

Speaking Our Minds (SOM) was a great pleasure to read. This slim book provides even a non expert like myself with an accessible but, at the same time, in-depth treatment of language evolution. Scott-Phillips proposes us a coherent and, according to him, exhaustive, picture of the origins and evolution of language. The big questions are answered: we can proceed to the next topic.

I wonder how the community of linguists will feel in regard to this bold attitude (by the way, I am all for bold attitudes). As for myself, I can comment on a particular aspect of the book, that is, the role assigned to cultural attraction in explaining some of the features of language.

The basic idea behind the concept of cultural attraction is spelt out with remarkable clarity in SOM. In short, cultural transmission, differently from biological transmission, is mainly a reconstructive process. Each time we “copy” a cultural trait we are in fact reconstructing it, starting from some piece of information that we gather from others. Individual modifications are not rare, and they are not errors. They are the crux of the cultural transmission process, and, importantly, they tend to be oriented in non-random ways (hence the notion of attractor).

One example - which I discovered reading this book - is tonal languages. In tonal languages (like Mandarin Chinese) the pitch that one uses to pronounce a word makes a difference to its meaning. It has been discovered that the distribution of tonal languages is associated with the distribution of two genes that regulate neural development. These are not genes for tonal languages, as individuals without the genes can learn them (and vice versa), but they may represent a factor of cultural attraction if these genes make it easier (for example) to detect or produce pitch differences. Imagine a population in which few individuals have the variants. Language changes that give more importance to pitch will be, in this population, rare and generally not re-constructed. The population will converge on a non-tonal language. The opposite will happen in a population in which the majority of individuals have the genetic variants in question.

Scott-Phillips gives a few other examples of factors of attraction that may shape language attributes, some related to biological or cognitive features (like the example above), and others related to communicative needs, drawing mainly on the research from the Edinburgh Language Evolution Group. Overall, The case is convincing: cultural attraction is likely to have an important role in determining the features of the languages we speak today, and the details of their evolution. But is that all? What about all the researches that use a more “standard” evolutionary framework to study language, that is, that consider it like a culturally transmitted replicator?

The idea that languages evolve like biological species, with a process of descent with modification, has a long and successful history. Darwin’s famous endorsement of language evolution testifies to that. Phylogenetic analyses are today used routinely in cultural evolution, and while their application to different domains is far from being uncontroversial, their success is at least partly due to the fact that they have been productively applied to language evolution, providing stimulating results. If phylogenetic analysis works for languages, what does this tell us about the feasibility of using standard evolutionary tools to understand their historical dynamics?

Recent researches showed that the rate of changes of words is correlated with their frequency of use. Words that are similar in related languages (a classic example is terms for numbers: think about one in English, un in French, uno in Italian, etc.) are also words that evolve at very slow rate, and, interestingly, are the words that are used with high frequency in daily life. This suggests a classic evolutionary pattern, one of generally faithful transmission with random modifications. Frequency of use would indeed affect rates of replacement by reducing the “mutation rate”, as words used frequently would be, for example, remembered more easily than words only rarely used.

My general perspective is that various domains of human culture are characterised by various

degrees of reconstruction and preservation in the transmission of their traits, and when domains are close to the “preservative extreme”, it is useful, for pragmatic reasons, to consider them as standard evolutionary systems. Moreover, in the same cultural macro-domain, like language in this case, different aspects may be situated in different regions of the preservation/reconstruction continuum. More than asking which aspects are in general more important, it may be more productive to ask when and why transmission is preservative or reconstructive, and what the consequences are for the resulting cultural dynamics. For example, one may wonder whether the contemporary widespread use of media favouring strongly preservative transmission (such as “sharing” something on Facebook, or “re-tweeting” it) may play a role in contemporary language evolution.

In sum, I strongly believe that the cluster of ideas surrounding the notion of cultural attraction (the importance of individual reconstruction in cultural transmission, the fact that modifications to cultural items are generally not random, the importance of universal, or at least relatively stable, factors of attraction), developed in the past years by anthropologists like Dan Sperber and others, is one of the most important contribution to the contemporary study of cultural evolution. I am also open to considering whether cultural attraction forces are responsible for the most interesting attributes of languages, as one could infer from Scott-Phillips’ book. A further step would be to identify which features of languages are due to cultural attraction forces and which features are due to processes included in “standard” cultural evolution models, such as random modification of words, simple contextual learning biases, and similar, and how the various processes interact. The material presented in *Speaking Our Minds* may be an excellent starting point for this endeavour.

Some references...

On cultural attraction: see Claidière et al. 2014, [How Darwinian is cultural evolution?](#) and Dan Sperber’s book [Explaining culture](#) Tonal languages and genes: Dediu & Ladd 2007, [Linguistic tone is related to the population frequency of the adaptive haplogroups of two brain size genes, ASPM and Microcephalin](#) The Edinburgh Language Evolution Group: see e.g. Kirby et al. 2008, [Cumulative cultural evolution in the laboratory: An experimental approach to the origins of structure in human language](#) Language as a “culturally transmitted replicator”: Pagel 2009, [Human language as a culturally transmitted replicator](#) Rate of changes of words is correlated with their frequency of usage: Pagel et al. 2007, [Frequency of word-use predicts rates of lexical evolution throughout Indo-European history](#) “My general perspective...”: Acerbi & Mesoudi 2015, [If we are all cultural Darwinians what’s the fuss about? Clarifying recent disagreements in the field of cultural evolution](#)