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A MULTIPLICATION TABLE ON A TABLET IN LEIDEN

THE WOODEN TABLET PUBLISHED BELOW was recently donated to the National Museum of Antiquities (Rijksmuseum van Oudheden) in Leiden by a Dutch private collector and bears inv. no. F 2010/8.1. It measures 10.4 x 17.7 cm and must have been the first or last leaf of a codex. The text is inscribed on one side in a recessed field surrounded by slightly raised edges of 1.6–1.8 cm width. The reverse is somewhat convex and empty. In the long upper margin four holes (ø 0.5 cm) have been pierced (at respectively 3, 6, 10, and 13.5 cm from the left). Above the holes, notches have been carved for keeping the threads in place that kept the codex together. The inscribed surface shows traces of a stucco layer.

The text is arranged in three columns written in black ink. Each column is preceded by a small cross (two before the first column). The first two columns each contain eight lines of calculations, the third one four lines plus a following signature (?) of two lines, also preceded by a cross. Each pair of sums is separated by a horizontal stroke, while the final column is marked off by a vertical line at its right. A large circle is drawn around the numeral (?) in col. III. The handwriting is practiced throughout, but much more cursive in the supposed signature in the two last lines of column III, which may have been added by a second hand (see below).

Egypt	10.4 x 17.7 cm	7th cent.

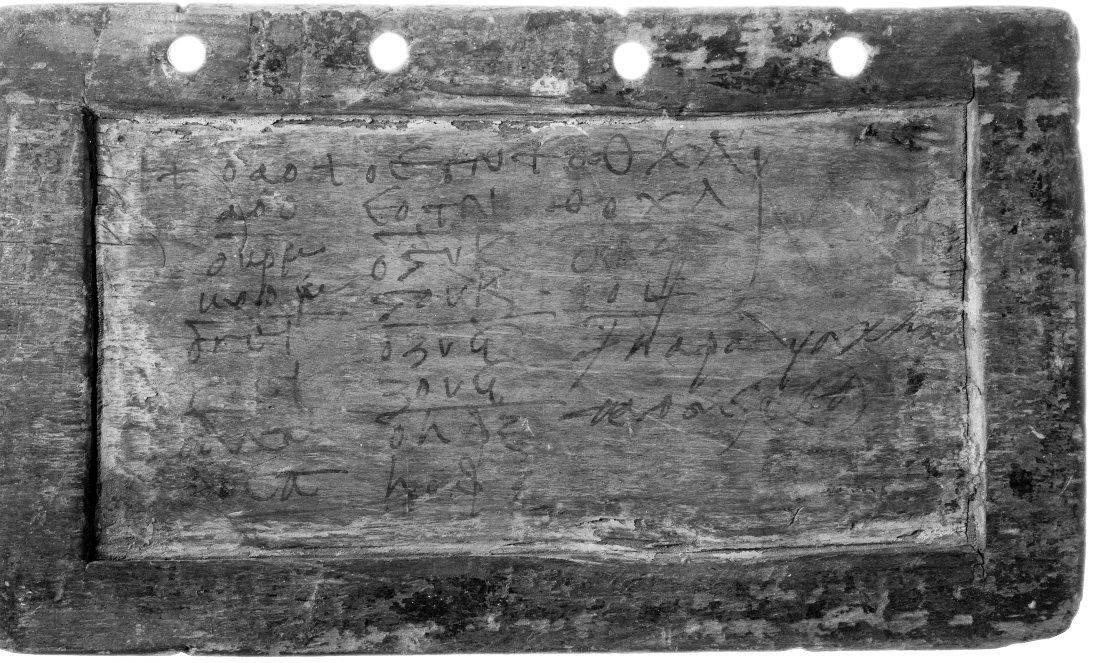
Col. I	II	III
†† *Ο Α Ο*	† *Ο Ε ΤΝ*	† *Ο Θ ΧΛ*
Α Ο Ο	*Ε Ο ΤΝ*	*Θ Ο ΧΛ*
Ο Β ΡΜ	*Ο Ϛ ΥΚ*	*Ο Ι Ψ*
Β Ο ΡΜ	*Ϛ Ο ΥΚ*	*Ι Ο Ψ*
Ο Γ ΣΙ	*Ο Ζ ΥϘ*	† *Ναρα̣\` υἱὸς Μ̣ην̣α̣*
Γ Ο ΣΙ	*Ζ Ο ΥϘ*	*Παθουεῖς ιθ*
Ο Δ ΣΠ	*Ο Η ΦΞ*	
Δ Ο ΣΠ	*Η Ο ΦΞ*	

Ναρα\` = *Ναρα(ῦς)?*

Col. I	II	III
70 x 1 = 70	*70 x 5 = 350*	*70 x 9 = 630*
1 x 70 = 70	*5 x 70 = 350*	*9 x 70 = 630*
70 x 2 = 140	*70 x 6 = 420*	*70 x 10 = 700*
2 x 70 = 140	*6 x 70 = 420*	*10 x 70 = 700*
70 x 3 = 210	*70 x 7 = 490*	† *Nara(us?), son (of) Menas (?)*
3 x 70 = 210	*7 x 70 = 490*	*Pathoueis (?), 19.*
70 x 4 = 280	*70 x 8 = 560*	
4 x 70 = 280	*8 x 70 = 560*	

As is often the case, this tablet has been used for a school text.[1] Its main part is occupied by a multiplication exercise of a type that is also found,

[1] For an overview of inscribed tablets from Egypt known in 1990, see W. Brashear & F. A. J. Hoogendijk, 'Corpus tabularum lignearum ceratarumque Aegyptiarum', *Enchoria*



Multiplication table (inv. no. F 2010/8.1)

for instance, in *P. Rain. Unterricht* 152–157 (cf. pp. 141–142, where the editors quote further examples) and *P. Rain. Unterricht Kopt*. 307–321, in particular 309, p. 5, col. 2, and 321, which both contain multiplications of 70.[2] In *P. Rain. Unterricht Kopt*. 309, an eleventh-century paper manuscript, these are arranged in pairs of two, just like the present exercise. Curiously, multiplication tables (*πολυπλασιασμοί*) seem to be less common in

17 (1990), pp. 21–54, where also various problems concerning the use and reuse of tablets are discussed. An updated list of Greek, Latin, Demotic, and Coptic texts written on wooden boards is currently being prepared by K. A. Worp and planned to appear as a Trismegistos Online Publication, cf. the website <http://www.trismegistos.org/top.php>.

[2] Cf. the listing of relevant texts in the Mertens-Pack[3] online database in CEDOPAL (at <http://promethee.philo.ulg.ac.be/cedopal/>), under 'mathémathique et métrologie', nos. 2306–2307.31 and 2314.01.

Greco-Roman Egypt than fraction tables (*P. Rain. Unterricht*, p. 141). This apparently changed with the introduction of paper in the ninth century, well after the Arab conquest, when multiplication tables became more numerous (*P. Rain. Unterricht Kopt.*, p. 231). Raffaella Cribiore observes that a majority of mathematical excercises are written in expert hands, as is the case of the present tablet. She suggests therefore that some may not have been school texts proper but, for example, calculation aids used in offices.[3]

The most problematic part of the text is the signature that follows the tables of col. III. This may be the product of a second hand, since the writing is much more cursive than the exercises and also the preceding ('Latin') cross is of a different type than the 'Greek' ones that precede the columns with calculations. If this observation is correct, the name may not be that of the student, but perhaps that of his teacher.

As a result of surface damage and cramped writing, the signature itself is difficult to read, in particular towards the end of l. 5. We have reconstructed it in a Greek form. The alternative reading of the cross as a Coptic ϯ, with a following verb in Future I, 'I will ...', and the interpretation of our dubious group *ỵί* as a Coptic ⲩ, with a following ending *-ός*, are virtually excluded. Instead, we read an abbreviation of the Egyptian name *Ναaραῦς*, which occurs in various Greek and Coptic forms (in Coptic most often as ⲛⲁϩⲣⲟⲟⲩ). The reading of the supposed father's name, Menas, is not unproblematic (note that three out of four letters have been dotted), but would well fit the period to which the tablet can be dated. The function of the following undeclined name, *Παθουεῖς*/ ⲡⲁⲑⲟⲩⲉⲓⲥ (Pathoueis), is unclear. As a proper name it does not seem to appear elsewhere.[4] It could be a Coptic ethnicon, 'from Thouis', if a topographical name Thouis were attested.[5] Perhaps one should reckon with

[3] Rafaella Cribiore, *Writing, Teachers, and Students in Graeco-Roman Egypt* [= *American Studies in Papyrology* 36], Atlanta 1996, p. 30; mathematical texts are not otherwise included in her study.

[4] See Monika Hasitzka, *Koptisches Namenbuch*, at <http://www.onb.ac.at/files/kopt_namen.pdf>.

[5] It is not, however; cf. the cancelled entry in A. Benaissa, *Rural Settlements of the*