## Diachronica at 40

## David Goldstein

March 28, 2024

As we celebrate the 40th anniversary of *Diachronica*, it is an opportune moment to reflect on the trajectory of historical linguistics. Given that I was six years old when *Diachronica* was launched, my remarks primarily concern the last two decades. This period marked a transformative phase in historical linguistics with the introduction of Bayesian phylogenetic methods.

Despite the transformative nature of these methods, I still encounter linguists who harbor skepticism towards them. So I would like to offer a few words as to why these methods are so revolutionary. First and foremost, they have substantially enhanced linguistic phylogenetics. Whereas traditional subgrouping struggles with estimating rates of change and divergence times, the Bayesian approach provides a rigorous and transparent framework for both endeavors. Furthermore, Bayesian methods arm us with tools to gauge the uncertainty of our inferences—a crucial feature, since any assertion about the past is bound to involve uncertainty.

Bayesian methods offer more than just a solid backbone for phylogenetic estimation. They also furnish linguists with robust tools to infer the probability of unobservable linguistic states. Linguistic reconstruction has of course long been a central endeavor of historical linguistics, but the credibility of ancestral forms inferred with traditional methods varies considerably. In the absence of tools to gauge their probability, assessing their accuracy remains a challenge. Moreover, traditional methods of reconstruction often fail to take phylogenetic uncertainty into account.

The influence of Bayesian phylogenetic methods now extends well beyond historical linguistics. They have, for instance, catalyzed a methodological transformation in linguistic typology, steering attention from synchronic states to diachronic processes. This transition has advanced the study of correlated changes and implicational universals—phenomena of paramount interest not only to historical linguists and typologists, but also theoreticians. As a result, Bayesian approaches have fostered new dialogues among these sub-disciplines.

Looking to the future, I nurture three aspirations:

- 1. Quantitative and computational methods become the norm in the investigation of linguistic history.
- 2. Historical linguists continue to adopt insights and techniques from other fields, be it bioinformatics, social science, population genetics, machine learning, complexity science, or other possibilities that the future may unveil.

3. Deeper engagement ensues with other sub-disciplines of linguistics—ranging from phonology and sociolinguistics to syntax and psycholinguistics.

These aspirations stem from a core conviction: an interdisciplinary perspective paves the way for broader understanding and new discoveries. We have nothing to gain from intellectual insularity.