

Evidence of Gemination in Persian

Mahjoub Zirak, Peter M. Skaer

Graduate School of Integrated Art & Science, Hiroshima University

Mahjoob_zirak@yahoo.com; peterskaerjp@yahoo.co.jp

Persian has contrastive singleton and geminate consonants. e.g.: [mæde]: (female); [madde]: (material). Although these lexical (underlying) geminate consonants are all Arabic loanwords, Persian has two types of phonologically derived geminates: Concatenated /pajan+name/ → [pajanname] and assimilated /næzdic/ → [næzzic] ones. Within CV Phonology, long vowels and geminates, including post-lexical ones, are represented as differing from the corresponding short vowels and single consonants, in single units associated to two prosodic positions. (McCarthy 1986, Lahiri & Hankamer 1988, Rose 2000, Ridouone 2010).

Additionally, some interesting observations have been made by Iranian researchers regarding geminates (Mahootian 1997, Deyhime 2000, Hansen 2004, Kambuziya 2006); but all of them focus on the differences between singleton and geminates in Persian regarding acoustic duration or sound change while none considered the three kinds of geminates, outlined above, in this language. The current work addresses evidence for the three kinds of geminates in Persian.

Preceding vowel duration was found to be significantly affected by gemination; vowels being significantly shorter before geminates. The interaction between preceding vowel duration and gemination has been reported in many languages (Maddieson 1985). This shortening is generally explained by syllable structure differences between singletons and geminates: The vowel is longer in an open syllable (V.CV) and shorter in a closed syllable (VC.CV) (Ridouane 2010).

In the case of Persian geminates and vowels preceding them, this study examines the way these autosegmental representations are characterized. In particular, this study investigates two questions: “How are lexical geminates in Arabic Loanwords in Persian which precedes short vowels characterized?”; and, “Are there any qualitative differences between the three kinds of geminates in preceding short vowels or not?”

This study claims that vowels preceding geminates in Arabic loan words are short vowels: e.g. /tæfæccor/: (Thinking), /secce/: (coin). Also the results show that when an Arabic geminated word loses gemination in Persian, the short vowel preceding it is changed to a long vowel e.g. /mæsæff/ → [mæsaf]: (battle), filling the prosodic position of geminate loss in the timing tier. A comparison between the three types of gemination in Persian shows that almost all three kinds of geminates precede short vowels /æ, e, o/. However while assimilated geminates, like the underlying ones always precede short vowels, concatenated geminates do not; e.g. /ʔæsbab+bazi/ → [ʔæsbabbazi]: (toys) because concatenated geminates are created by only a concatenation of two identical stops across a morpheme boundary. Implications of these results for the general issue of geminate behavior are discussed with particular interest on the nature and characterization of Persian geminates.

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