

Learning from loss: When the Life Cycle Reverses

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This study presents a counterexample to the assumed unidirectionality of the phonological rule life cycle. In the Butha variety of Dagur (BD; Mongolic), now gradually giving way to the dominant language Mandarin, original cyclic rules have been reanalysed as post-cyclic. Earlier documentation (Engkebatu 1988) indicates that all rules in BD were cyclic. The language exhibits two stem-controlled vowel harmony processes: rounding harmony (RH), triggered by /ɔ(:)/, and [-ATR] harmony (ATRH), triggered by /ɐ(:)/. Crucially, RH—but not ATRH—applies within a PStem that aligns with syllable boundaries: RH applies to V-initial suffixes (1a) but underapplies when the V-initial suffix is excluded from the PStem, as in [tʃʰɔlɔː-jɐːr] ‘stone-INSTR’. The iterative application of RH in (1a) therefore points to a cyclic assignment of the PStem domain, since post-cyclic computation would instead produce the pattern in (1b).

(1) URs	Cyclic computation	Post-cyclic computation	Glosses
/mɔːt-EEr-EE/	a. [mɔːt-ɔːr-ɔː]	b. [mɔːt-ɔːr-ɐː]	‘wood-INSTR-RFL’
/mɔːt-t-EE/	c. [mɔːt-ut-ɐː]	d. [mɔːt-t-ɐː]	‘wood-DAT-RFL’

I analyse cyclicity within a phase-based framework: (i) when a cyclic node is merged in syntax, it triggers the spell-out of its complement, including any more deeply embedded cyclic domain as well as surrounding non-cyclic nodes (Embick 2010); and (ii) only non-cyclic nodes spelled out in the previous cycle remain accessible in subsequent computation (Fox & Pesetsky 2005; Scheer 2011). The attachment of the RFL, as a D head, triggers spell-out of its complement, explaining the application of RH and ATRH in the INSTR marker (see (1a)) and vowel epenthesis in the DAT marker (to avoid *CC at the coda position, see (1b)). The RFL is spelled out in the second cycle, at which point only the non-cyclic P head (i.e. the INSTR and DAT markers) remains accessible, accounting for the application of harmony processes in (1a) but their underapplication in (1b).

Through a sentence translation task, 5 elder and 6 younger adult participants produced stems with INSTR+RFL and DAT+RFL. 4 out of the 11 participants exhibited cyclic computation, 3 of whom were elder speakers. Semi-proficient speakers not only reinterpreted the original cyclic rules as post-cyclic and optional but also showed rule simplification and rule loss, paralleling patterns reported for other lesser-used heritage or obsolescing languages (Vago 1987; Lipsik 1990). These parallels are more appropriately analysed as cases of *partial* L1 acquisition in childhood persisting into adulthood (Montrul 2008), rather than L2 acquisition in adulthood. BD speakers are exposed to their native language from birth within the domestic domain, but input diminishes sharply upon entering school, where instruction is mostly in Mandarin. This account is consistent with longitudinal findings that morphologically conditioned phonological rules are often not fully acquired before the age of 4-7, after which the capacity to acquire complex rules persists throughout life (Kerswill 1996). The findings therefore suggest that unidirectionality is not an inherent property of changes driven by children as opposed to adults; reverse developments can arise when sustained exposure is absent, as in the present case, and also in adult-oriented, short-term, contact-induced changes (e.g., Labov 2007).