Consonant Gemination in Loanwords as Preservation of Syllable Weight

Japanese loanwords from English often undergo gemination when the source word contains a sequence of a short vowel and an obstruent in the word-final position (1a) (Lovins 1975, etc.). The motivation for this apparently redundant phenomenon has long been discussed from a variety of perspectives in phonology. For example, Lovins (1975) and many others attribute loanword gemination to preservation of the phonological component of the source words, i.e. syllable and/or mora structures. Kubozono et al. (2008) point out that it is the prosodic preference of Japanese that triggers gemination.

(1) a. Japanese: top => toppu
cut => katto
kick => kikku
pitch => pitchi
fish => fisshu

b. Kannada: cup => kappu
Italian: tip => [tippa]
Finnish: pop => poppi
Hungarian: step => sztepp
Egyptian: stop => stubb

It is also reported that in several languages where consonant length is phonologically distinctive, such as Kannada (Sridhar 1990, etc.), Italian (Repetti 2009), Finnish (Karvonen 2009), Hungarian (Nádasdy 1989) and Egyptian Arabic (Reynolds 2012), very similar phenomena are observed in loanwords (1b). This study examines loanword gemination in these languages as well as that in Japanese, and shows that in languages where CV is the basic syllable type (i.e. Japanese, Kannada and Italian) gemination occurs so as to preserve a closed syllable structure (CVC) and a heavy syllable of the source word, while in languages where CVC is allowed (i.e. Finnish, Hungarian and Egyptian) gemination occurs only to preserve a heavy syllable of the source word; a singleton adaptation is avoided because the weight of word-final CVC syllables neutralizes to light. We thus argue that the phonological motivation for loanword gemination in these languages is preservation of syllable weight of the source words, which is exerted by a constraint MAX-μ-IO.

(2) a. Japanese: happy => happii
battery => batterii
lucky => rakkii

b. Italian: shopping => [ʃɔppiŋ]
Finnish: skipper => kippari
Hungarian: hippie => hippi

Furthermore, intervocalic consonants sometimes undergo gemination in loanwords (2a-b). The motivation for this type of gemination in Japanese loanwords has been mainly discussed from two points of view: stress on the preceding vowel, and resyllabification to closed syllables (Lovins 1975, etc.). However, our cross-linguistic study suggests that intervocalic gemination in loanwords is caused not by phonetic or phonological motivations but by the orthography of the source words, i.e. double-lettered consonants such as <pp, tt, ck>.

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