A CONSTANT RATE EFFECT WITHOUT STABLE FUNCTIONS

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Many grammatical changes progress uniformly across linguistic contexts, but with different temporal offsets in different contexts. This is the Constant Rate Effect, or CRE (Kroch, 1989). For Kroch, the CRE reflects competition between functionally equivalent forms: within the terms of the standard equation (1) describing S-shaped change, (Bailey, 1973; Blythe & Croft, 2012), a CRE arises when $s$ is constant across contexts, but $k$ varies. This implies a direct link from CREs to grammar competition, in which competing forms realize the same function. It situates competition most naturally in adult communicative strategies, and construes such instances of language change as evolution of a population of forms which realize certain communicative functions.

\[
\frac{p}{1-p} = e^{k+st} \leftrightarrow p = \frac{e^{k+st}}{1 + e^{k+st}}, \quad p \text{ being the probability of a given form} \quad (1)
\]

We present a CRE that is better analysed in terms of acquisition rather than use. It concerns headed wh-relatives in English like the person [[to whom], I spoke], with a clause containing a wh-phrase modifying a noun phrase. Headed wh-relatives emerged slowly in Middle and Early Modern English, (c. 1100–1700). The first examples had oblique and adverbial wh-phrases; argument relatives with which followed by c.1350, with whom- and then who-relatives emerging in the 15th century. Nevertheless, the rate of change across these linguistic contexts is near-identical. Fig. 1 demonstrates this for relatives with wh-PPs and with NP which, using data from the Penn Parsed Corpora of Historical English (Kroch & Taylor, 2000; Kroch, Santorini, & Delfs, 2004).a

Relativizer which has been in competition with that and $\emptyset$ as strategies for relativizing on argument positions over the last c.650 years. However, there was no competing strategy for relativizing PPs when wh-PPs emerged (earlier relatives

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*aRegression parameters are as follows: for PPs, $p = e^{0.0052t-1.11}$; for which, $p = e^{0.0058t-12.77}$. We omit PP data after 1550 from the regression analysis, because relatives with PP gaps after c.1550 are complicated by the emergence of preposition-stranding in English wh-phrases.*
with demonstrative PP relativizers disappeared in Old English). Accordingly, the constant rate of change across wh-PP and which-relatives cannot reflect a similar competition process across the two construction types.

Instead, this change reflects competing functional specifications of wh-forms. Such competition, unlike Kroch’s, is naturally located in acquisition, because a learner identifies a form before inducing a feature specification for it (Shipley, Smith, & Gleitman, 1969). This differs from competition among communicative strategies, but still maintains Kroch’s logic of competition and selection.

References


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