

## A quantitative analysis of sibilant mergers in the 18th-century Basque

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The Basque sibilant system is relatively complex: conservative varieties distinguish voiceless fricative-affricate pairs with three places of articulation –lamino-alveolar, apico-alveolar and post-alveolar– (Mitzelena 1977/2011; Hualde 2003).

This system has undergone several changes at different stages of the language. The oldest attested development is a change initiated in the Western varieties of Basque in the 17th century (i.e., the “Western merger”). It involves the neutralisation of the laminal and apical alveolar fricative sibilants in favour of the latter, and the neutralisation of the laminal and apical alveolar affricates in favour of the former. This merger then spread to some central varieties as well. In those central varieties another neutralisation pattern (the “Central merger”) emerged between the 17th and 19th centuries: in this case, both fricative and affricate alveolar sibilants are realised as laminals. In the 18th and 19th centuries, the Central merger is always documented alongside the Western neutralisation, i.e. in the fricative series, both patterns co-occur in the same text (the Western pattern being more frequent). From the 19th century onwards, the Central merger became the prevailing pattern in some central varieties (see e.g. Camino 2000; Beristain 2021).

Research on the history of sibilant mergers in Basque has generally been qualitative, mainly because Basque attestations preceding the 19th-century do not always allow quantitative analyses due its limited size. In this paper, we take advantage of the recent discovery of a relatively extensive manuscript, the “Lubieta’s dictionary”, dated 1728. It includes, in addition to a Spanish-Basque dictionary, texts such as short dialogues, elements of the Basque grammar and a Christian doctrine. It represents the variety of the town of San Sebastián (located in the province of Guipuscoa, in the centre of the Basque Country). The text shows evidence of both patterns of merger described above, namely the Western and the Central merger.

The objective of this paper is to ascertain the degree of development of the Western and Central mergers in the variety of San Sebastián in the middle of the 18th century, whether a potential relation between the two mergers may have existed, and the developments that led to the generalisation of the Central merger in that area.

To this end, we created a database with all the words including sibilants in Lubieta’s dictionary, to then fit a generalised linear mixed-effects model to the data extracted from the text, and analyse the following variables: the phonetic context in which the sibilant appears, the frequency of the lexeme and its type (lexical vs. grammatical).

The results suggest that both sibilant mergers were still in progress in the variety and time period under study and that they are interrelated processes. We suggest that the Western merger started as a phonetically-conditioned sound change due to coarticulation to a following (alveolar) stop. As this neutralisation extended to other contexts, a hypercorrective change was initiated in some Central varieties, which eventually resulted in a mirror-image process, namely a change from apical to laminal alveolar sibilant fricatives that gave rise to a second pattern of merger.

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