The archaic tablet made available in the present note is now in a private collection in Belgium.

The well preserved proto-cuneiform tablet, measuring 73 x 69 x 18 mm (height x width x thickness), was copied from photographs in the early spring of 1989, and subsequently collated with the original in May of the same year in London. Although the exact provenience of the tablet, which came to Europe some decades ago via the antiquities market, is not secure, format, contents and personal designations point to its probable origin at Uruk/Warka. A conventional transliteration 2 of the text reads:

Obv. i
1N14 7N1/1N1 KU3a/1N2
ŠAKIR c ZATU752 GI [u4 + 2N3]17
i2 PAD U4 PAP
i1 SANGA3 ZATU753
i2 IB3 LA2a SUG5
i3 GA3 + ZATU753

Close parallels to this text from the Uruk text corpus include W(arka) 20274,4, W 20274,42 (unpublished), W 20274,51,4 W 20274,53 (unpublished), W 20274,80 + 127 + 136 (unpublished 5), W 20274,134 (unpublished) and W 20511,6. 6 All texts with the exception of W 20274,80+, seem to record exclusively measures of liquid goods, in all likelihood animal fats and milk products. The sign GARAS2, inscribed immediately before a

1 My sincere thanks go to J. Carré for his permission to publish the text here.
2 According to the newly edited sign-list M. Green and H. Nissen, Zeichentafel der Archaischen Texte aus Uruk (= Archaische Texte aus Uruk 2; Berlin, 1987). I have stated there p. 347 and elsewhere reasons for a greater differentiation of sign-forms than that found in ATU 2, here for example GA, or LA, instead of simply GA or LA. The cumbersome system of numerical transliterations is explained op.cit., p. 125 by P. Damerow and the author. See most recently H. Nissen, P. Damerow and R. Englund, Frühe Schrift und Techniken der Wirtschaftsverwaltung im alten Vorderen Orient (Berlin, 1990), in particular pp. 61–5, 131–46 and 176–80.
3 Cf. the photograph and (defective) copy of the tablet’s obverse in ATU 2, pl. 19.
4 Cf. the (defective) copy of the tablet’s obverse in M. Green, Visible Language 15 (1981) 358, incorrectly identified as W 20274,5. The first numerical notation is in fact an undisturbed 9N1/1N1, KU3a; obv. ii i reads not NUNUZ, KESM, EN, ZATU752 but 2N4 KESM, EN, ZATU752.
5 The tablet contains a large account of the disbursement of textiles to a number of the same persons as are mentioned in the present text.
6 Cf. the photograph of the tablet’s obverse in P. Damerow, R. Englund and H. Nissen, Spektrum der Wissenschaft, February 1988, p. 75.
notation including $\text{SAKIR}_c$ in the text W 20511,6, for instance, is according to the account W 21682\(^7\) clearly a representation of a particular sort of dairy product, since the latter text records 5 $\text{SILA}_3$ both of $\text{GAR}_A$ and $\text{GAR}_B$, which combined resulted in a sum of 1 $\text{DUG}_b$. The sign $\text{DUG}_b$ is, as we know from such texts as those published by M. Green in $\text{JNES}$ 39 (1980), 1–35, the representation of a jar of milk fat or cream to be delivered by herders of cows in Uruk. According to the texts published by Green, 1 $\text{DUG}_b$ should represent the yearly delivery of this product for 1–2 of the milk cows under the care of the named herders.\(^8\) Since $\text{SILA}_3$ is evidently a pictographic representation of the Uruk III period conical bowls cut from rotating wheels (“Blumentopfe”), which as a replacement of or possibly supplement to the older bevelled-rim bowls (“Glockentopfe”) had, based on measurements of both containers from Warka made by Hans Nissen, a mode capacity of 0.8 litres, the jar $\text{DUG}_b$ would have held about 8 litres. One may compare this quantity with the quota reckoned per milk cow in the presargonic Lagash and the Ur III periods of 10 (Old Sumerian) and 5 (Ur III) sila of the products called i.sê.gâ, “churned (lit. ‘beaten’) fat,” and i.nun, “risen fat,” respectively.\(^9\) We may thus feel confident in identifying the sign $\text{SILA}_3$ in W 21682 with the unit sila of approximately 1 litre in later tradition.

A schematic representation of the metrology evidenced by W 21682 would be the following\(^{10}\):

$$\begin{align*}
N_1 & \text{DUG}_b \quad N_1 & \text{SILA}_3
\end{align*}$$

The metrology of the text published here is somewhat more involved, although it seems that the product measured, $\text{SAKIR}_c$, comes also from the Uruk dairies. This sign $\text{SAKIR}_c$ would be better read as the sign combination that it is, namely $\text{UKKIN}_A + N_1$, since the sign $\text{UKKIN}_A/b$ simply represents a jar with a rounded base and a thick neck.\(^{11}\) The inscribed sign $N_i$, is that form of this sign under the entry $N_i$ in $\text{ATU} \, 2$ which represents a dairy product and which based on later usage of the sign $N_i/i$, Akkadian $\text{samnu}$, has been conventionally identified with “oil” or “fat”.\(^{12}\)

This product is preceded in the text by the involved numerical notation $1N_{14} = 7N_{i}/N_1$, $\text{KU}_3/N_1$. As P. Damerow and I have stated elsewhere,\(^{13}\) this notation is to be understood as 17 of the units $N_1$ (counting in the sexagesimal system) plus $\frac{1}{2}N_1 (1N_1 \text{KU}_3/N_1) + \frac{1}{16}N_1 (1N_2)$, for a total of $17 \frac{6}{10}$ of the jars $\text{SAKIR}_c$.

We have hereetofore assumed that this metrological system applied only to the product qualified by the sign $\text{DUG}_c$ (see diagram below), which may represent a jar containing a milk

\(^{8}\) Cf. also Frühe Schrift, 131–7.
\(^{9}\) The identification of these milk products was an object of discussion at the 1990 meeting of the Sumerian Agriculture Group on sheep and goats headed by J. N. Postgate and M. Powell and will be discussed more fully at the next meeting on cattle and pigs. Dr. M. Teuber of the Bundesan­stalt für Milchforschung, Kiel, has in his very helpful discus­sions of these problems with us indicated that i.se.ga/i.nun should in all likelihood represent the product clarified (run) with the unit sila of approximately 1 litre in later tradition.
\(^{10}\) Cf. the copy of the text in $\text{ATU} \, 2$, pl. 54, and P. Damerow, R. Englund and H. Nissen, Spektrum der Wissenschaft, February 1988, p. 80. See now Frühe Schrift, 178–80.
\(^{11}\) The form of the sign in line 5 of the archaic vessels list is in fact in three of the four well preserved witnesses $\text{UKKIN}_A/N_1$, $\text{W} \, 20266,35$ [unpublished], $\text{W} \, 24157$ and $\text{W} \, 24158 \, [\text{A. Caviguena}, BagM \, 22 \, (1991), and \text{ATU} \, 3, both forthcoming])$, in only one text $\text{UKKIN}_A/N_1 \, \text{W} \, 20521,1$ [unpublished]; the tablet had however been erased in antiquity. This suggests that a careful rendering of the sign $\text{SAKIR}_c$ required use of the form $N_1$ and that the form $N_1$ (= vessels list line 1) and not $\text{SAKIR}_c$ (= vessels list line 9) is to be understood in all administrative attestations, including the present text. Cf. the copies of the cited texts in $\text{ATU} \, 3$ and the treatment of these forms in the commentary to the lists in Materialien zu den frühen Schriftzeugnissen des Vorderen Orients (= MSVO (both forthcoming).
\(^{13}\) Cf. the copies of the text in $\text{ATU} \, 2$, pl. 54, and P. Damerow, R. Englund and H. Nissen, Spektrum der Wissenschaft, February 1988, p. 80. See now Frühe Schrift, 178–80.
product. It seems however clear from the text published here, from W 17586 with the notation reverse i: 9N1/KU3a SAKIR, ZATU752, from W 20274,51 with the notation obverse i: 9N1/KU3a SAKIR, ZATU752 and from W 20511,17 obverse ii: 1/N1 KU3a SAKIR, ZATU752, that the same system obtains for the counting of the product SAKIR (= UKKINb + NIa). We thus have the following diagram of this metrological system:

```
N14  N1-DUG /UKKIN+NIa  N1-KU3a  N2  
```

The numerical sign N2 in this system would clearly correspond to the combination N1 s1a3 in the system "DUGb", and 1N1 KU3a would correspond to the use of the sign N1 turned 90° clockwise (= N5) to represent 1/2 N1 in the sexagesimal and bisexagesimal systems of counting. The use of 1N5 to qualify amounts of DUGc in such texts as W 20274,8, W 20274,39, W 20511,12 and W 23951 seems in fact to indicate that this sign and 1N1 KU3a were free variants. I am unable to explain the use of the ideogram KU3a in notations employing this metrological system; it may be that it already at this stage represented a phonetic complement of the sign for 1, since KU3a, conventionally identified with "silver," is not attested functioning as a designation of a vessel. The language behind this possible complementation remains undeciphered.

ZATU752, u4 and [u4 + 2N57] in the first case of the account published here are signs often found in functional context in proto-cuneiform texts. u4 + 2N57, assuming the reconstruction is correct, would represent in the archaic notational system of time-reckoning two years and thus indicate the timespan covered by the text. ZATU752 seems to indicate the completion of a book-keeping process otherwise unclear to us, and might, in accordance with its usage in later cuneiform tradition, record the nature of the movement of goods, possibly towards the central administration.

The second case of the first column and the three cases of the second column of the text consist entirely of ideograms, the meaning of which remains open to speculation. Based on the structure evident in other archaic texts, it may be expected that these cases contain the names and professions of handling officials responsible for the entire transaction. The first person would thus have carried the name PAD U4 PAP and have been a scribe (SANGA), for the administrative unit ZATU753; a second would consequently have been called IB a L A a SUG5 with the profession GA a + ZATU753.

The reverse of the tablet, where one might have expected individual entries of which the numerical notation of the obverse would have been a summation, was uninscribed; the

---

14 Two usages of the sign support this identification. First, the qualification in W 20274,53 (unpublished) obv. i 1 of the sign DUG, with the sign GARAS, which clearly represents a dairy product, places the former product in a corresponding context. Second, the sign itself seems to assume the same function as DUG, in the text W 2011,2 (unpublished) obv. iii 2 with the addition of presumably 10 UKKINb or GARAS and GAa (first notation damaged) resulting in 1 DUG. The use of DUG, after DUG, and before textile products in the text R. Englund and J.-P. Grégoire, *MSV* 1 (Berlin, 1991), no. 109 obv. i 4, however, is suggestive of its similar semantic range in the Jemdet Nasr texts. The same text records in a separate section the amount of grain necessary for the production of beer contained in forty five of the jars DUG. Thus DUG, will not have represented a kind of beer or other grain-based drink, as was implied by the precipitate system identification in Frih Schrift, pp. 63 and 65.

15 Cf. the photograph and (defective) copy of the tablet in *ATU* 2, pl. 51. The entry "SE1 + 1" in *ATU* 2 based on this note is, incidentally, to be deleted (= N1 KU3a).

16 Cf. n. 4 above.

17 Cf. n. 6 above.

18 Cf. *ATU* 2, 128-33.

19 Cf. the copy of the tablet's obverse in *ATU* 2, pl. 20.

20 Cf. the photograph of the tablet in *ATU* 2, pl. 31.

21 Cf. the copy of the tablet's obverse in *ATU* 2, pl. 60, middle left.


23 It seems unlikely that the sign should represent a rebus writing of the word for a vessel half the size of DUG/UKKIN, since no sign variants occur in its position.

24 Cf. W 20274,53 (unpublished) rev. i 3 with u4 + 2N57 u4 PAD PAP BA, together with notations of amounts of DUG, and SAKIR, ZATU752.

format of the obverse makes likely that it was just the same a summation, however of individual entries drawn from other sources. Some of these may be among the fragments of the archive including W 20274,1–156, which was unearthed in Warka in the winter of 1960–1.