

Computing in Latin and Hittite

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Computing antedates the microchip. Eric Hamp will recall the IBM cards we used in research assistance to Joshua Whatmough at mid-century. Beyond that the tally-stick with notched scores takes us right back to antiquity. This method of keeping accounts has hoary antecedents and was hardly improved upon for millennia, even as physical locomotion hardly evolved between the invention of the wheel and the advent of horseless conveyances.

Latin *computare* means 'count, reckon' (cf. Plautus [*Miles Gloriosus* 204] *dextera digitis rationem computat* 'counts on the fingers of his right hand'). But the original sense of *putare* was 'cut, trim, prune' (unlike the secondary meaning 'trim, tidy up, cleanse' which grammarians from Varro on glossed with *purgare* and derived from *putus* 'purus'), even as for example Swedish *tälja* means 'carve' and thence also 'count'. The rustic meaning (cf. *putamina* 'clippings, trimmings', *amputare* 'cut off') survived the figurative city-slicker sense 'count' (and thence also 'reckon, think' [= *veri, aestimare*]) into Romance (Italian *potare*, Spanish *podar* 'prune').

Formally *putare* is a secondary denominative verb from the root seen in *pavire* 'strike, pound', seen in *pavimentum* 'pavement' (that one pounds) and *puteus* 'well' (that one 'strikes'). It reflects **putó-* 'stroke, dent, incision, notch'.

The Hittite cognate is *puwai-* 'pound', with a Luwoid iterative *pussai-*. Like the apparent compound *kappuwai-*, it may be denominatively derived from a noun **puwa-* 'stroke'. The meaning of *kappuwai-* is literally 'count', whether 'they count piglets' (*KBo* VI 2 IV 20 [= *Law Code* 1:83] ŠAH.TUR.HIA *kappuwenzi*) or 'I counted fifty arrows' (*KUB* XIII 35 III 7 *nu-wa-za ... 50* ^{GI}Ú.TAG.GA *kappuwanun*). When enemy troops were innumerable, *kappuwauwar UL ēsta* 'there was no counting' (e.g. *KBo* III 6 II 19). A 'tally' was *kappuessar*, '(included) in the tally' was *kappuesni anda* (*KUB* XXXVIII 12 II 4; sumerographically

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ŠID-*esni anda* [*KUB* LVI 1 I 6], akkadographically *ANA MINUTI anda* [*KUB* XIII 35 IV 5]), while '(deducted) from the count' amounted to *kappuesnaz āppa* (*KUB* XXXI 53 + Vs. 10 ŠID-*esnaza ... EGIR-pa*). In the iterative, pregnancy terms were calculated from a certain point (*KBo* XVII 65 Vs. 34 *apez ITU- az arha kappuskanzi* 'from that month they count'). More technical nuances have also evolved, such as 'account for, figure out, keep tabs on, take stock of, record, inventory', or in an axiologically figurative vein 'take into account, value, esteem' (conversely *natta kappuwai-* 'discount, disown') or even 'call to account, square accounts with, settle scores with'.

The first part of *kappuwai-* is hardly an apocopated *katt(a)* 'down, along'. More probably it reflects **kom* as a fused preverb, unlike its polarized gravitation into the sentence particle *-kan*. Such origin for the latter is made likely by comparisons with Latin: *hastai-kan hastai handan* 'bone (is) collated with bone' (*KUB* IX 4 I 15) : *parva ... componere magnis* (Vergil, *Georgics* 4:176); *-kan hastai dai-* 'deposit bones': *ossa ... condidimus terra* (Vergil, *Aeneid* 5:47-8); *n-as-kan arāis* 'he rose' : *consurgite* (Catullus 62:1).

If thus *kappuwai-* is a compound petrifact with **kom-*, it must be of pre-Hittite antiquity. The meaning 'tally' has lost touch with the simplex *puwai-/pussai-* which denotes rough pounding (more like Latin *pavire* than the more "cultivated" *putare*). Perhaps underlying *kappuwai-* and *computare* is an already Indo-European **kom-puwo-/kom-puto-* denoting a tally-stick, testimony to a first "computer age" at the dawn of prehistory.

These brief remarks are dedicated to the grand master of the short form, *finitis quindecim lustris*. They form part of the *Festschrift for Eric P. Hamp* (JIES Monograph No. 25) where they did not appear by editorial inadvertence.