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Toward an analysis of Spanish glides in the acoustic landmark framework

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ABSTRACT

Stevens (2002) proposes that the distinctive feature [glide] is signaled by an acoustic landmark, i.e., an amplitude/F1 minimum, usually during a phonated region, but this hypothesis has not been tested extensively in languages other than American English. This study analyzes acoustic realizations of tapped /ɾ/ and trilled /r/ sounds in European Spanish, identifying a range of acoustic realizations for these consonants, including glides, and proposing criteria for identifying Spanish tap and trill landmarks in the speech signal. The speech sample of 200 tokens was drawn from the Albayzin corpus, which includes recordings of read Castillian Spanish from male and female speakers. Tokens were characterized by the number of amplitude minima (or occlusions) as well as the presence or absence of vocal fold vibration and noise. Additional factors analyzed include the rate of amplitude modification (tongue tip vibration), and contextual factors, including word and syllable position, stress, and consonant clusters. These moments of abrupt change (amplitude inflection points) provide cues to the manner features of the speaker's intended words, and are hypothesized to play a significant role in perceptual processing and word recognition. These initial results for /r/ provide the basis for extension of this analysis to other Spanish glides.

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