

The non-uniformity of human history — and its impact on the triggers and pace of language change

Paul Heggarty

*Department of Linguistic and Cultural Evolution, Max Planck Institute for the Science of Human History
Jena, Germany
Paul.Heggarty@gmail.com*

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This paper explores the interplay between language-internal and language-external influences in triggering change (or supporting stability) in language. Drawing on new comparative databases and accompanying quantitative and phylogenetic analyses, it first illustrates variation in rates of change over time in phonetics, and in cognacy in basic vocabulary. Results demonstrate the perturbing impact on rates of change from known external triggers, often in punctuational bursts (e.g. Persian on Indic languages). Similar effects are illustrated for structural features (e.g. Haspelmath 2001, Donohue & Denham 2010).

Linguists working on language change have long staked significant assumptions on the uniformitarian hypothesis (e.g. Ringe *et al.* 2002). But while uniformity may broadly hold for the language-internal drivers of change, external contexts have been anything but uniform through time and geographical space (Heggarty 2014). Especially over the decisive “last thirteen thousand years” (Diamond 1997), the trajectory of human societies (linguists’ “speaker populations”) has been non-linear, punctuated, and in some respects exponential.

Both for traditional historical linguists, and for more recent statistical approaches, non-uniformity in external triggers of change introduces confounds that need be factored into analyses, beyond just controlling for genealogy, areality, universals and chance.

It entails, for instance, that the overall pace of change may in fact have been accelerating over time. In which case, our calibrations for language dating are biased, in being necessarily sampled from relatively recent, historical times. As illustrated here from a new Bayesian phylochronology of Indo-European, historical linguistics may be facing its own version of the ‘radiocarbon revolution’ that rocked archaeology, and forced a rethink and recalibration of its chronological frameworks.

Repercussions go beyond chronology, to statistical conclusions as to what apparent correlations may (or even must?) mean for what causes and triggers change. From a statistician’s perspective, non-random patterns may seem unexpected, inviting tests for conceivable environmental causes. But the history of human societies and populations played out very unevenly through time and space. It was never a blank, random *tabula rasa*, and entitles us to no expectation of randomness. Non-random external factors shaped how languages changed by both divergence into families and convergence in linguistic areas. That many linguistic features are not randomly distributed is no news or surprise, and does not entail any causation directly in geography, rather than in human history (Donohue 2016).

This leads to one final, fundamental question: when is a change not a change? The ‘triggered’ acquisition of retroflexes in the Indic branch of Indo-European, of clicks in far southern Bantu, and of a suite of ‘Papuan’ structural characteristics in the Austronesian of the south-easternmost islands of South-East Asia are all ‘changes’ only from the perspective of the intruding language family. From the perspective of the place, and the original speaker population, there was *no* change in those features, just a switch in the genealogy of the language spoken there, by that population. So features that otherwise seem deep and highly stable end up misleadingly ranked as ‘unstable’ (innovations) within these major families, because of the external ‘triggering’ of language shift.

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