

‘Necro-Phonetics’: A Vowel-Duration Generalisation and the Evolution of Latin

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Maddieson (1985) discusses the generalisation that vowels in closed syllables seem consistently to be shorter than vowels in open syllables, and concludes that the counterexamples found in specific languages do not seriously challenge the validity of the claim that the pattern is found ‘across the broad generality of languages’. Furthermore, studies report that vowels are shorter before geminates than before singletons, such as Pickett et al. (1994) in Italian, Pind (1995) in Icelandic, Local & Simpson (1999) in Malayalam, and Cohn, Ham & Podesva in Buginese, Madurese and Toba Batak (1999).

However, evidence for the contrary pattern – vowels in closed syllables are longer than their open-syllable counterparts – is also found in research into geminates: Lehtonen (1970) in Finnish, Lahiri & Hankamer (1988) in Turkish, Smith (1991; 1995) and Han (1994) in Japanese, and Hansen (2004) in Tehrani Persian. Beyond geminates, Jannedy (1995) finds that vowels in closed syllables in Turkish are longer than in open syllables, and Barnes (2006: 94) notes that ‘the shorter duration characteristic of open syllables in Turkish has the result of conditioning frequent reduction of /a/ to [ə] in ordinary speech’.

More evidence for such a pattern in all closed syllables, including but not restricted to those closed by geminates, can be recovered by a careful re-evaluation of archaic Latin vowel reduction, under the influence of the generally accepted initial-syllable stress accent of that time (6th-5th cents. B.C.; Meiser 1998). Short vowels in internal open syllables usually underwent ‘extreme raising’ to /i/ (*kóm.fā.ki.o: > co:n.fī.ci.o: ‘I complete’), whereas in closed syllables, raising was much restrained (*kóm.fak-tos > co:n.fēc.tus ‘completed’). The pattern of vowel reduction seen in Latin matches the predictions of an duration-based articulatory undershoot account (Lindblom 1963) in every way except for the expected syllable-shape effect: medial syncope and final lengthening effects (e.g. lowering) suggest a significant durational asymmetry between initial stressed and other unstressed syllables, and the surface quality of the reduced vowel is susceptible to colouring by coarticulation with surrounding segments. This account is therefore preferable to a prominence-matching analysis (Crosswhite 2001).

Alternative explanations for the pattern are rejected: (i) pre-C consonants did not provide better transitional cues for the accurate perception of the vowel than pre-V ones (e.g. coda dark /l/ coloured the preceding vowel), (ii) vowels did not resist reduction purely to provide robust transitional cues for following consonants which were poorly internally cued (as purportedly in English; Burzio 2007), and (iii) internal closed syllables did not bear secondary stress in archaic Latin. It is concluded that vowels in closed syllables in archaic Latin were longer in duration than those in open syllables. The diachronic vowel-reduction pattern of Uyghur, which also arguably showed this durational pattern (Barnes 2006) bears remarkable similarities to that of Latin.

This conclusion allows us better to understand some Latin idiosyncrasies. An example is ‘inverse compensatory lengthening’ (Hayes 1989) in early Latin (*li:tera* > *littera* ‘letter’), which can be explained as the hypocorrective reanalysis (Kavitskaya 2002) of the phonetically shortest long vowels (high vowels) in the phonetically shortest environment (before voiceless obstruents), as phonologically short vowels in closed syllables.

Word count (excluding title, examples and references): 499

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