# Liquid polarity, rhotic type, and diachronic change: clear and dark /r/ in Latin

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Liquid polarity effects have been found to interact with syllable position in dialects of British English: in positions where /l/ is clear, /r/ is dark, and vice versa (Carter & Local 2007). Whereas the clear/dark contrast in /l/, and notably its diachronic effects, is well-researched, it is relatively understudied in /r/. This paper demonstrates that liquid polarity and positional effects can be reconstructed for early Latin, gradually becoming eroded in imperial times: *coda* /l/ and *onset* /r/ were dark, whereas coda /r/ was clear and onset /l/ was underspecified for tongue body position.

Early Latin had dark /l/ in the syllable coda, clear /l/ in geminate /ll/, and an /l/ underspecified for tongue body position in the syllable onset, which varied in line with the backness of the following vowel: clear in /li/, dark in /la lo lu/ (Sen 2015, chapter 2). Diachronic colouring of a preceding vowel provides the main evidence for this, e.g. **welti* > *vult* 'wants', but *velle* 'to want' and *velim* 'I want (subjunctive)'. However, in a similar vein, /r/ also shows positionally varying colouring. Whereas open-syllable internal vowels became /i/ in most contexts in early times, before 'dark' onset /r/ (also from intervocalic rhotacism of /s/) they all became /e/, e.g. /i/ **kinises* > *cineris* 'ash (gen.)', /a/ **peparai* > *peperī* 'I brought forth'. This development failed before 'clear' coda /r/, where the usual closed-syllable developments occurred (*a > e, *o > u), e.g. /i/ **komfirmō* > *confirmō* 'I confirm', /a/ **inarmis* > *inermis* 'harmless', /u/ Gk. *kót$^{h}$ornos > *cothurnus* 'high boot'. Conversely, the development wo > we before coronal consonants (*voster* > *vester* 'your') includes in this environmental context 'clear' coda /r/ (*advorsum* > *adversum* 'against'), but not 'dark' onset /r/ (*vorō* 'I devour').

Darkness is usually inversely correlated with F2 (whose effects are seen in pre-/l/ conditioning above), but a correlation with F1 has also been reported, with dark liquids showing higher F1 (Sproat & Fujimura 1993); this way of implementing the contrast is/was especially useful in English/Latin, where onset /l/ can contextually have a low F2 (West 1999). Latin dark onset /r/ therefore showed F1 raising (vowel lowering) and F2 lowering (mild backing) in preceding vowels (*i > e), whereas clear coda /r/ patterned with other coronals in hypercorrective fronting (woT > weT), and the sporadic fronting/raising *e > i (**d$^{h}$ermos* > *firmus* 'strong'). Unlike in English where r-darkness is implemented through tongue body position in approximants, we hypothesise that selection of r-type was the key strategy in early Latin: approximant in onsets (higher F1, lower F2), and tap in codas (lower F1, higher F2). This can further explain the pre-1st cent. developments (i) intervocalic (onset) rhotacism *s > r, following the lenition cline 'fricative > approximant', (ii) dissimilatory (onset) *d…d > r…d, showing 'closure-closure' to 'no_closure-closure', (iii) the patterning of tap (coda) /r/ with obstruent coronals (above), (iv) the coda development d > r before /f w/, where articulatory anticipation of the labio-dental/-velar articulation impedes coronal closure, reducing its magnitude to a tap, and (v) sporadic consonantal assimilation /rs/ > /ss/, patterning with /ts ds/ > /ss/.

Finally, we see a diachronic development in Latin /r/. Early onset approximant and coda tap gave way first to an approximant in both positions by the 1st cent. BC, resulting in the erosion of the positional rhotic contrast and the liquid polarity effect. This can be seen in (i) late republican vowel lengthening before coda /r/ (*aarmeis* 'arms (abl.)'), more likely before an approximant than a tap (Kavitskaya 2002), and (ii) later imperial lowering e > a before both onset and coda /r/ (*itarum* 'again', *novarca* 'step-mother'). Finally, grammarians' descriptions of /r/ with 'vibration' from the 3rd cent. AD imply a trill in at least some positions; this may have come about first through a uvular trill given the similarity in tongue body position between this and the back /r/ (Catford 2001:173).

## References


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