

GRAIN RESERVES, DAILY RATIONS, AND THE SIZE OF THE ASSYRIAN ARMY:

A QUANTITATIVE STUDY¹

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The State Archives of Assyria have left us abundant data of quantitative and statistical relevance: but one of the most vexing aspects of the study on Neo-Assyrian history concerns the ultimately elusive quality of such data. Perusal of such rich statistical material such as e.g. the Nimrud Wine Lists² or the letters to Esarhaddon on incoming shipments of horses³ suffices to pinpoint the problem: while we certainly are not short of attestations of quantities and amounts of all sorts, we mainly lack the standards of reference against which to set them, be they “general totals” or even just “partial totals” of sectorial significance. It is fine to be able to state that, according to known sources, a daily shipment to the court comprised an average of 107 horses and mules⁴; but how many equids in all were required — or were considered minimally sufficient — for an average military campaign? And, as for population: it is fine for Assurnasirpal II to tell posterity that he invited 69,574 people to his famous banquet⁵: but how is this total to be rated against that of the total population of Kalhu (city and province), or even against that of the whole country at the time? In brief, what might be

¹) I am grateful to Dr. G.B. Lanfranchi for extensively discussing the letters treated in the present article, and for his kind comments and very apt suggestions. Dr. L. Milano, Rome, and Prof. C. Zaccagnini, Bologna, have given me kind and friendly advice on matters of rations in Mesopotamia, and for this I am very grateful to them.

²) J.V. Kinnier Wilson, *The Nimrud Wine Lists*, London 1972, passim (henceforth = *NWL*).

³) Cf. F.M. Fales, *Assur I/3* (1974), pp. 5-24; Postgate, *TCAE*, pp. 7-18.

⁴) Personal calculation based on Postgate, *TCAE*, table on pp. 8-9.

⁵) Mosul stone slab (D.J. Wiseman, *Iraq* 14 [1952], pp. 24-44; most recent edition by A.K. Grayson, *Assyrian Rulers II*, pp. 293-298).

said to be lacking as regards Assyria, is a perception of just how “great” this great empire was⁶.

As a small contribution to an evaluation of the Neo-Assyrian empire along quantitative guidelines, I would here like to comment on three letters published in the *SAA* series. The texts are all from the age of Sargon II, but have no common archival origin, and they also deal with essentially different matters. What characterizes them in common, on the hand, is a concern with numbers — and these numbers may, I think, be made to reveal mutual links (or perhaps merely “interfaces”) toward a quantitative picture of (1) the grain reserves present within a specific territory, (2) the standard daily rations of grain and oil, and (3) the size of the Assyrian army. The results — I forewarn the reader — will represent nothing else than a starting lead onto a specific “track” that one hopes will be further beaten in the future.

Text I (SAA V 251 = CT 53 47 + ABL 1290)

This long letter (22+ 26’ lines) is by an unknown writer, and shows a clear division in two parts, more or less corresponding to the faces of the tablet. On the Obverse, the subject is a progress report on the arrival of a part of the army in Kār-Aššur⁷, led by magnates: the *turtānu*, the *rab šaqê*, and a number of governors from the western provinces (Našibina, Laqê, Si’imme, Tille, Guzana, Isana). Other military contingents and civilian personnel — including the royal entourage — are said to be expected shortly; and the general tone of the letters suggests that a preparation for a major campaign is being described here⁸.

⁶) For an attempt to evaluate the dimensions of the Neo-Assyrian court, cf. S. Parpola, *JSS* 21 (1976), p. 166. For an attempt to calculate the numbers pertaining to deported populations, cf. B. Oded, *Mass Deportations and Deportees in the Neo-Assyrian Empire*, Wiesbaden 1979, pp. 19 ff. A recent overview on numerical matters in Assyrian royal inscriptions is M. De Odorico, *I numeri nelle iscrizioni reali assire*, unpub. Diss. *ad lauream*, Univ. of Bologna, 1987-88.

⁷) This site — constructed by Tiglath-pileser III (cf. Brinkman, *PHPKB*, p. 230, and fn. 1447) — is on the south-eastern reaches of Assyria, certainly not too far from Gananate in the Hamrin (cf. L.D. Levine, *Geographical Studies in the Neo-Assyrian Zagros*, Toronto and London 1974, XI, 25-26), as well as from Arrapha and Lahiru (cf. Parpola, *NAT*, s.v.). In fact, Lahiru could have been the surrounding province, if we are to judge from Rev. 14’ of the present letter (cf. footnote 11, below).

⁸) G.B. Lanfranchi suggests the possibility that this campaign could have been that of 713, in which the [LÚ]GAL^{MES} went to KUR^{UR} Il-li-pa, according to the Eponym Chronicle C⁹4 (Cf. A. Ungnad, *RIA* II [1938], s.v. *Eponymen*, p. 433). Both the presence of the “magnates” and a localization in or around Lahiru would seem to point in this direction, although no actual evidence can be summoned on this point.

On the reverse, the writer mentions a royal order, viz. (4'-5'): ŠE] *tab-ku* / *ša* ITI UD^{MEŠ}-*te* [š*a* U]RU-*ka še-bi-la-a-ni*, "Send me (the data on) the stored grain of your city by month and day."⁹ To this request — only seemingly unconnected to the arrangements for war — the writer gives a very detailed answer, in the form of a list of quantities of ŠE.PAD^{MEŠ}, "barley", counted *ina bat-ta-ta-a-a* (l. 7'), "item by item", and measured by *emārus* and *sutus*.

The list is split up into four distinct items. The first two items concern types of grain (and their respective recipients): thus we find on one hand (a) ŠE *ki-su-tú ša a-šap-pi*¹⁰, "fodder for pack-animals", and on the other (b) ŠE *tab-ku ša ERIM*^{MEŠ}, "stored grain for the men"¹¹. The data stemming from these two items is then further split in two brackets; but the reason for this second subdivision is slightly obscure, due to breaks in the tablet. However, on the basis of the extant signs, it may be plausibly suggested that it concerned the different geographical contexts (as well as the political institutions) to which the grain was attached, i.e. on one hand (1) the royal granaries in the town Kār-Aššur, and on the other (2) the stocks of the magnates, i.e. from their respective towns which had at present been brought to the province of Lahiru¹².

Up to this point, the list has been concerned exclusively with *daily rations*. After this, we find three different general totals. Two of such totals ($1a+2a=a$; $1b+2b=b$) are by type, and concern daily quantities again, and then their *monthly* equivalents (A, B, obtained by multiplying the daily total by 30); while the third total represents the final sum, i.e. the entire amount of grain in monthly storage ($a+b=c$).

To clarify the above, the numerical aspects in the writer's report may be presented in chart form:

⁹ My rendering is intentionally slightly more literal than the one by Parpola-Lanfranchi: "Send me (data on) the stored grain (consumed) by your [ci]ty in a calendar month".

¹⁰ Cf. line 6' for this fuller formulation; elsewhere the "pack-animals" are omitted.

¹¹ This twofold division is paralleled with a slight variant in *SAA* I, 172 (= NL 88 = *TCAE*, pp. 381-383), where a provincial administrator of Sargon lists the amounts of provisions levied in his territory, amounting to 80 homers of fodder, and 738 homers of bread (*sic*: the 918 homers total in the letter is wrong, but cf. *TCAE*, p. 382 [!]). In any case, the grain for both animals and men is said in another letter (NL 71 = Iraq 27 [1965], p. 18, 13) to come from the *te-lit ad-ri*, "the produce of the threshing-floor": cf. Postgate, *TCAE*, p. 397.

¹² Justification for this view is the following: (a) the royal request was for the amount of grain š[a U]RU-*ka*, as seen above, whereas the writer sees it fit to reply on all the grain "item by item"; (b) in line 11', where the first total would have been, the last part reads x L]Ú, which perhaps could be made out as L]UG[AL; (c) the second total (lines 13'-14') reads ša [x x x] ša URU^{MEŠ}-šú-nu / ina NAM^{URU}La-h[i-ri.x x x x] — where the initial break could well have held the signs LÚGAL^{MEŠ}, by analogy with line 20'. Finally, the signs after the name of the province could have represented a verbal form ("brought", "carried with them" [?], etc.).

Daily rations:

(1a)	470 <i>emārus</i>	fodder for pack-animals
(1b)	549.4 <i>emārus</i>	stored grain for the men
1(=1a+b)	1,019.4 <i>emārus</i> daily	in [the r]oy[al granaries(?)] ...
(2a)	108 <i>emārus</i>	fodder
(2b)	155.6 <i>emārus</i>	stored grain for the men
2(=2a+b)	263.6 <i>emārus</i> daily,	of [the magnates], and of their cities, (now present) in the province of Lahiru.

Totals:

(a=1a+2a)	(470+108)=	578 <i>emārus</i> of fodder, daily;
(A=a×30)	(578×30)=	17,340 <i>emārus</i> of barley per month;
(b=1b+2b)	(549.6+155.4)=	705 <i>emārus</i> of stored grain for the men, daily;
(B=b×30)	(705×30)=	21,150 <i>emārus</i> of barley per month.
(C=A+B)	(17,340+21,150)=	38,490 <i>emārus</i> of fodder and stored grain for the king's men (per month).

* * *

At this point, through a reconstruction of the quantitative data in the letter, we have obtained a *total*. The king had asked for a complete record of “the stored grain of your city by month and day” — by which, as is obvious, he meant the *overall potential for grain consumption locally available through cereal stocks and reserves*¹³. To this request,

¹³) That this was the scope of the royal request, and not e.g. information on the amounts of grain *actually consumed* by the local population during a calendar month, may be desumed in my opinion by observing that the proportions of the stocks themselves in the two typological groups (a and b) as well as in the geographical-political subdivisions (1 and 2) are regular. Starting from typology, it may be noticed that the grain set aside for the king's men (type b) is more abundant than the fodder (type a) in both partial counts.

as we have seen, the courtier complies by providing a detailed inventory of grain supply, both for animal and for human consumption, presumably available both in royal granaries and army reserves, relevant to an area surrounding the city of Kār-Aššur and possibly identical with the entire province of Lahiru.

This total may now be briefly examined in its purely numerical value. To gain a perception of the total monthly amount, we shall utilize the conventional relation of 1 *qa* (= 1/10 of a *sutu*¹⁴ = 1/100 of an *emāru*¹⁵) to 1 liter, thus obtaining 3,849,000 liters of grain¹⁶. Of these, referring to the chart given above, 2,115,000 liters, i.e. 70,500 liters a day, are reserved for human consumption.

In conclusion, then, and exclusively as regards the “stored grain for the (king’s) men”, the courtier’s reply to Sargon was to the effect that the daily potential of grain consumption available in the cereal supply for humans, was approximately 70,500 liters. But what does this actually mean, in terms of feeding potential? How many men could be fed every day on this quantity?

with small variances in relative proportions (1b = 53.88%; 2b = 58.94%). On the other hand, observing the stocks in their geographical-functional groupings, it must be noticed that the granaries of group 1 have a far greater capacity than the supplies of group 2, both as regards the fodder and the grain, again with little variance (fodder of group 1 = 81.31% of the total fodder; grain for the men in group 1 = 78% of the total grain). This regularity of proportions can only be linked to a specific policy for the building up of cereal stocks; while statistics on cereals actually consumed would surely have presented inner ratios of a much more haphazard nature.

¹⁴) It is impossible for us to say at present how often the standard of one *sutu* was set at measures different from the theoretical “norm” of 10 *qa*. Certainly the mentions of “substandard” *sutus* are frequent, but the absence of specifications does not necessarily imply that a “standard” *sutu* was in use, if one may judge e.g. from ND 7057 (= *TCAE*, 403), 1-2, where a *sutu* of 10 *qas* is explicitly mentioned. For a royal intimation that a *sutu* of only 9 *qas* be used, cf. *SAA* I, 14, s.2. For rations measured by the 8-*qa sutu*, cf. below, *ad* Text II.

¹⁵) Cf. J.N. Postgate, *FNALD*, p. 67 for a table of dry capacity measures in the NA period, with the *qa* as 1.84 liters — but perhaps to be understood as a “double *qu*”; *Id.*, Iraq 40, pp. 72ff., for a *qa* of 0.823 liter. On the general issues involved, cf. I.J. Gelb, *Measures of Dry and Liquid Capacity*, *JAOS* 102 (1982), pp. 585-590, esp. 590 (“Apparently there is no such thing as a standard *sila* of a definite size that would be applicable to all the periods from the Pre-Sargonic to the New Babylonian. Either we use, therefore, the ascertained figures for each period, for instance 1 dry *sila* = 1.02 liters in the Ur III period ... or 1 liquid *sila* = 0.933 liters in the New Babylonian period ... ; or use a non-committal approximation such as one quart or one liter for one *sila*”). See also, more recently, K. Butz - P. Schroeder, *BaM* 16 (1985), pp. 165ff., esp. 203-204.

¹⁶) With a *qa* of 0.823 liters (cf. the previous footnote), the total would be 3,167,727 liters.

Text II (SAA I 257 = ABL 966 + CT 53 211)

As is clear, these questions show us to be on the brink of an “Ashurnasirpal banquet”-type situation: we have a handsome total — and this time we have obtained it with a little effort — but we risk not being able of utilizing it in full from the viewpoint of historical significance. To escape from this impasse, we would require to obtain information on the daily rations of grain distributed to army and/or civilian personnel in this time.

Information of this type is certainly not forthcoming in the NA documentation¹⁷; however, some traces of ration counts with their recipients may be retrieved here and there. In particular, a contemporary letter, again from an unknown author, presents some material worth looking into. The writer is here replying to the king concerning 160 deportees, “healthy persons”, who “have come to me from the city of Si’imme”, on the upper Habur¹⁸.

On this matter, the king’s previous letter had stated: “You are to settle them in Marqasa, they will eat bread there” (^{KUR}*Mar-qa-si / tu-ša-áš-kan-šú-nu ma-a ina šà-bi / NINDA*^{MEŠ} *e-ku-lu*)¹⁹. But the author has a slight uncertainty concerning the royal utterance: “The king my lord knows that (whēn) in Guzana, they ate grain supplies, 3 *sutus* each (*LUGAL EN ú-da / ina*^{URU} *Gu-za-na še tab-ku / 3-BÁN-a-a*²⁰), and a *šappu*-jar of sesame oil (*e-li šAB*²¹). Now, just as the king my lord orders, is one really to give them the oil as well? Just as the king my lord orders.”²².

This query is thus a blessing in disguise for the student of quantitative history of the NA period. If we measure the quoted 3 *sutus* of bread by the standard ratio of 10 *qas*

¹⁷) For the fragmentary texts known as “bread lists” from Nimrud, cf. *NWL*, II, pp. 154-156.

¹⁸) *SAA I*, 251, 7-9.

¹⁹) *Ibid.*, 12-14.

²⁰) *Ibid.*, 14-(edge) 16. The verb *e-tak-lu* is on Rev.1, after the *crux interpretum* discussed in the next footnote.

²¹) These three signs have not hitherto been understood by any commentator. In Waterman, *RCAE*, an integration *e-li šap-la* (?) was given, and the translation was a lopsided “Split wheat above and below (?) they eat”. However, as S. Parpola shows in his section on “Copies” (*SAA I*, p. 262b), there is absolutely nothing missing at the end of the line, and as is stated (*ibid.*), the three graphemes are “very clear”: the editor of *SAA I* thus presents the signs as they are, without connecting dashes in the transliteration, and leaves the half-clause untranslated. In fact, however, the solution suggested here, with *e-li* for **elli*, “of sesame oil” (cf. *CAD E*, p. 106b) is the only viable one, in view of the fact that the writer asks the king in the next breath (Rev. 4-5): “is one really to give them oil as well?” (^{MEŠ} *i-ba-áš-ši-i / i-da-nu-ni-ša-nu-ú*). A mention of oil was thus required in the previous lines; although perhaps the fact of writing on the lower edge of the tablet forced the writer to adopt a very “synthetic” expression (e.g. without the expected *DUG* before *šAB*). For *šappu* and *šappatu* as vessels / units of measure, cf. *CAD Š/1*, pp. 477-480.

²²) On these formulae of courtly compliance, cf. recently S. Ponchia, *SAAB 3* (1989), pp. 115-128.

once more (i.e. = 30 *qas* = ca. 30 liters), and we add to this the commonly accepted measure for the *šappu* as 5 *qas* (=ca. 5 liters), there can be little doubt that the author of the text was mentioning the individual rations consumed in Guzana within a **month**. Therefore, considering 3 *sutus* of bread per month, it derives that the daily ration of these deportees was implicitly understood to be 1 *qa* of barley (and 0.17 liters of oil).

How should the daily ration discussed in this text be evaluated from the quantitative and nutritional point of view, in itself and in comparison to other data from this period? A mere glance at the modern ratio of grain to flour and then to bread in traditional economies suffices to notice that, with 1 *qa* per day, we are here at the “back end” of ration distribution: a liter (=approx. 0.8 kgs.) of grain could have yielded no more than 600-650 grams of bread — hardly more than two medium-sized loaves²³. And there is plentiful evidence in the texts to comfort this datum: as a *minimal measure of grain rations*, one *qa* seems to be attested in juridical and economic contexts from various periods of Mesopotamian history²⁴. In the Neo-Assyrian period also, the “1 *qa* standard” gives rise to utterances of minimality: see in particular *ABL* 65, Rev. 8-9, *šá 1 qa ak-li-šu ú-še-el-la-a / ina é^dAG e-kal*, “Whoever offers up (even just) 1 *qa* of his food, may eat in the Temple of Nabû”²⁵; also, in a contemporary letter in Neo-Babylonian, 1 *qa NINDA^{MEŠ} lu-kul*, “may I have (at least) 1 *qa* of bread to eat”, *ABL* 587, Rev. 11. “One *qa* of bread” may thus even become idiomatic for “a loaf of bread”: it certainly does not descend from the above texts that 1 *qa* was the “presumed basic rate ... per person per day” in this age, as has been maintained²⁶. And, summing up, this hyperbolic usage of the measure would seem to confirm the fact that, far from being a sufficient nutritional dose, 1 *qa* was a “minimum-survival” daily grain ration. Finally, the evidence from earlier phases of Mesopotamian history — when a relatively standardized and massified system for the distribution of food rations may be shown to have been in use — points in general to higher daily rations, usually around 2 *qas*²⁷.

²³) These calculations are based on the data and literature quoted by L. Milano, *Food and Diet in pre-Classical Syria*, in: C. Zaccagnini (Ed.), *Production and Consumption*, Budapest 1989, pp. 201-271, and esp. 255⁹⁰.

²⁴) Cf. *CAD* Q, p. 289b.

²⁵) *Ibid.*; for the entire letter see for the moment *NWL*, pp. 30-31.

²⁶) *NWL*, p. 118, fn. 67.

²⁷) Cf. I.J. Gelb, *The Ancient Mesopotamian Ration System*, *JNES* 24 (1965), pp. 230-243, and esp. 232. More recently, and also considering the Syrian horizon, cf. Milano, *cit.*, pp. 224 ff.; *id.*, *Le razioni alimentari nel Vicino Oriente antico: per un'articolazione storica del sistema*, in R. Dolce - C. Zaccagnini (Eds.), *Il pane del re. Accumulo e distribuzione dei cereali nell'Oriente antico*, Bologna 1989, pp. 65-100. Of course, for some periods lower totals may be attested, e.g. the Nuzi period would seem to have presented very meager daily rations (hardly more than 1 *qa* of barley for household personnel): cf. e.g. G. Wilhelm, *Das Archiv des Šilwa-Teššup*, 2/I, Wiesbaden 1980, chart on p. 22. In the same context, the average daily

Thus, the single *qa* handed out to the group of deportees in our letter cannot be considered representative of daily grain rations in the NA empire — except in minimal terms²⁸. But this measure is equally useful for our quantitative approach, exactly because it gives us the *smallest quota for distribution* which may be matched against the daily total of barley for human consumption seen above²⁹. In brief, it may be said that a population *not in excess* of 70,500 people could have been supported by the grain stocks present in Kār-Aššur and environs at the time of the studied letter.

What does this mean exactly? Apart from the — surely most miserable — condition in which deportees were cast, there are various indications to the effect that, as concerned palace personnel, a system of overall food distribution based on factors of hierarchy or function or merit, in any case on factors of internal dissimilarity, was in operation³⁰. Thus, we will not expect to find any actual standardized grain measure for the “men of the king” or for their civilian counterparts, hidden in the NA texts. What should be sought here, instead, is a purely statistical result, viz. an *average* daily quota of grain, on which to perform a calculation of the approximate “feeding power” of the supplies in Lahiru. Now, in the lack of specific and detailed numerical information, it seems sound to postulate that a measure greater than the “basic” 1 *qa*, but probably not higher than 2-3 *qas* could have represented the *average daily grain ration* of the entire population — from rich man to poor man, from soldier to priest.

ration for horses would seem to have been 2 *qas*: cf. C. Zaccagnini, OLZ 85 (1990), p. 42a (calculations and charts within a review of Wilhelm, *Das Archiv des Šilwa-Teššup*, 3/II).

²⁸⁾ And even here, as the Italian saying goes, “the worst is never dead”; a further letter from Sargon’s reign (SAA V, no. 238 [= ABL 207]: Edge 1-4) speaks in a jaunty tone of captives resettled in the south-eastern regions of the empire with a month’s rations at 8 *qa* per *sutu* plus half a measure of salty herbs (*kudimmu*; for this commodity, cf. e.g. the ration list ND 3467 = TCAE, p. 399, 8).

²⁹⁾ The idea of a minimal quota of 1 *qa* would seem to have been behind the very contributions of grain that individual groups were forced to give for the army: in the above-quoted (fn. 11) letter SAA I, no. 172, a part of the bread raised by the provincial administrator comes from a group of 2,000 ^{LÚ}za-ku-e ša ^{KUR}Ku-mu-ha-a-a, “exempted men of the Kummuhean(s)” (translation following TCAE, p. 382), who contributed a month’s ration of 600 homers — i.e. a daily ration of 1 *qa*.

³⁰⁾ A series of remarks on this crucial matter will form part of the introductory essay to the volume SAA VII (Fales and Postgate, in preparation): for the moment, just one point may suffice. The excellent publication of a further group of Nimrud Wine Lists by Postgate and Dalley (TFS, nos. 119-134) shows a few items in the wine distribution listings bearing the numbers of the recipients: cf. e.g. TFS 121, 6-7, where it seems that 2 *sutus* are given to 3 Samarian lamentation priests, while in l. 10, only 3 1/2 *qas* are assigned to 3 Hittite lamentation priests, possibly along with one Abi-qamu (l. 11). Granted that further evidence would be required, this shred of information is in itself plausible evidence of the fact that individuals and groups were freely admixed in the lists, all with specifically determined, i.e. non-standardized, rations.

Text III (SAA V 207 = ND 2631)

If this theoretical calculation could be considered plausible (although admittedly there is ample ground for possible differences of opinion) the total of stored grain in Kār-Aššur and environs would have had a daily feeding potential within the range of 23,000-35,000 persons. This total appears likelier if we understand the reply of the courtier to Sargon as implying that the local civilian population was to be fed off the grain stocks as well as the army³¹; instead, it appears rather excessive if we conceive of the count as referring exclusively to supplies destined to the gathering army.

But do we actually *know* how many soldiers were expected in Lahiru? Of course not³² — but again, it would be untrue to state that all statistical material on the subject is lacking. What we have, in fact, is one further piece of partial documentation that, as in the previous cases, opens up as many problems as the rays of light cast on the scene.

The letter ND 2631 (= NL no. 89)³³ is a message by Adad-issiya, an official stationed in Arzuhina³⁴. Following an order by the king, viz. “Review the troops of Mazamua and write me”, he sends back a full report on the quantity and type of troops present at the time. While this text has already been subjected to extensive discussion³⁵, it may prove useful to take a glance at the data again³⁶. Breaking down the various items of Adad-issiya’s list into categories, and adding percentages, we have:

Horses (cavalry):		97
Unspecified	(teams for 10 wagons)	=20
Horses	(teams for 10 chariots)	=20
Mules	(teams for 10 chariots)	=20
Total:	10 wagons, 20 chariots, 30 teams	

³¹) As the distinction between standing royal stocks and incoming army supplies — which we have reconstructed in fn. 12, above — would seem to imply.

³²) For an overview of texts and data on the Neo-Assyrian army, the book by F. Malbran-Labat, *L’armée et l’organisation militaire de l’Assyrie*, Genève 1982, will have to do for the moment. Cf. in particular pp. 89-90 for a few numerical data on the Assyrian army, drawn essentially from the royal annals.

³³) Cf. also Postgate, *TCAE*, pp. 383-385.

³⁴) For the position of this man within the Sargon letter corpus, cf. S. Parpola, *Assyrian Royal Inscriptions and Neo-Assyrian Letters*, in F.M. Fales (Ed.), *Assyrian Royal Inscriptions: New Horizons*, Roma 1981, p. 103.

³⁵) H.W.F. Saggs, *Iraq* 28 (1966), pp. 187 ff.; J.V. Kinnier Wilson, *NWL*, pp. 50-52; P. Garelli, *RA* 68 (1974), pp. 129-140.

³⁶) The following chart is based on the *SAA* edition, which presents some differences on the *TCAE* version.

Chariot drivers	11	
'Third men'	12	
Chariot fighters (<i>marē dammaqūte</i>)	30	
Chariotmen of the teams	53	
Total, men for 30 chariots	106	
Cavalrymen	161	
Chariotmen	130	
^{LU} <i>zunzurahi</i>	52	
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Total chariotmen³⁷	343	(54.44%)
Lackeys (<i>ša bīti šanê</i>)	8	
Tailors	12	
Cupbearers	20	
Confectioners	12	
Bakers	7	
Cooks	10	
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Total Domestics	69	(10.95%)
Scholars	8	
Donkey Drivers	23	
Information officers	1	
Scouts	80	
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(Total [not given] of mixed profs)	112	(17.78%)
Total		
Assyrians (=100%)	630	(44.06%)
Gurreans	360	(25.17%)
Itu'eans	440	(30.77%)
Grand Total, king's men	1,430	

³⁷⁾ Agreeing with Postgate, *TCAE*, p. 385, the exact connotation of the "chariot men" here and elsewhere is unclear, also for the presence of cavalry men (l. 13) in this total.

The main point to be noticed here is that this text really only means to convey a provisional “head count” to the king: the writer is well aware of the contingent character of the total of these men — “comprising the previous ones which were here, plus the ones that the king’s bodyguard brought”³⁸ — provided in answer to the royal order. He thus hastens to add, as soon as the last item had been counted, a clarifying statement: “Perhaps the king will ask, ‘Where are the rest of the forces?’ — my major-domo is delayed, but he will bring the remainder of the troops later.”³⁹

Now, the quantity of this expected “remainder” is of course impossible to ascertain at present; but certainly we can suspect that the troop presently in Mazamua would have been bolstered by particularly heavy reinforcements. At least, this is what the statistics of nourishment tell us: for there can be no doubt that these 1,430 people, military and supporting civilian corps, would have consumed very little food — hardly over 1,000 liters of barley per month in total — of the amount stocked in the granaries of Kār-Aššur. Not to speak of the horses: if we calculate theoretically a double ration of fodder for horses against the barley ration for men⁴⁰ we obtain less than 250 litres per month, which is *less than half* of what was attested in Text i as *daily* rations for the beasts.

Comparative statistics on supplies and rations thus allow us to amply confirm the fact that the text on Mazamua shows objectively partial, not to say diminutive, totals concerning the possibilities for muster of the Assyrian army. Granted that, as said, even a standing army of 25,000 might seem high for the age under discussion, it is undisputable that a contingent of 1,430, of which only 630 “Assyrians” — i.e. endowed of professional denominations linking them in a definite way to the Assyrian palatial organization — was a very reduced one. But the same statistics make way for a further consideration: if we go back to the Kār-Aššur supplies, it may be noticed that the ratio of fodder to barley was 578 :: 705 liters daily, i.e. the stocked fodder was 82% of the barley. Counting again theoretically a double ration for the pack-animals vs. humans, we obtain a statistical picture whereby the available supplies sufficed for a number of animals amounting to 41% of the soldiers. Now, in the Mazamua letter, the relation of animals to men proves to be far at variance with the above datum: if we correlate the grand total of 157 equids⁴¹ to the 630 Assyrians only, we get a total of one-fourth, while the percentage of beasts plummets in relation to all the 1,430 king’s men (11%). In a nutshell, the supplies at Kār-Aššur were brought together in view of a force of animals incomparably superior to that actually present in Mazamua.

What consideration should be drawn from all the above? To my mind, essentially

³⁸) *Ibid.*, rev. 1-2.

³⁹) *Ibid.*, rev. 3-6: translation based on the *SAA V* text.

⁴⁰) I.e. 5 *qas* a day: cf. fn. 27, above, for a case in which this measure seems to have been applicable.

⁴¹) This total is reached by adding 97 riding horses (l. 9) to the 60 equids attached to the 30 teams (= 60 beasts).

one: that the text on the count of the troops in Mazamua shows totals and inner numerical relations which appear neither representative nor dependable, neither *per se* nor as parts of a larger whole. It is, as far as can be ascertained, a text that gives numbers and totals of a decidedly relative type: thus any calculation on the components of specific professional categories exemplified in this text, runs serious risks of being unsubstantiated⁴². On the other hand, what is surely to be trusted in this text is the complementary presence of specific professional groups: e.g. the letter unequivocally establishes the presence of “scholars” (^Lum-ma-ni) within the army camp — although we do not know whether as advisors or chroniclers. Thus, the Mazamua letter, while decidedly not a quantitative “gem”, retains its overall historical value as a unique “bird’s-eye view” of an Assyrian army base, in its technical components and in its (only professionally?) stratified “corps” of Assyrians and non-Assyrians.

* * *

To sum up: we emerge from the study of three Neo-Assyrian letters with little more than a fistful of information. It would have been minimally gratifying to be able to conclude that (a) the *size of the grain and fodder stocks* in Kār-Aššur allowed us to gauge (b) *the estimated average daily rations of grain/bread* for the Assyrian army, and to calculate therefrom (c) *the medium size of an Assyrian armed contingent* on campaign. Unfortunately, this is not the case. The study of the grain and fodder stocks — which remain our most trustworthy body of data, for their sheer size and for their reference to an urban/provincial environment — has led to an indisputably complex analysis of daily rations, where the little available information is difficult to make out when not mutually conflicting. Finally, the attempt at correlating a presumed mean daily ration of barley with the size of the Assyrian army has led us to the limit of a critical disavowal of the quantitative data of Text iii.

Should one grieve over this sort of result? I think not — both from the factual and from the methodological point of view. As for the former, the foray into the numerical aspects of the three studied texts and their parallels has undoubtedly brought some hard data into (clearer) light: e.g. the monthly/daily rations stocked in Kār-Aššur/Lahiru, e.g. the daily food quotas of the deportees in Guzana, the presence of a number of “Assyrians” vs. other quantities of “foreigners” in the army, etc.. As for the latter, the scope of this study was, to indicate some gateways for intervention on the seldom-trodden paths of quantitative analysis of the Neo-Assyrian empire: I trust that a slight enhancement of numerical awareness in matters Neo-Assyrian may have been stimulated.

⁴² Cf. fn. 35, above, for studies on the alleged quantitative / professional subdivision of men within Neo-Assyrian chariot units, proceeding from this letter.