



# From Nouns to Numerals

*The birth of the Indo-European decimal system and its implications for Anatolian 'four'*

|    | Core IE               | Anatolian          | Etymology      | Semitic    | Kartvelian |
|----|-----------------------|--------------------|----------------|------------|------------|
| 4  | *k <sup>w</sup> etuor | *méh,u-            |                |            | *otxo      |
| 5  | *penk <sup>w</sup> e  | >?> Luw. 5-wa      | '(full) hand'  | 'hand'     |            |
| 6  | *s(w)ek's             | ?                  |                | *šid̥t     | *ekws      |
| 7  | *sept̥n               |                    |                | *s-b-(t-m) | *swid      |
| 8  | *(H)ok'tō-            | >?> HLuw. 8-wa-a-ī | 'dual four'    |            |            |
| 9  | *neu-                 |                    | 'new'          |            |            |
| 10 | *dek'ṛn               | ?                  | '(other) hand' |            |            |

**1. Disagreement over 'four':** A defining characteristic of the Indo-European languages is its shared decimal system, yet many items are unaccounted for in Anatolian, and the numeral for 'four' was decisively different in Proto-Anatolian. The question is why.

**2. Transparent numerals and shallow origins:** The numerals 'five' and 'ten' have convincingly been linked to nouns relating to the hand, while 'six' and especially 'seven' almost certainly are borrowings. 'Eight' has long been recognized as a dual, and its basic value is corroborated both internally (Avestan) and externally (Kartvelian). 'Nine' is peculiar as it seems to echo the adjective 'new', which may, indeed, be substantiated if the rest of the numerals were somewhat older.

**3. Lexical or numerical substitution:** The substitution of a basic numeral is extremely rare in the Indo-European languages. Nouns, on the other hand, may shift much more easily. If the *numeralization* of the higher basic numbers in PIE is relatively recent, it allows for a preceding descriptive system, and the designation for 'four' could have changed like any other noun before the decimal system coagulated.

**4. North and South:** The Uralic can only agree on the numeral 'two'. PIE has some affinity to this northern language family, whether adstrate or genetic, but while, e.g., pronouns, 'water' and 'name' bear strong resemblance, the numeral systems are very different. This suggests that the period of close contacts between PIE and Uralic predates the decimal system (a highly attractive item to borrow) in PIE. Semitic, on the other hand, is an obvious candidate as the source of PIE 'seven', and likely also 'six'. In its extended family of Afro-Asiatic, 'four' sets Libyco-Berber, Egyptian, and Semitic apart from each other while sharing many other basic numerals; this

testifies to the somewhat looser affiliation of 'four' than, e.g., 'six' and 'seven'. Finally, Kartvelian may ultimately be the source of 'eight', although not directly.

**5. Hypothesis:** The PIE decimal system was induced by contacts with Neolithic civilization as part of a broader spread of the decimal system roughly 5.000-3.000 BCE. 'Seven' was most likely the first higher numeral to have a fixed numerical function, but the higher numerals are still generally lexical as Anatolian split. This allows Anatolian speakers to favor 'less' to *\*k<sup>w</sup>etwor*, on which all other IE branches subsequently agreed, splitting the IE family tree, as expected, between Anatolian and the rest (or Core IE).

To download the thesis 'Foreign elements in the Proto-Indo-European vocabulary' go to

[www.loanwords.prehistoricmap.com](http://www.loanwords.prehistoricmap.com)

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