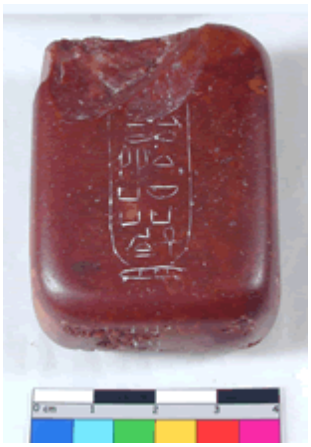
Measuring weight in Ancient Egypt

Old and Middle Kingdom (about 2025-1700 BC) inscribed weights attest to units of around 12-14 grams, and 27 grams.

These units seem to have been called dbn (vocalised in Egyptology as deben) meaning ring: this is the main name for the standard unit of weight in any period. Compare the perfect rings shown in formal Egyptian art, and the twisted and irregular rings and lengths of metal in the archaeological record (e.g. silver twisted lengths in the treasure found in the temple of Mont at Tod).

A late Middle Kingdom account (Papyrus Boulaq 18) refers to small and large deben. Other sources refer to a gold deben and a copper deben. It seems likely that 1 gold deben = 12-14 grams, 1 copper deben = 27 grams

weight of the treasurer Herfu, early 13th Dynasty



weight of king Khety Nebkawre (First Intermediate Period)

In the New Kingdom (about 1550-1069 BC) the system changes, with 1 deben of 91 grams divided into 10 qdt (vocalised in Egyptology as qedet or kite) each qedet is then around 9 grams. The deben-qedet system continued in use to the Late Period.

Throughout Egyptian history it is to be expected that the weight systems of trading partners operated alongside the Egyptian. In the Near East 8g and multiples are prominent.

With ancient margins of error, it is difficult to determine whether a weight belongs to the 9g Egyptian system, or an 8g Near Eastern system.

Weight of metal was used to determine value of commodities, and there may have been a gold standard at certain periods. For the deben value-unit, see the selection of Ramesside ostraca from Deir el-Medineh.

NOTE: the Egyptians distinguished concrete weight from abstract value, using different vocabulary for each

From the Old Kingdom to some point in the New Kingdom, the unit of value was Sna (vocalised as shena), perhaps written in Dynasty 19 as sniw. This timespan is the same as that for the gold/copper deben system of

12-14g and 27g, and presumably there was some correlation between the two systems, the one for weight, the other for value.

In the longest surviving mathematical manual (Rhind Mathematical Papyrus, about 1550 BC), Problem 62 deals with calculations of value for equal quantities of gold, silver and lead in one bag: the workings for the Problem have been taken to indicate that 1 deben equal 12 shena.

Oleg Berlev made the important observation that, whatever weight or metal may have been taken as the calculating base, the shena was exclusively a unit for calculating value, and was not considered as a unit of weight itself. The word shena is never found as the name of a weight, either inscribed on a weight, or in recorded calculations of weight. It is a crucial unit for value in an economy without coinage.

In later New Kingdom calculations of value of miscellaneous commodities, the deben is used as the unit of value for exchange, calculating value directly from the weight of gold for items of higher value, and from the weight of copper for less valuable items.

Gallery of weights in different periods
