

LETTERS

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fundamental vocabulary of 1–46 distinct cognate classes among the different meanings. These rates can be converted to estimates of the linguistic half-life¹⁰ (Methods), or the time in which there is a 50% chance the word will be replaced by a different non-cognate form. These times vary from 750 years for the fastest evolving words to over 10,000 years for the slowest (Fig. 1b).

We used spoken and written language corpus data from English², Spanish³, Russian⁴ and Greek⁵ to measure the frequency of meaning-use (Supplementary Table 2). These languages sample from across the Indo-European language family (Supplementary Fig. 1), and

11. Labov, W. *Principles of Linguistic Change: Social Factors* (Blackwell, Oxford, UK, 2001).
12. Milroy, J. & Milroy, L. Linguistic change, social network and speaker innovation. *J. Linguist.* 21, 229–284 (1985).
13. Nettle, D. Is the rate of linguistic change constant? *Lingua* 108, 119–136 (1999).

METHODS

. **t** **t** We used the comparative Indo-European database³¹, which records word forms and cognacy judgements in 95 languages across the 200 terms in the fundamental vocabulary of ref. 8. We excluded 11 of the speech varieties that had not been coded in ref. 31 and were identified by those authors