

A stress test for segmenthood

On the segmental status of preaspiration in Faroese and Icelandic

Preaspiration of fortis stops, which is found (as well as postaspiration) in both Icelandic and Faroese, raises questions about the status of the segment in phonology and its relation of to other types of phonological units (features or prosodic entities). It could be argued, depending on the criteria chosen, that the period of voicelessness which can occur before postvocalic plosives in these languages is the realisation of either a (subsegmental) feature (H or [spread glottis]), a segment or even a suprasegmental prosody. In both languages preaspiration occurs in the (stressable) coda of syllables. Based on the results of a reading task that contrasts accented and unaccented realisations of words containing preaspiration, this paper argues that preaspiration in Icelandic constitutes an “emergent” segment of its own while preaspiration in Faroese does not.

Icelandic preaspiration has by many scholars been seen as segmental in nature (e.g. Hansson 2003). This analysis is based mainly on two pieces of evidence. Firstly, the general duration of preaspiration is much longer than that of postaspiration and it is in fact comparable to that of other segments in the same position (Pétursson 1972). Secondly, preaspiration seems to take part in the “stress matrix” of the rhyme and therefore to be moraic (Árnason 2011). This entails that preaspiration receives “half length” which means that it is lengthened when accented, similarly to other morabearing coda consonants.

In Faroese, the picture is less clear-cut. Phonetic research has shown that preaspiration is relatively shorter than in Icelandic and also somewhat shorter than normal Faroese coda-consonants (Helgason 2002, 2003). Also, the place of preaspiration within the syllable seems to be different from Icelandic, especially as in some dialects of Faroese preaspiration is also found after long vowels (i.e. in or after open syllables), whereas in Icelandic, it only appears after short vowels. Preliminary data reported in Árnason (2011) suggest that Faroese preaspiration is not lengthened when accented, contrary to what is found in Icelandic. If this pattern is confirmed it would strongly point to a non-segmental status of preaspiration in Faroese.

To determine the segmental status of preaspiration within the syllable and in order to compare Icelandic and Faroese preaspiration, a reading task was designed for both languages that contrasts accented and unaccented realisations of cognate words containing preaspiration. Three different structural environments were tested: VHC(:), VHCC and V:HC.

The data show that with accent Icelandic speakers lengthen the [h]-part of the coda (i.e. the preaspiration) whereas Faroese speakers only lengthen the closure duration of the following stop. Therefore, Faroese preaspiration can be analysed as a subsegmental feature of the stop while Icelandic preaspiration can be taken to be segment of its own.

We will discuss the role of prosody (vs. contrast) in determining the segmenthood or not of phonological properties. We will also show that although Icelandic preaspiration is segmental in the sense that prosodically it acts as an independent unit (is moraic), it is only partly independent since it has to be phonotactically licensed by its (historical) source, namely the following plosive.

References:

- ÁRNASON, Kristján (2011), *The Phonology of Icelandic and Faroese*. Oxford: Oxford University Press
- HANSSON, Gunnar Ólafur (2003), 'Laryngeal licensing and laryngeal neutralization in Faroese and Icelandic', *Nordic Journal of Linguistics* 26: 45-79.
- HELGASON, Pétur (2002), *Preaspiration in the Nordic Languages; synchronic and diachronic aspects*. Ph.D. dissertation. Stockholm University Department of Linguistics.
- (2003) 'Faroese preaspiration', in *Proceedings of the XVth International Congress of the Phonetic Sciences, Barcelona, 3-9 August 2003*, pp. 2517-2520.
- PÉTURSSON, Magnús (1972), 'La préaspiration en islandais modern: Examen de sa realisation phonétique chez deux sujets. *Studia Linguistica* 26:61-80.

It has long been assumed that preaspiration in Icelandic constitutes a segment on its own. This analysis is based on both phonetic and phonological grounds: Phonetically, the duration of Icelandic preaspiration is comparable to that of other segments (XXX). Phonologically, vowels preceding preaspiration are short and syllables containing preaspiration must therefore be closed (cf. *hattur* 'hat' [hah.tʏr]). Preaspiration in Faroese is considerably shorter than in Icelandic (XXX) and

In order to show that preaspiration in Faroese is non-segmental it has to be shown that it behaves differently

in Faroese behaves differently from preaspiration in Icelandic with regard to lengthening under stress. This paper seeks to provide further evidence for the non-segmental analysis by means of an experimental production study.

A reading task was prepared for both Icelandic and Faroese that contrasts in stressed and unstressed position by means of differences in focus. For each language, items with three different kinds of phonological structure were selected as targets. The control conditions consisted of words with a VCC-structure (e.g. Far./Ice. *kasta* 'throw') and a VC:-structure (e.g. XXX). The target items displayed a VHC-structure withAll of these items were placed in a carrier sentence that either

The results from the Icelandic participants show that preaspiration behaves like any other mora-bearing segment in the coda. For Faroese, the coda consonant in the control condition (VCC) shows a significant lengthening in stressed position relative to the following plosive. Preaspiration, however, although stable in absolute duration, is shortened relative to the following consonant.

In conclusion, the lack of a lengthening effect for preaspiration in Faroese is taken to be evidence for the analysis of Faroese preaspiration as non-segmental