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The Life-Cycle Model of Phonological Change

Ranjan Sen, University of Sheffield, UK

The Life-Cycle Model (LCM) of phonological change (first recognised in Baudouin de Courtenay 1895) claims that each change follows a defined pathway from start to finish, mimicking a biological life cycle. After a heyday when earlier versions of the model informed phonological theory in the 1980s (e.g. Kiparsky 1985, 1988), the life cycle has enjoyed increased attention in recent times (e.g. Bermúdez-Otero 2015, 2019; Ramsammy 2015; Turton 2016; Bailey 2018; Iosad 2020, Sen 2020), but whereas the synchronic predictions of several phonological 'levels' have been explored (e.g. Vaux 2008), the role of diachronic evidence is often to evaluate that synchronic architecture. This can be contrasted with 'grammaticalisation', a diachronic trajectory in morphosyntactic theory which has unerringly enjoyed continuous research (see Hopper and Traugott 2003). As argued by Bermúdez-Otero and Trousdale (2012, 704), 'It should be as inconceivable for phonetic, phonological, and morphological research to proceed in ignorance of this life cycle as it is for… morphology, syntax, semantics, and pragmatics to ignore the facts of grammaticalization'.

According to the LCM, a sound change begins with a speaker-controlled, gradient implementation of a natural pattern (neogrammarian phonetic 'rule'). This becomes increasingly entwined with grammatical structure in a process known as domain narrowing (phonological 'rules' at phrase- > word- > stem-levels), until lexical representations of words affected by a rule are themselves individually amended (lexicalisation through diffusion), or the pattern is employed as morphological marker (morphologisation).

Several aspects of the LCM require interrogation as a testable *diachronic* theory (Sen 2016). Some key issues are:

(1) Accuracy
Do changes systematically undergo a life cycle? How do we recover a historical cycle? For older language forms, we rely heavily upon spelling, puns, rhymes, verse scansion, and contemporary reports. Non-standard phonetic spellings reveal processes across word boundaries, or their frequency in phonetically more or less conducive environments may be revealing. Morpheme alternations and analogical levelling provide evidence for word- and stem-level processes.

(2) Unidirectionality
Does sound change always progress along the predicted trajectory? If we find processes which take backward steps, can we explain these through the specific linguistic conditions in which they occur?

(3) Dialect continua
Do differences within a speech community result in life-cycle-based dialect splits? E.g. do changes reach the stem level in an innovative dialect, while still at the word level in a conservative one?

(4) Cycle psychology
Without 'mystical, pan-generational forces' (Hale et al. 2015), why do sound changes behave this way? Can we construct experimental conditions which replicate the LCM (Sen 2022)? Do language-learners employ biases to interpret the sound patterns in a language in ways which only result in either domain narrowing or no change? Very little work has been done in the context of misanalysing the input as a source of language change, with the exception of Bermúdez-Otero (2003, §6 in particular).

By investigating the diachronic and experimental predictions of the understudied Life Cycle Model, we can potentially provide a fundamental bridge between four subfields: theoretical phonology, language processing, language acquisition, and historical linguistics.

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