Productive Signs: Evolutionary, Typological, and Cognitive Dimensions of Word Families

Johann-Mattis List, Max Planck Institute for Evolutionary Anthropology

Abstract

All human languages have simple and complex words. Simple words refer to meanings regardless of their form, while complex words are formed from other words, and their formation can be semantically motivated. Since words can share lexical material, we can group them into families. Word families can vary greatly in size, ranging from small ones –- comprising only a few members –-, to large ones –- spanning several hundred words –-, but it is still unclear why some words are more productive than others in forming new words. Lexical compositionality has received some attention in historical linguistics, linguistic typology, and cognitive linguistics, but so far studies have mostly concentrated on the morphological complexity of individual words and languages, while the fact that words form families which interact during language change and language use has been typically ignored. As a result, many questions regarding word family formation remain unresolved, and we do not know (1) how word families evolve along language phylogenies, (2) which semantic processes underlying word family formation are universal, and (3) to what extent human cognition influences the productivity of lexical roots to form families. In order to tackle these target questions, this study proposes to unify evolutionary, typological, and cognitive insights into lexical compositionality. Building on a computer-assisted framework that reconciles classical and computational approaches in historical linguistics and linguistic typology, we need to design new models to standardize cross-linguistic data on word families, apply them to integrate data from historical linguistics, linguistic typology, and cognitive linguistics, and develop new methods for the computer-assisted inference of word families, their underlying motivation patterns, and their evolutionary histories in large datasets. In this way, we can not only make first step towards answering the target questions but also deepen the integration of cross-linguistic studies in cognitive and psychological sciences.