

Cyclic domains and prosodic spans in the phonology of European Portuguese functional morphs

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Stratal Optimality Theory imposes tight restrictions upon cyclic effects in phonology. Notably, each cyclic domain must be exactly coextensive with a grammatical constituent (cf. Inkelas 1989): indeed, each grammatical word must define a word-level phonological domain. Similarly, phonological processes applying within smaller cyclic domains must serially precede processes applying within larger domains. From these restrictions it is often possible to deduce precise empirical predictions about the division of labour between cyclic and prosodic effects in instances of morphosyntactic conditioning in phonology. One such instance is the phonological behaviour of functional morphs in European Portuguese, where a striking consilience of morphosyntactic and phonological arguments corroborates the predictions of Stratal Optimality Theory.

Morphosyntactic evidence shows that, in European Portuguese, a pronominal enclitic cluster belongs to the same grammatical word as its verbal host, whereas a pronominal proclitic cluster lies outside the grammatical word containing the verb (Luís forthcoming): enclitics, but not proclitics, trigger arbitrary allomorphy in the verb; proclitics, but not enclitics, take wide scope over coordination; and proclitics, but not enclitics, can be separated from the verb by certain X^0 constituents. This entails that enclitics combine phonologically with the verb at the word level, whereas proclitics do so at the phrase level.

However, the phonological behaviour of enclitics differs markedly from that of demonstrably word-level suffixes: unlike the latter, enclitics are stress-neutral, fail to block nasal glide insertion, fail to trigger front vowel centralization before palatals, and violate phonotactic conditions on the distribution of $[\lambda]$. In a strictly tristratal model (e.g. Kiparsky 2000, Bermúdez-Otero forthcoming), this leaves no alternative to postulating a prosodic difference between word-level suffixes and pronominal enclitics: suffixes incorporate into the prosodic word (ω), whereas enclitics Chomsky-adjoin to ω (Luís 2006).

Gratifyingly, this result can be verified independently. Evidence from stress demonstrates that, like enclitics, word-level prefixes Chomsky-adjoin to ω (Vigário 1999a). This entails that, except for their direction of phonological attachment, prefixes and enclitics should exhibit identical junctural properties, and indeed they do so. At prefix-stem and verb-enclitic boundaries, a hiatus between $[\ə]$ and a following vowel is always resolved by $[j]$ -insertion; $[\ə]$ -deletion does not apply. In contrast, $[j]$ -insertion competes with variable $[\ə]$ -deletion at the boundary between two content words, between a pronominal proclitic and the following verb, or between a forward-leaning function word like the preposition *de* ‘of’ and its host. This fact bears out the prediction that prefixes and enclitics should behave identically, and in addition reveals that hiatus resolution by $[j]$ -insertion at the word level bleeds variable $[\ə]$ -deletion at the phrase level.

Remarkably, this last result provides phonological confirmation for the assignment of pronominal proclitics to the phrase level, which we established above on morphosyntactic grounds. Evidence from relative rates of $[\ə]$ -deletion diagnoses a contrast between the complementizer *que* ‘that’, on the one hand, and proclitics and prepositions, on the other (Vigário 1999a). Since all these elements are phrase-level, their difference must be prosodic: *que* attaches under a φ -node, whereas proclitics and prepositions Chomsky-adjoin to ω . But, in turn, if both prefixes and proclitics Chomsky-adjoin to ω , then their junctural differences must be explained cyclically: prefixes cannot trigger phrase-level $[\ə]$ -deletion because they undergo $[j]$ -insertion at the word level, whereas proclitics can because they do not attach until the phrase level.

The analysis afforded by Stratal Optimality Theory enjoys several advantages. First, it relies on a restrictive version of prosodic theory: appeal to the clitic group is obviated (cf. Vogel 2007); reference to ω -projections suffices (Itô and Mester 2007). Secondly, it exactly converges with the morphosyntactic evidence on the demarcation of grammatical words in European Portuguese (cf. Vigário 1999a, 1999b). Thirdly, it does not require the recognition of so-called ‘special clitics’ (Zwicky 1977) as a separate grammatical category distinct from words and affixes (Bermúdez-Otero and Payne forthcoming; cf. Anderson 2005).

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