Phonological representation and the quantitative study of sound change

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This paper presents ongoing work aimed at developing standards for the phonological annotation of segmental data. In particular, it aims to evaluate theories of phonological representation in terms of how easily they can be annotated to lexical datasets and how useful they are for predicting diachronic change.

Phonological theories differ considerably in terms of the ease with which they can be annotated to large lexical datasets, as more hierarchically structured representations are likely to present greater difficulties. This favours beginning with more linear theories of constituent structure, such as CVCV templates (Lowenstamm 1996; Scheer 2004), which can be relatively easily annotated to segmental data. On the other hand, ease of melodic annotation may be inversely correlated to predictive power. While a naive categorical universalism (e.g. automatic feature assignment to segments) might be easy to encode, phonological representations that include deep phonetic information, such as the Onset Prominence framework of Schwartz (2011, 2013) are likely to have greater predictive power, as sound change has both a phonetic and phonological basis (Kiparsky 2008).

Modern theories of phonology have developed sophisticated representational apparatuses for explaining synchronic patterns in phonological systems. Although they are not typically designed to account for diachronic change, the extent to which they can capture historical sound change and contemporary dialect variation is often put forward as support for specific representational strategies. For example, Element Theory (KLV 1985; Harris and Lindsey 1996) gives a principled account of typological variation in the synchronic organisation of vowel systems, but is also capable of predicting diachronic processes of diphthongisation, monopthongisation, and unstressed vowel reduction (i.a. Harris and Lindsey 2001). The licensing power of nuclei in CVCV phonology (Scheer 2004) can usefully predict phonotactic patterns and the occurrence of vowel epenthesis or loss (e.g. Cyran 2003). Similar examples for assimilation, lenition etc. can be adduced also for other theories of representation.

References

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