Abstract: It is well-known that language change is a stochastic process: we cannot predict either the course or the timing of changes with certainty. However, classical historical-linguistic models treat such uncertainty as a global-level phenomenon, without trying to formally tie it to the uncertainty at the level of individual speakers and linguistic tokens. This creates a conflict: the field knows that language change is stochastic, yet models for conceptualizing it are inherently monotonic and incremental. Yet in many other empirical areas, efforts to provide microfoundations for global-level processes have been underway: economic behavior and traffic patterns are among the examples. Particularly successful were such efforts in population genetics: the study of the diachrony of genetic variation and change in populations.

In this talk I present a model of language change whose behavior can be analyzed using population-genetic methods. In that model, tokens of linguistic features are reproduced through time (i.e. repeated by speakers after being heard) in a random manner. Thus sometimes a token may fail to be reproduced, and other times a single token would be copied in later speech many times. Relatively rarely, speakers may misanalyse a token, and then reproduce their wrong analysis -- so that a miscopying, or mutation, occurs. Certain types of linguistic features are prone to more frequent copying (for example, due to cognitive ease or to social prestige), which gives rise to the linguistic analogue of natural selection. Speaker grammars pose constraints on possible reanalyzes, and different speakers exchange with each other the linguistic tokens they produce, forming a network of linguistic ties.

Interestingly, in this simple model that has very mild assumptions, some patterns that presented long-standing puzzles to historical linguists are predicted to arise. Namely, the model predicts the existence of Sapir's drift -- the phenomenon when genetically related languages undergo similar changes, but long after they have separated, -- and of "unidirectionality with exceptions" in grammaticalization. What's more, the model predicts a different distribution of performance profiles in the middle of linguistic changes than classical theories of language change, and the empirical data support the new model over the classical ones.

Bio: Igor works on integration of formal and computational methods into theoretical linguistics, currently focusing on mathematical and computational study of language change. He is a postdoctoral fellow at the "Words, Bones, Genes and Tools" interdisciplinary research Center in Tübingen, Germany. The Center brings together geneticists, archaeologists, paleoanthropologists and linguists combining forces to uncover the secrets of the human (and hominid) past. Igor received his PhD degree from MIT Linguistics & Philosophy, and has since then held a personal postdoctoral grant from the Alexander von Humboldt foundation in Germany and a by-invitation research fellowship at Carnegie Mellon Philosophy. Igor’s feeling is that the next breakthroughs in computational historical linguistics will come from novel methods exploiting more fully rich historical datasets, and from model-based inference for linguistic processes.

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Pizza will be provided at 12:15