

In Latin, from about the first century BC onwards, there is evidence that (some) short vowels were lengthened before /r/ in syllable coda. This evidence takes four forms: various measures used in inscriptional texts to mark vowel length; statements by ancient writers on the Latin language regarding vowel length in this context; the vowel quality system of the Romance languages, which allows Latin long and short vowels to be distinguished, with the exception of long and short /a/; loanwords containing this sequence into other languages which distinguish long and short vowels. This change has not been studied in detail before now, but these sources suggest that lengthening occurred only to non-high vowels; moreover, the evidence of lengthening is much stronger for /o/ than for other vowels (although our evidence for /a/ is naturally diminished by the lack of evidence from the Romance languages). On the basis of the lengthening, Sen and Zair (2022) argue that syllable-coda /r/ was an approximant in the Latin of this period; on other grounds, that, at least from the 3rd century AD, it was ‘dark’, characterised by high F1 and low F2. This accounts for occasional instances of lowering of /e/ to /a/ (e.g. *nouerca* ‘step-mother’ > *nouarca*). We argue that greater understanding of the evidence of lengthening supports this position. Lengthening itself is due to the long transitions from the preceding vowels to the following approximant. Formant transitions involving a large deviation (high vowels to /r/) result in more salient perceptual cues of a change to a new articulatory target, as the transition needs either to be faster (making it more perceptible), or start earlier (in which case the steady state portion of the vowel is shorter). Where the formant transition does not involve a large deviation, it can either be slower (arguably less perceptible) or start later (so the steady state of the vowel is longer). Consequently the restriction to non-high vowels reflects the high F1 of /r/ compared to the low F1 of high vowels, with the higher F1 of non-high vowels leading to less robust cues to the change to /r/. This may have been supported by the tendency of high vowels to be phonetically shorter, and hence more likely to resist lengthening (Keating 1985: 118-120). If, as we think likely, lengthening was in fact restricted to /o/ (and perhaps /a/), this would reflect the low F2 of /r/: again, transitions between back vowels and /r/ were perceptually weaker than between front vowels and /r/. Keating, Patricia A. 1985. Universal phonetics and the organization of grammars. In Victoria A. Fromkin (ed.), *Phonetic Linguistics: essays in honor of Peter Ladefoged*, 115-132.

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Ranjan Sen¹, Katherine Williams², Nicholas Zair²

¹University of Sheffield, Sheffield, United Kingdom. ²Cambridge University, Cambridge, United Kingdom

Title

Lengthening of vowels before coda /r/ in Latin