

Stress in Spanish: an analysis using layered feet

[Francesc Torres-Tamarit, Universitat Autònoma de Barcelona, francesc.josep.torres@uab.cat]

Stress in Spanish has attracted interest from phonologists due to the occurrence of both regular and exceptional patterns. A key question is how much of the vocabulary can be accounted for by the grammar and how much information must be stored in the lexicon, and by what mechanisms. After more than half a century of research, there are still fundamental issues unresolved: 1. Is the domain of stress assignment the prosodic word or the morphological stem? 2. Is the stress system quantity sensitive or quantity insensitive? 3. To what extent does morphological structure affect phonological structure, and how? Building on previous work, I propose here a comprehensive analysis of Spanish stress that answers all those questions. The analysis combines formalisms that have not been previously explored together: constraint indexation, underlying stress, and layered feet.

I assume that stress in Spanish is stem-final and quantity insensitive (Baković 2016). Regular stress falls on the last vowel of the stem (the penult in words ending in an inflectional affix (1a) and final in words ending in a consonant (1b) or a non-inflectional vowel (1c)). Irregular stress, however, falls on the second-to-last vowel of the stem (the antepenult in words ending in an inflectional affix (2a) and penultimate in words ending in a consonant (2b)), or on the third-to-last vowel of the stem (always the antepenult (2c)).

1. Regular stress in Spanish

- a. ...[']VC]_{St}V (*sabán*]_{St}a ‘savannah’)
- b. ...[']VC]_{St} (*animál*]_{St} ‘animal’)
- c. ...[']V]_{St} (*Panamá*]_{St} ‘Panama’)

2. Irregular stress in Spanish

- a. ...[']VCVC]_{St}V (*sában*]_{St}a ‘sheet’)
- b. ...[']VCVC]_{St} (*caníbal*]_{St} ‘cannibal’)
- c. ...[']VCVCVC]_{St} (*régimen*]_{St} ‘diet’),
(*ímpetu*]_{St} ‘impetus’)

For regular stress (1), I assume that FINALSTRESS (‘Stress is final in the stem’) dominates NONFINALITY (‘Stress is not final in the stem’), based on Baković (2016). Irregular stress in (2a,b) derives from ranking a lexically indexed version of NONFINALITY₍₁₎ above FINALSTRESS. As opposed to Baković (2016), however, I assume metrical feet. In the present analysis, FINALSTRESS dictates whether feet are unmarked syllabic trochees, as in *sa(bán)a*_{Ft} or *ca(níbal)*_{Ft}, or monomoraic, as in *ani(mál)*_{Ft} or *Pana(má)*_{Ft}. The latter two violate FOOTBINARITY (‘Feet must contain at least two moras or syllables’). I further assume that satisfaction of NONFINALITY₍₁₎ can trigger layered feet, as in ((*sába*)_{Ftmin}n)a)_{Ftmax} and the plural form *ca((níba)_{Ftmin}l)es*_{Ftmax} (cf. singular *ca(níbal)*_{Ft}) (cf. Martínez-Paricio 2021). These forms violate *LAYEREDFOOT (‘Feet are maximally disyllabic’). Finally, the three-syllable window in Spanish can be derived from a constraint like ALIGN-Right(*Ft_{max}*, ω) (‘Maximal foot right-align with a prosodic word’), which is undominated in Spanish.

Any comprehensive analysis of Spanish stress must further account for the irregular pattern in (2c), *régimen*], as well as the set of stress patterns found in the plural of C-final forms with irregular stress, not addressed in Baković (2016). Two strategies are observed: (i) stress shifts one syllable to the right (e.g., *régimen*], with antepenultimate stress, and *carácter*], with penultimate stress, give *regímen*]es and *carácter*]es, respectively); and (ii) stress shifts two syllables to the right (e.g., *ómicron*] gives *omícrón*]es) (Ohannesian 2004). These facts are accounted for if we assume a combination of underlying stress, that is, underlying metrical structure, and constraint indexation. (i) *régimen*] has underlying stress on the third-to-last syllable and is also indexed with NONFINALITY₍₁₎. *régimen*] surfaces with antepenultimate stress because IDENTSTRESS dominates *LAYEREDFOOT: ((*régi*)_{Ftmin}men)]_{Ftmax}. In

the plural, NONFINALITY₍₁₎ rules out *regi(mén]es)_{Ft} and ALIGN-Right(Ft_{max}, ω) discards *((régi)_{Ftmin}me)_{Ftmax}n]es in favor of re((gíme)_{Ftmin}n]es)_{Ftmax}. (ii) *ómicron*] also has underlying stress but is not indexed to NONFINALITY₍₁₎. The plural then surfaces with penultimate stress: omi(crónes])_{Ft}. (iii) *carácter*] has no underlying stress, but is indexed to both NONFINALITY₍₁₎ and *LAYEREDFOOT₍₂₎. The latter dominates the former, so layered feet are avoided in the plural: carac(tér]es)_{Ft}, cf. *ca((rácte)_{Ftmin}r]es)_{Ftmax}.

To conclude, the combined use of formalisms of several types (i.e., constraint indexation, underlying stress, and layered feet) links to a scale of markedness. 1. The most marked forms are those which have underlying stress and are indexed (régimen, regímenes; with proparoxytonic stress in both the singular and the plural and stress shift). 2. Then there are forms with underlying stress and no indexation (ómicron, omicrones; with proparoxytonic stress in the singular and paroxytonic stress in the plural and stress shift). 3. The next less marked form is doubly indexed (carácter, caracteres; with paroxytonic stress in both the singular and the plural and stress shift). Finally, there are forms which are indexed to one constraint (caníbal, caníbales; with penultimate stress in the singular and antepenultimate stress in the plural and no stress shift).

References

- Baković, Eric. 2016. Exceptionality in Spanish stress. *Catalan Journal of Linguistics*, **15**, 9–25.
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