

An ‘impossible’ opposition: /h/ vs. /h̃/ in North-Eastern Basque

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Two severely endangered North-Eastern varieties of Basque, Zuberoan and Mixean Low Navarrese, have been described with an extremely rare opposition between an oral /h/ and a nasalized aspirate /h̃/ in the phonological literature (Hualde 1993; Egurtzegi 2018). This opposition, which some researchers considered theoretically impossible (see Walker & Pullum 1999), has only been proposed for a handful of languages —Seimat (Oceanic), Kwangali and Thimbukushu (both Bantu)— and no phonetic studies were available for any of them (see Blevins & Egurtzegi 2023). In this talk, I will offer a brief historical account of the processes that gave rise to the nasalized aspirate /h̃/ and show evidence of its opposition with /h/ in the modern Zuberoan and Mixean varieties (as opposed to other accounts, Michelena 1977) before introducing two recent phonetic analyses that show the persistence of these sounds until today.

In Basque, the nasalized aspirate /h̃/ arose from the lenition of an intervocalic *n in words such as Proto-Basque *seni* > Basque *seh̃i* ‘boy, servant’ or Latin *(h)onore(m)* > Basque *oñore* > Zuberoan *uh̃ue* ‘honor’. Lenitions of Latin /n/ in intervocalic position are also attested in Romance languages (including in Gascon, in historical contact with Basque) but no aspirate outcome is reported in the literature (although Sardinian shows [ʔ], Molinu 2022), which makes the development and maintenance of /h̃/ in Basque surprising.

Following Egurtzegi (2018), /h̃/ and /h/ can be argued to contrast in Basque based on the coarticulatory dynamics and distributional restrictions of nasal segments in the language as well as in processes of assimilation and analogical extension involving /h̃/ that strongly suggest its phonemic status. Two recent phonetic studies with speakers of the Mixean (Egurtzegi & Carignan 2020) and Zuberoan (Egurtzegi, García-Covelo & Urrestarazu-Porta 2023) varieties show that a distinction between /h/ and /h̃/ can also be established on phonetic grounds. While the first study provides evidence of the nasal vs. oral categories of aspirates through a Principal Component Analysis including 30 acoustic cues, the second presents a nasalance study that addresses the difference between the two categories based on amplitude differences between the nasal vs. oral signal (see Fig. 1). Nonetheless, these studies also suggest that some speakers have merged the two segments into /h/, and some lexical items have sporadically lost aspirate nasalization.

In short, I will present evidence for an unlikely opposition of aspirates solely based on nasality (/h/ vs. /h̃/), a contrast that has only been documented by studying the phonetic detail of an endangered language, which are too often neglected in phonetic research.

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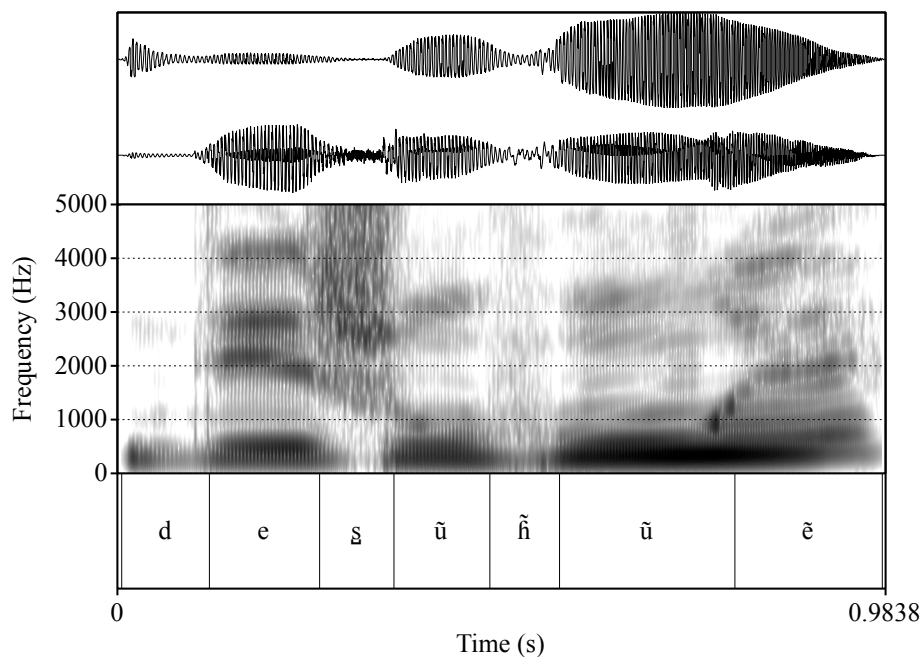


Figure 1: Waveforms and spectrogram of *desuñue* 'dishonor' (Egurtzegi et al. 2023). The upper and lower waveforms correspond to the nasal and oral channel respectively.