

Spread Glottis in Faroese: Realization, Neutralization and Representation

Faroese, an insular Scandinavian language closely related to Icelandic, is typical of Germanic languages in that it employs a [spread glottis] contrast in its stop consonants (Iverson & Salmons 1995). This feature's realization (pre-aspiration) and phonological behavior (participation in an apparent overapplication opacity effect), however, are somewhat atypical (Silverman 2003). In this presentation I put forward an Optimality Theory account of the phonology of [sg] in Faroese and argue that the data seen in this language suggest a need to revise the current view of [sg] as a doubly-linked feature, instead making more direct use of the insights of Articulatory Phonology (Browman & Goldstein 1995) to posit an inherent temporal relationship between [sg] and the rest of a segment's features.

Despite being typologically rare and diachronically unstable (Silverman 2003), pre-aspiration seems to function as the unmarked or preferred state of [sg] segments in Faroese. The minimal pairs given in (1) show that the intervocalic [sg] contrast, for instance, is one of pre-aspiration vs. no aspiration. Indeed, this is the case for most environments in Faroese, while obstruent post-aspiration is limited almost exclusively to word-initial position (2), where pre-aspiration is typologically most rare (*ibid*).

(1) Pre-aspiration: intervocalic and word-final stops

a.	[sta ^h p:ɪ]	stappi	'stuff, fill'	(1.sg.pres)
b.	[stap:ɪ]	stabbi	'chopping block'	(masc.sg.nom)
c.	[plɔ ^h t:]	blátt	'blue'	(neut.sg.nom)

The [sg] contrast appears to be neutralized, however, in the non-leftmost members of sequences of Faroese consonants. For example, when the [sg] adjectival suffix /t:/ – seen with the verb-final root *blá-* in (1c) above – is attached to the C-final roots in (2a) and (2b), it surfaces without either pre- or post-aspiration. This ban against aspiration of any kind following another consonant holds distributionally in Faroese as well (e.g. (2c)).

(2) Lack of aspiration following consonants

a.	[sœ ^h kt]	søk-t	'sunken'	(neut.sg.nom)
b.	[spa ^h kt]	spak-t	'calm'	(neut.sg.nom)
c.	[sakt]	sagt	'said'	(supine)

In the same C-sequences, however, sonorants preceding underlyingly [sg] segments surface as voiceless. Generative rule-based approaches might stipulate that the sonorant voicing assimilation takes place before the deletion of the [sg] feature from the following stop – a counterbleeding relationship that results in a surface “overapplication” of the sonorant devoicing rule. As the data given in (3) show using the same [sg] /t:/ suffix as in (1c) and (2a,b) above, a false sonorant voicing contrast is seemingly created by the confluence of these two effects.

(3) Surface sonorant-voicing contrast

a.	[eɪ̯mt]	eymt	'miserable'	(neut.sg.nom)
b.	[eɪ̯mt]	eymd	'misery'	(fem.sg.nom)
c.	[kɪ̯mt]	grimt	'cruel, ferocious'	(neut.sg.nom)
d.	[kɪ̯mtɪ]	grimdi	'become thinner'	(1.sg.pst)

I argue, however, that the [sg] feature is not deleted from the non-leftmost stops. Instead, these stops surface with a glottal opening preceding the stop closure – pre-aspiration as usual – whose acoustic effects either are completely occluded, as in the case of stop-stop sequences, or cause the devoicing seen in sonorant-stop sequences. The phonological opacity seen in these latter sequences, then, is more accurately described as phonetic evidence of the otherwise hidden [sg] feature on the following stop.

Previous accounts of this and similar phenomena in the Icelandic realization of [sg] using autosegmental and OT-oriented phonological theories have accounted for the effects of [sg] beyond its associated segment by positing a rule or constraint which causes [sg] to be doubly-linked, affecting either the preceding or following segment in pre- or post-aspiration, respectively (Ringen 1999, Hansson 2003).

These analyses account for the data, but unfortunately fail to capture the intuition that [sg], and by extension aspiration, is *inherently* realized beyond the edges of its associated segment. That is, aspiration cannot be aspiration without its timing relationship to the onset or offset of a segment's other features; a relationship which cannot be captured easily by strictly linear approaches. In Articulatory Phonology, on the other hand, the timing of and between distinctive gestures is made explicit in phonological representations (Browman & Goldstein 1995). I argue that such a framework allows analysis to capture both the basic Faroese behavior and the “extra-segmental” nature of [sg], or its gestural equivalent.

References

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