

## An evolutionary approach to the typology of functional expressions

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Why do the languages of the world have the grammars they do? Specifically, for the purposes of the project I present, why does a particular language have the functional expressions it does, and not others? Some functional expressions – such as negation, demonstratives, pro-forms, quantificational and modal expressions – are near-universally present in the languages of the world, whereas others, including definite articles and the traditional inflectional categories of tense, gender, case, and so on – vary drastically in their presence, most types occurring very roughly in between one third and two thirds of human languages only.

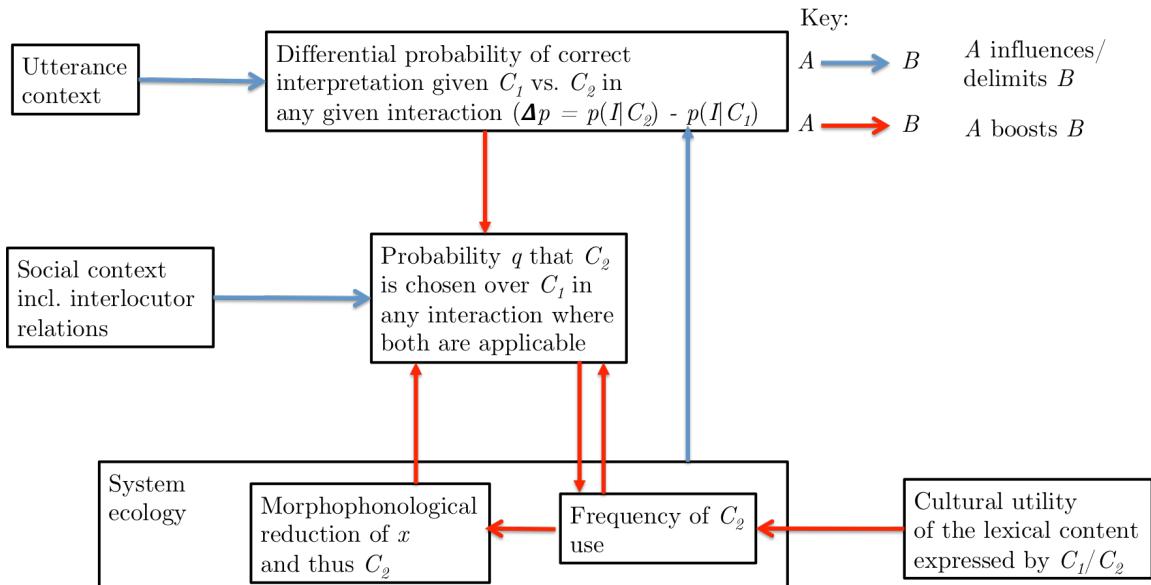
The first goal of my project is to estimate the typological frequencies of various types of functional expressions. The principal challenges here are the availability of reliable data and the presence of phylogenetic and areal biases, which distort the observable frequencies. Several approaches based on APiCS (Michaelis et al. 2013), Grambank (Skirgård et al. 2023), and WALS (Dryer & Haspelmath 2013) will be discussed.

How are the observed (and normalized) frequencies explained? I argue that the answer lies in distinct communicative functions: the near-universally available expressions serve to encode parts of the speaker's intended message, whereas the more variably-distributed expressions have an ancillary function in facilitating the hearer's inferences about the speaker's communicative intent. In line with their redundancy, expressions of the second type are typically backgrounded and 'discourse-secondary' (Boye & Harder 2012).

Fleshing out this account (as opposed to empirically validating it, which is largely beyond the current scope of the project) involves two components: (i) A theory of functional expressions that classifies them in terms of discourse status and combinatorial properties (semantic type); and (ii) an evolutionary upgrade to grammaticalization theory as sketched in Figure 1. This module is intended to account for the grammaticalization of communicatively redundant functional expressions in languages in which the absence of competing devices creates a niche to which they provide an adaptation. On this model, the grammaticalization of typically redundant functional expressions is adaptive when it increases communicative efficiency by simultaneously minimizing information loss for the hearer and production effort for the speaker (e.g., Kemp et al. 2018). The communicative benefits of the former cause an increase in usage frequency, which in turn results in morphophonological reduction, leading to decreased speaker effort.

The hypothesis that grammaticalization is functionally adaptive is controversial, with Haspelmath (2019), Hawkins (2014), and Keller (1994) arguing in favor and Croft (2000) and Cristofaro (2017) taking a skeptical position. I briefly discuss evidence in support of the functional-adaptive view, focusing on Bohnemeyer (2000) and Evers (2020).

Assume a contrast between two expressions  $C_1$  and  $C_2 = C_1 + x$ , both of which could be used to express the speaker's communicative intent. The addition of  $x$  to  $C_1$  is licensed by an existing construction of the language. Its use in  $C_2$  is redundant wrt. the speaker's communicative intent, but increases the probability  $p$  of the hearer inferring the intended meaning  $I$  ( $p(I|C_2) > p(I|C_1)$ ). E.g.,  $x$  could be a demonstrative added to indicate definiteness, a perfective aspect marker to indicate past time reference, or an allative case marker to indicate a syntactic object relation.



**Figure 1.** An evolutionary model of the grammaticalization of redundant functional expressions

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