

Alignment vs eurhythmic effects on vowel sandhi in Catalan

During the last decade, the behavior of unstressed high vowels as vowels or glides in Catalan has been studied in detail (Bonet & Lloret 1998, Cabré & Prieto in press, Jiménez 1999, Oliva 1992, Recasens 1991, 1993, Prieto 2001, Wheeler forthcoming). In general, these studies agree that sequences of rising and falling sonority are resolved in different ways. In unstressed sequences across word-boundaries both rising and falling diphthongs are possible (e.g., *fac*[j] *amigues*, *dóna* [j]*matges*), even though rising sonority sequences are more resistant to glide formation in other prosodic contexts, namely, when a word ends in a stressed vowel and the following word begins with a high vowel, the most general solution is a falling diphthong (e.g., *cafè* [j]*rlandès*, *comprà* [w]*lleres*). Conversely, when a word ends in an unstressed high vowel and the following word starts with a stressed vowel, glide formation is less prone to occur (e.g., *cant*[u] *àries*, *fac*[i] *aigües*). Some authors have claimed that in the rising sonority cases stress clash competes with the onset condition, preventing glide formation from applying (Bonet & Lloret 1998, Jiménez 1999, Oliva 1977, 1992, Wheeler forthcoming).

The goal of this paper is to account for the resolution of vowel sequences across word-boundaries in Central Catalan and report some new findings coming from the transcription of a corpus of Catalan spontaneous speech (COC, Corpus Oral de Català). First, the data clearly demonstrates that stress clash is not what blocks glide formation from applying in rising sonority sequences, as suggested by Prieto (2001:33) and Recasens (1993:129): thus, *compr*[i 'ɔ] *li* and *pos*[i 'a] *igua* are produced with a hiatus, as well as *compra*-*l*[i 'ɔ] *li*, *posa*-*l*[i 'a] *igua* even though in the latter cases there is no risk of stress clash emerging if glide formation applies. Second, all stressed vowels in word-initial position are parsed as entire syllables in the surface representation and thus tend to prevent both gliding or deletion from the previous syllable: *deman*[u 'ɛ] *ines*, *anàlis*[i 'u] *nica*, *canta-me*-*l*[i 'ɔ] *pera*, *amig*[ə 'ɔ] *rfena*, *catàstrof*[ə 'u] *nica*, *posa-te*-*l*[ə 'a] *ra*. On the contrary, stressed vowels in word-final position do not prevent gliding or deletion from applying: *sofà* *elegant* [a], *camí* *enfangat* [i]; *sabó* *aromàtic* [ɔə], *tabú* *amorós* [wə]; *fuster* *imbècil* [ej], *camí* *ombrívol* [iw], *xampú* *idoni* [uj]. Crucially, this situation can be explained by the crosslinguistic preference for maintenance of syllabic status in word-initial position over word-final position and can offer a unified explanation of vowel sandhi resolutions in Catalan. Finally, the data show a clear contrast between vowel contact resolutions involving different degrees of prominence: that is, when phrasal main stress (or focal stress) is involved hiatuses are more prone to occur than when word stress is subordinated in the phrase (e.g., *parl*[i 'a] *ra* vs. *parl*[j a] *ra mateix*; *parl*[ə 'a] *ra* vs. *parl*[a] *ra mateix*). The blocking effects of nuclear (or sentence-) stress of external sandhi rules have also been observed in Brazilian and European Portuguese (e.g., *Ele* *cómpr*[u] *vas caras* vs. **Ele* *compr*[u] *vas*; cf. Frota 2000, Tenani 2002, Vigário 2003) or in Spanish (e.g., *Como* *en sagrad*[a 'u] *rna*; Navarro Tomás 1926:152).

The analysis will be cast on the Generalized Alignment theory (McCarthy & Prince, 1993) developed within Optimality Theory (Prince and Smolensky 1993), where the notion of edge alignment from Selkirk (1984), ALIGN-XP, is considered to be a ranked

and violable constraint. It will be claimed that the alignment constraint *ALIGN(Stress-Foot, Left, PW, Left)*, which aligns stressed vowels to the left boundary of prosodic words, together with *ALIGN(NUC-Stress, Left, PW, Left)*, which aligns nuclear (or sentence-) stressed vowels to the left boundary of prosodic words, trigger the blocking effects of such stress-bearing units. As mentioned before, this analysis allows for a unified analysis of vowel sandhi resolutions in Catalan involving both gliding and deletion processes. Basically, nuclei properties in Catalan are maintained to preserve both word-initial prominence and sentence-stress prominence. This fact corroborates in part Casali's crosslinguistic results that languages preferentially preserve phonological elements in prominent positions: interestingly, in Catalan the syllabic properties in word-initial position are only maintained when they are 'protected' by stress, indicating that faithfulness to morphological prominent positions is jointly acting together with faithfulness to prosodic heads.

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