Horus-eye fractions

JIM RITTER

Horus-eye fractions is the name often given to a series of six Egyptian signs representing subdivisions of the *heqat* grain volume measure, since it was first proposed in 1911 that they represent different parts of the Eye of the god Horus. Expressed as fractions of a *heqat*, they are equivalent to $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, and $\frac{1}{64}$ of a *heqat*, respectively.

But in the century since the Berlin Egyptologist Georg Möller (Möller 1911) made this proposal, further information has become available, and it now appears that, at their origin in the third millennium BCE, the original cursive (hieratic) sign forms had no pictographic (hieroglyphic) equivalents (Ritter 2002). Recent work on the origin and evolution of contemporaneous Mesopotamian metrological signs (Nissen *et al.* 1993) makes this conclusion less surprising than it would have been a century ago; the contexts of the pedagogic and professional uses of metrological signs are not the same as for those signs that represent the phonological values of the spoken language. The (rare) need for hieroglyphic equivalents of these measures led, especially in the New Kingdom (second half of the second millennium) to fluctuating, invented pictographic versions of the hieratic signs and often their substitution by ordinary (non-metrological) fractional signs.

Starting in the second millennium, there grew up in priestly circles, quite distinct from the accounting scribes who used metrological signs in their professional work, an interest in numerological speculation, associating certain metrological values with gods or parts of the land of Egypt, and including, at least by the early centuries of the common era, an imagined relation between capacity measures and the Eye of Horus (Osing 1998).

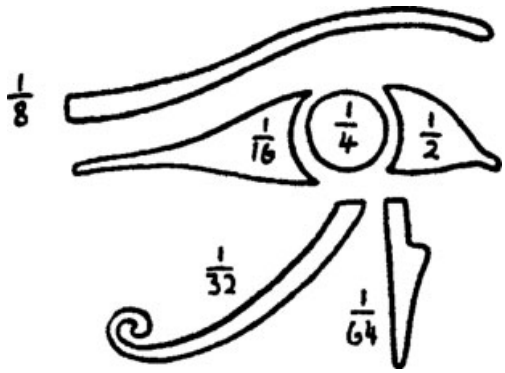

Figure 1 Möller's original proposal for the Horus-eye fractions. From Möller 1911.

SEE ALSO: Mathematics, Egyptian.

REFERENCES AND SUGGESTED READINGS

Möller, G. (1911) "Die Zeichen für die Bruchteile des Hohlmaßes und das Uzatauge." *Zeitschrift für ägyptische Sprache und Altertumskunde* 48: 99–101.

Nissen, H., Damerow, J. P., and Englund, R. K. (1993) *Archaic bookkeeping: writing and techniques of economic administration in the ancient Near East.* Chicago.

Osing, J. (1998) *Hieratische Papyri aus Tebtunis I.* Copenhagen.

Ritter, J. (2002) "Closing the Eye of Horus: the rise and fall of 'Horus-eye fractions.'" In J. M. Steele and A. Imhausen, eds., *Under one sky; astronomy and mathematics in the ancient Near East*: 297–323. Münster.

The Encyclopedia of Ancient History, First Edition. Edited by Roger S. Bagnall, Kai Brodersen, Craige B. Champion, Andrew Erskine, and Sabine R. Huebner, print pages 3320–3321.

DOI: 10.1002/9781444338386.wbeah21178