Diachronic Motivations: Duration and Syllable Structure in Latin Vowel Reduction

Ranjan Sen, University of Sheffield (ranjan.sen@sheffield.ac.uk)

Empirical studies have made significant progress in understanding the mechanics of vowel reduction through experimental work testing the influence in several languages of variables such as stress, duration, speech rate, position in the word, lexical frequency, and others (e.g. Fourakis 1991, van Bergem 1995, Flemming 2002; Padgett & Tabain 2005; Barnes 2006). This paper extrapolates from these findings to reconstruct the motivation behind the diachronic vowel reduction pattern seen in early archaic Latin (sixth to fifth centuries BC), ascertaining which influences were most relevant through a close examination of the evidence afforded by secure etymologies, contemporary inscriptions, and the familiar classical Latin end-forms. The paper argues that the most likely phonetic reconstruction of archaic Latin, consistent with evidence from vowel reduction and syncope, requires us to reconstruct the typologically unusual pattern of phonetically longer vowels in closed syllables than in open ones, as in Turkish (Jannedy 1995; Kopkallı-Yavuz 2003) and Finnish (Lehtonen 1970), contrary to the pattern normally found (Maddieson 1985). The additional duration of vowels in closed syllables permitted speakers to attain the targets for non-high vowels in these settings.

Under the fixed initial stress of archaic Latin (to the fourth century BC; Meiser 1998), internal open-syllable vowels were totally neutralised, usually raising to /i/ (**per.fa.ki.o: > perficio:* 'I complete'), whereas in closed syllables, /a/ was raised to /e/, but the others vowels remained distinct (**per.fak.tos > perfectus* 'completed'). Miller (1973) explains closed-syllable resistance by positing internal secondary stress on closed syllables. However, evidence from vowel reduction and contemporaneous syncope suggest internal syllables never bore stress in early archaic times, even if heavy. For example, the unstressed, weak-position, heavy-syllable vowel in initial light-heavy sequences reduced in an identical fashion to those in all other heavy syllables (e.g. **(fé.nes).tra* 'window'), suggesting that all internal heavy syllables were identically unstressed. Other explanations are also considered and rejected, such as that proposed for English by Burzio (2007), since Latin, unlike English, reduction in closed syllables was not sensitive to segmental context.

If the typologically unusual explanation proposed is correct, Barnes' (2006) duration-based analysis of Uyghur reduction, again reconstructing longer vowels in closed syllables, could equally well be applied to Latin, an attractive proposition given the close similarity between the two patterns. Finally, this durational pattern is manifested in Latin not only in vowel reduction, but also in the quantitative changes seen in 'superheavy' degemination (V:CCV > V:CV; contrast Maddieson's (1985) 'closed-syllable vowel shortening' where open-syllable vowels are longer), and 'classical', 'inverse' (Hayes 1989) and CV:CV > CVC compensatory lengthening/shortening, allowing us to construct phonologisation accounts for such processes along the lines of Kavitskaya (2002).