *viaticum*-fund; even if the sum of *viaticum*, i.e. recruiting money, has been elsewhere attested to have been 75 denarii,[13] it is most incredible that the recruiting money would have been deposited in its entirety by all soldiers and remained untouched through a service of twenty years. Firstly, recruiting money which could not be used could not be very alluring, and allurement was certainly needed for recruiting at this time. Secondly, other documents clearly show that the recruits could use part of their *viaticum*, and that only the rest of it was deposited.[14] Thirdly, our only other document of deposits in the *viaticum*-fund, RMR 73 = PFay 105, probably from the middle of the second century,[15] is clear evidence that neither was the usual deposit in this fund 75 denarii nor were these savings untouchable.

The fact that the proper deposit, in addition to the *viaticum*, was by most men exactly 100 denarii, has been commonly explained to show that this was the maximum deposit; it is known that Domitian restricted the savings of soldiers to 250 denarii (Suet. Dom. 7,3). This explanation does not seem satisfactory. Firstly, savings greater than 100 denarii occur, but only the recruits of the year of the document seem to have smaller deposits. Secondly, a maximum limit of the deposits not higher than one stipend must have been too low. And thirdly, the deposits in RMR 73 seem to have no limits at all, but go up to thousands of denarii.

On this basis, the deposits of altogether 175 denarii must very likely be non-voluntary ones, and I do not believe with Watson and Marichal that they had been

made from a donative of 200 denarii,[16] but that these savings were deducted from the stipends of the men. If as the mathematical solution of 84 denarii 15 3/4 obols (100 denarii — 7/48 x 100 denarii) — 1 % is chosen, the deduction from each stipend was 1/12 of 175 denarii, which means that the whole sum of the non-voluntary deposit would have been paid in four years, assuming three yearly stipends.

If this interpretation is correct, we can only admire the ingenious treasurer who devised the system. Let us assume a situation in the last years of Commodus, after 190 A.D., because the non-voluntary savings concerned men recruited then. There was a shortage of money for paying soldiers — we have no evidence regarding the state of the economy during these years, but the financial situation of the state was more probably weak than solid. To leave a part of the stipends unpaid was obviosly dangerous and could have easily suscited mutinies. But instead of saying: "sorry, we cannot pay your complete stipend in the following years, but you will be compensated when the state has more money", our treasurer said: "look, we give a donative, an extra-deposit of 175 denarii to every man; this sum will be deducted from your stipends in four years, during which time you cannot use the deposit, but look, you have it now already in your pay record".

There seem to be no direct arguments against this hypothetical solution, but naturally many problems remain. One problem concerns the pay of the soldiers recruited only after the pseudo-donative; it seems that they did not obtain an equal deposit at the recruiting, and this would have naturally created difficulties, as the period of deducted pay would have ended at different times. On the other hand, it is certain that they did not get the complete pay of 100 denarii, while the older men received the deducted pay. Another centimeter of papyrus and we would know the answer and perhaps at the time find support for our hypothesis. It is possible that from every stipend of the new recruits a non-voluntary deposit of some 15 denarii was taken;[17] or else there were other extra-payments which caused their pay not to surpass the deducted one of the older soldiers.

This could be also an alternative solution for the stipend of 247 1/2 or 250 denarii, instead of the expected 300 denarii, in RMR 68. The two soldiers of this record had been recruited rather recently. I cannot agree with Fink that the consular date A.D. 81 in the heading of the second column is the date of the record; it seems to me that it was the year of recruiting of the men following. It would have been illogical to put the year which the pay concerns in the heading of one soldier's record in the middle of the list, but not in all of them - the date is lacking in the third column, evidently because this soldier was recruited in the same year A.D. 81. This would mean that the date of the text is not necessarily A.D. 81, but that the *an iii do* (col. ii, 3; col. iii, 2) could also more correctly

be expanded *an(no)* *(tertio)* *Do(mitiani)*, as Daris has done, while Fink wants to make *do(mini)* meaning Titus. In this case, the men would be serving their third year, and this is also indicated by their rather small savings, which were multiplied during the year recorded in the list. It seems not impossible that they did not obtain the full pay, but that a certain part of it was deducted, for instance the *viaticum* would have been withdrawn from the pay of the years following recruitment.

But returning to the record mainly concerned in this paper, RMR 70, there seems to be positive evidence for the conclusion that the basic pay in A.D. 192 of auxiliary *equites*, either of an *ala* or a *cohors equitata*, was a stipend of 100 denarii obviously paid three times a year. This is the same sum the legionary soldiers had had after the increasement of the pay by Domitian. This would not be in any way surprising; actually, 300 denarii yearly is what Speidel calculated for auxiliary *equites*; on the pay scale that he calls the 5/6 scale an *eques cohortis* would obtain this sum, in the 2/3 scale an *eques alae*.[18]

I would also like to touch upon the question of *collatio* in RMR 70, for which 4 denarii 22 1/2 obols is deducted from every soldier's stipend. In this instance, it is more difficult to claim that the odd sum must have a mathematical solution. From the records of soldiers being in debt because they obtained no stipend one can conclude that the amount of *collatio* varied.[19] The previous debt of the soldier in frag. b col i, 7-13, was 6 denarii 22 1/2 obols, which is probably the sum of the *collatio* collected on the pay-day immediately preceding. In additon, as previous debt sums one finds 18 denarii 24 1/2 obols (frag. a col. i, 28; frag. a col. ii, 25) and (?)9 (tens unknown) denarii 17 1/2 obols (frag. b col. i,22, and probably frag. f). The name *collatio* of this payment seems to point to money collectively paid by the unit for some unknown purpose. Naturally, we cannot know the total sum which were collected from the unit, but we could again make the assumption that they were fairly even sums of denarii, in contrast to the rather odd sums which every soldier had to pay. The simplest way to get fairly even totals – complete exactness cannot be expected when the smallest coin was 1/4 obol – is to assume that this *collatio* was collected from 25 men, or possibly 50, but the size of the unit is nearer 25. The *collatio* of 4 denarii 22 1/2 obols collected from 25 men would give 120 denarii 2 1/2 obols, that of 6 denarii 22 1/2 obols 170 denarii 2 1/2 obols. Naturally, any further conclusions are not possible.

[1] Historia 5 (1956) 338.

[2] A.C. Johnson, Roman Egypt, 670–673; see also Fink, RMR, p. 244–245.

[3] The *proskynema* inscriptions of Talmis, IGRRP I 1332–1354 = SB 8514–8533, most of them from the late first century A.D., have over twenty certain cases of auxiliary soldiers with *tria nomina*, none without.

[4] RMR 71 = PVindobL 72 and 82, and RMR 72 = PRyl 273 a are so mutilated that any conclusions about the sums of stipends are impossible.

[5] For the dating of the document, see Fink, RMR, p. 255.

[6] Cf. RMR 64 = BGU 696, col. i, 13–17.

[7] The Coh. I Augusta Lusitanorum Equitata had in August 31, A.D. 156, 114 cavalrymen in its probably four *turmae*, RMR 64, col. i, 16.

[8] For this question, see Fink, RMR, p. 255.

[9] Speidel, JRS 63 (1973) 145–146.

[10] R. Marichal, Mél. I. Levy (1953) 399–421; P. Brunt, PBSR 18 (1950) 50–71.

[11] For the general weaknesses of this theory, see Fink, RMR, p. 244.

[12] Historia 8 (1959) 372–378.

[13] BGU II 423, 8–10; see also Watson, The Roman Soldier, Bristol 1969, 44.

[14] RMR 74 = PSI 1063 seems to include receipts of deposited rests of *viatica*, the average being about 14 denarii.

[15] For the dating, see Fink, RMR, p. 271.

[16] R. Marichal, L'occupation romaine de la Basse Égypte, Paris 1945, 51; Watson, Historia 8 (1959) 376f. The possibility of a donative has been rejected by Fink, RMR, p. 255, on the solid basis that the document dates from the time before Severus' accession.

[17] Perhaps recorded in frag. b col. ii, 5: *ex eis in dep*[.

[18] JRS 63 (1973) 146.

[19] It is naturally not certain that the debts of these men possibly absent from the headquarters consist only of *collatio* sums, but as the same debt sums always occur by several men, I would consider this likely, agreeing in this point with Marichal, Occupation, 55, against Fink, RMR, p. 256.