

The effect of initial-prosodic boundary on vowel aperture in Galician

Alba Aguete Cajiao

Instituto da Lingua Galega (Universidade de Santiago de Compostela)

alba.aguete@usc.es

There is a recent change in the Galician pretonic vowel system. This change is characterized by the adaptation of the mid-pretonic vowels (in word initial non-onset syllable) as mid-open vowels, which contrast to the traditional mid-closed vowels in such position (Veiga, 1976). Despite the fact that there are some studies in which this change is described (Santamarina, 1972; Taboada, 1979; Porto Dapena, 1977; Regueira, 2008, 2009), not many provide research on the reasons for this change, neither on the acoustic nature of this “new” vowel system. In addition, it seems like this variability is also perceived by speakers. They reveal having a certain degree of uncertainty in their production of pretonic vowels, especially when occurring in words which are newly introduced in Galician.

This behavior diverge from the confidence they have with respect to the opening of stressed vowels, where there is a clear opposition between mid-open and mid-closed vowels. This perception from Galician speakers leads us to consider the possibility that the production of initial vowels could vary depending on prosodic context, and particularly that this change could be triggered by the position of the syllable in an initial prosodic boundary. This idea has its basis in a study made by Fougeron & Keating (1996a, 1996b, 1997), who examine the strengthening in the articulation of vowels in different domains on the prosodic hierarchy.

The hypothesis we propose is that the aforementioned change can be triggered by a prosodic strengthening. This is more specifically an articulatory strengthening in initial prosodic boundary, since, following the idea presented by Fougeron & Keating, this could benefit the strengthening of the syllable and, consequently, the aperture of the vowel.

In order to verify our hypothesis a production experiment with native speakers of Galician has been carried out. Speakers were asked to read a sort of statements where vocalic segments were in initial-boundary position in the different hierarchical prosodic domains. Those vocalic segments were acoustically analyzed, considering F1 and F2 for each vowel. This allows us to look at the aperture of vowels objectively, and to verify if there is variability due to the position of the domain on the hierarchy. If our hypothesis is confirmed, we could accept that the position of the vocalic segment on the prosodic domain is an influential factor in the variability of the vowels when they are in the initial-boundary on the aforementioned domain.

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