Cyclic Degrading: Strict Cyclicity Meets Variable Rules

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The treatment of variable rules in a morphologically stratified framework (such as Lexical Phonology or Stratal OT) usually follows the proposal of Guy (1991a,b): the deeper an environment for a rule is morphologically, the higher the rate of application of that rule. Using the stem-word- phrase division of derivation, Guy's model predicts that a given rule will have a greater rate of application if its environment is visible at the stem and word levels than if it is visible only at the word level. In this paper, we present two case studies which find the opposite result and propose an analysis to explain these results.

The first case study is /w/-deletion in Korean. In a study of Seoul Korean speakers aged 20–40 years, the deletion rate of /w/ in stem level CwV sequences was 21% while the deletion rate in CwV sequences arising at the word level was 32%. That is, there is more deletion when the CwV sequence is available at the word level only. There is less deletion when the CwV sequence is available at both the stem and word levels.

The second case study is /t/-assibilation (/t/ → [s] / _ s) in African American Vernacular English (AAVE). In a study of 6th–10th grade AAVE speakers in informal contexts from the Frank Porter Graham Corpus, we find that the assibilation rate of monomorphemic /ts/ sequences is 0%, while the assibilation rate of a stem final /t/ with the plural /-s/ is 25%. That is, the rate of assibilation is higher when the /ts/ sequence is available at the word level only. There is no (or very little) assibilation of /ts/ sequences if they are available at both the the stem and word levels.

To explain this data, we turn to the observation made in the literature on non-variable phonology. When a phonological rule is not active at a level of derivation it potentially sets up the situation known as the Strict Cycle Effect (SCE) (Kean 1974; Mascaró 1976; Kiparsky 1982) or Non-derived Environment Blocking (NDEB) (Kiparsky 1993; Burzio 2009). That is, a rule may only apply if it makes use of new derivational material from its cycle or derivational stratum.

We propose that variable rules are subject to a SCE/NDEB effect, dubbed "Cyclic Degrading", through which the rate of application of these rules is lowered (rather than blocked completely). If a phonological sequence is derived at stem level, but the relevant variable rule does not apply at stem level, the rule is subject to Cyclic Degrading at word level because it does not make use of new derivational material from the word level. This lowers the rate of application. In contrast, a rule applying to sequences arising only at word level does make use of new derivational material and thus is not degraded. Through this process, the data from Korean and AAVE can be explained.

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