Cross-regional differences in the perception and production of a sound change in progress

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In this paper we report a study on the link between the perception and production of the /v/-/f/ contrast in Dutch, as part of a study seeking an answer to the so-called *actuation problem* (Weinreich et al. 1968). The devoicing of word-initial labiodental fricatives has been shown to be a change in progress in Dutch. It is a distinct characteristic of Netherlandic Standard Dutch, but in recent year it also started showing up in Flanders (Kissine et al. 2004). There is regional variation in the degree of devoicing of /v/ and in the acoustic implementation of the /v/-/f/ contrast. On the basis of production studies, five regions in the Dutch language area were selected, geographically representing the sound change:

1) West-Flanders: almost completely voiced /v/
2) Flemish-Brabant: incipient devoicing
3) Limburg: weak devoicing of /v/
4) South-Holland: strong devoicing
5) Groningen: almost complete devoicing

For each region, 20 participants between 18 and 28 years old were selected and participated in a series of production and perception experiments.

First, we discuss the results of a forced-choice categorization task. In this task, the participants had to categorize 405 labiodental fricatives as being either voiced (v) or voiceless (f). The fricatives were phonetically manipulated along two dimensions (degree of periodicity and duration). We found cross-regional differences in perception: the more devoicing in a region, the less categorical the perception. Second, we analyze the production data. All tokens of /v/ and /f/ were measured along the same phonetic dimensions as in the perception task. The production patterns are analyzed (1) cross-regionally and compared to the previous production, and (2) at the individual level, which allows us to investigate the link between the production and perception of variation more accurately.