

Eskilstuna as the tonal key to Danish

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Abstract

This study considers the distribution of creak/stød in relation to the tonal profile in the variety of Central Swedish (CSw) spoken in Eskilstuna. It is shown that creak/stød correlates with the characteristic HL fall at the end of the intonation phrase and that this fall has earlier timing in Eskilstuna, than in the standard variety of CSw. Also, a tonal shift at the left edge in focused words is seen to instantiate the beginnings of the dialect transition to the Dalabergslag (DB) variety. These features fit into the general hypothesis regarding the origin of Danish stød and its relation to surrounding tonal dialects (Riad, 1998a). A laryngeal mechanism, proposed by Jan Gauffin, which relates low F₀, creak and stød is discussed by Björn Lindblom in a companion paper (this volume).

Background

According to an earlier proposal (Riad, 1998a; 2000ab), the stød that is so characteristic of Standard Danish has developed from a previous tonal system, which has central properties in common with present-day Central Swedish, as spoken in the Mälardal region. This diachronic order has long been the standard view (Kroman, 1947; Ringgaard, 1983; Fischer-Jørgensen, 1989; for a different view, cf. Libermann, 1982), but serious discussion regarding the phonological relation between the tonal systems of Swedish and Norwegian on the one hand, and the Danish stød system on the other, is surprisingly hard to find. Presumably, this is due to both the general lack of pan-Scandinavian perspective in earlier Norwegian and Swedish work on the tonal dialectology (e.g. Fintoft et al., 1978; Bruce and Gårding, 1978), and the reification of stød as a non-tonal phonological object in the Danish research tradition (e.g. Basbøll 1985; 2005).

All signs, however, indicate that stød should be understood in terms of tones, and this goes for phonological representation, as well as for origin and diachronic development. There are the striking lexical correlations between the systems, where stød tends to correlate with accent 1 and absence of stød with accent 2. There

is the typological tendency for stød to occur in the direct vicinity of tonal systems (e.g. Baltic, SE Asian, North Germanic). Also, the phonetic conditioning of stød (Da. *stød basis*), that is, sonority and stress, resembles that of some tonal systems, e.g. Central Franconian (Gussenhoven and van der Vliet, 1999; Peters, 2007). Furthermore, there is the curious markedness reversal as the lexically *non*-correlating stød and accent 2 are usually considered the marked members of their respective oppositions.¹ This indicates that the relation between the systems is not symmetrical. Finally, there is phonetic work that suggests a close relationship between F₀ lowering, creak and stød (Gauffin, 1972ab), as discussed in Lindblom (this volume).

The general structure of the hypothesis as well as several arguments are laid out in some detail in Riad (1998a; 2000ab), where it is claimed that all the elements needed to reconstruct the origin of Danish stød can be found in the dialects of the Mälardal region in Sweden: facultative stød, loss of distinctive accent 2, and a tonal shift from double-peaked to single-peaked accent 2 in the neighbouring dialects. The suggestion, then, is that the Danish system would have originated from a tonal dialect type similar to the one spoken today in Eastern Mälardalen. The development in Danish is due to a slightly different mix of the crucial features. In particular, the loss of distinctive accent 2 combined with the grammaticalization of stød in stressed syllables.

The dialect-geographic argument supports parallel developments. The dialects of Dalabergslagen and Gotland are both systematically related to the dialect of Central Swedish. While the tonal grammar is the same, the tonal make-up is different and this difference can be understood as due to a leftward tonal shift (Riad, 1998b). A parallel relation would hold between the original, but now lost, tonal dialect of Sjælland in Denmark and the surrounding dialects, which remain tonal to this day: South Swedish, South Norwegian and West Norwegian. These are all structurally similar tonal types. It is uncontested, historically and linguistically, that South Swedish and South Norwegian have received many of their distinctive characteristics from Danish, and the prosodic system is no ex-

ception to that development. Furthermore, the tonal system of South Swedish, at least, is sufficiently different from its northern neighbours, the Göta dialects, to make a direct prosodic connection unlikely (Riad, 1998b; 2005). This excludes the putative alternative hypothesis.

In this contribution, I take a closer look at some of the details regarding the relationship between creak/stød and the constellation of tones. The natural place to look is the dialect of Eskilstuna, located to the west of Stockholm, which is key to the understanding of the phonetic development of stød, the tonal shift in the dialect transition from CSw to DB, and the generalization of accent 2. I have used part of the large corpus of interviews collected by Bengt Nordberg and his co-workers in the 60's, and by Eva Sundgren in the 90's, originally for the purpose of large-scale sociolinguistic investigation (see e.g. Nordberg, 1969; Sundgren, 2002). All examples in this article are taken from Nordberg's recordings (cf. Pettersson and Forsberg, 1970). Analysis has been carried out in Praat (Boersma and Weenink, 2009).

Creak/stød as a correlate of HL

Fischer-Jørgensen's F₀ graphs of minimal stød/no-stød pairs show that stød cooccurs with a sharp fall (1989, appendix IV). We take HL to be the most likely tonal configuration for the occurrence of stød, the actual correlate being a L target tone. When the HL configuration occurs in a short space of time, i.e. under compression, and with a truly low target for the L tone, creak and/or stød may result. A hypothesis for the phonetic connection between these phenomena has been worked out by Jan Gaffin (1972ab), cf. Lindblom (2009a; this volume).

The compressed HL contour, the extra low L and the presence of creak/stød are all properties that are frequent in speakers of the Eskilstuna variety of Central Swedish. Bleckert (1987, 116ff.) provides F₀ graphs of the sharp tonal fall, which is known as 'Eskilstuna curl' (Sw. *eskilstunaknorr*) in the folk terminology. Another folk term, 'Eskilstuna creak' (Sw. *eskilstunaknarr*), picks up on the characteristic creak. These terms are both connected with the HL fall which is extra salient in Eskilstuna as well as several other varieties within the so-called 'whine belt' (Sw. *gnällbältet*), compared with the eastward, more standard Central Swedish varieties around Stockholm. Clearly, part of the salience comes directly from the

marked realizational profile of the fall, but there are also distributional factors that likely add to the salience, one of which is the very fact that the most common place for curl is in phrase final position, in the fall from the focal H tone to the boundary L% tone.

Below are a few illustrations of typical instances of fall/curl, creak and stød. Informants are denoted with 'E' for 'Eskilstuna' and a number, as in Pettersson and Forsberg (1970, Table 4), with the addition of 'w' or 'm' for 'woman' and 'man', respectively.

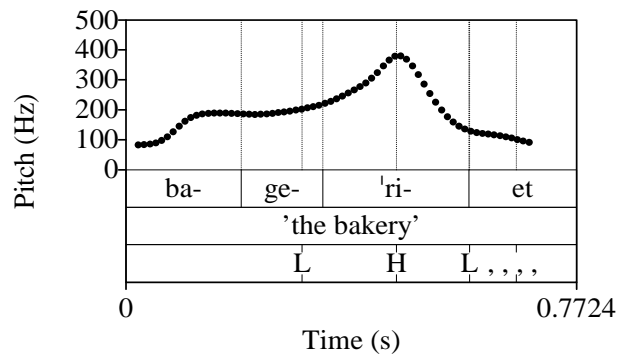


Figure 1. HL% fall/curl followed by creak (marked ', , ,' on the tone tier). E149w: *bage¹¹riet* 'the bakery'.

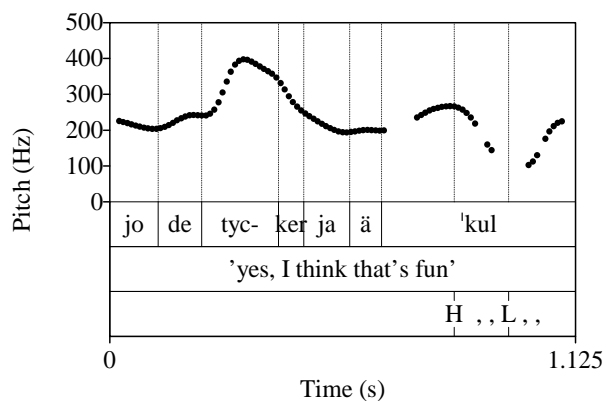


Figure 2. HL% fall interrupted by creak. E106w: *¹¹kul* 'fun'.

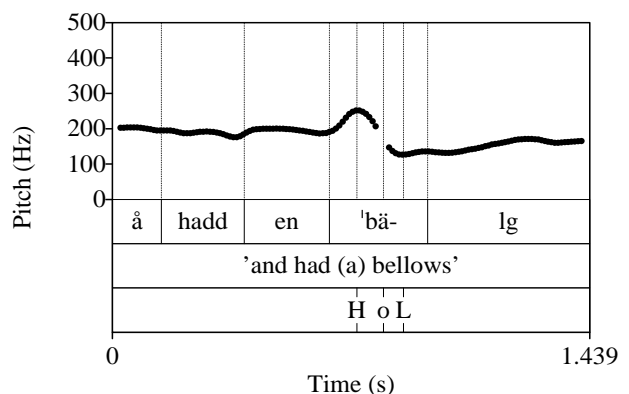


Figure 3. HL% fall interrupted by stød (marked by 'o' on the tone tier). E147w: *¹¹bälg* 'bellows'.

As in Danish, there is often a tonal 'rebound' after the creak/stød, visible as a resumed F0, but not sounding like rising intonation. A striking case is given in Figure 4, where the F0 is registered as rising to equally high frequency as the preceding H, though the auditory impression and phonological interpretation is L%.

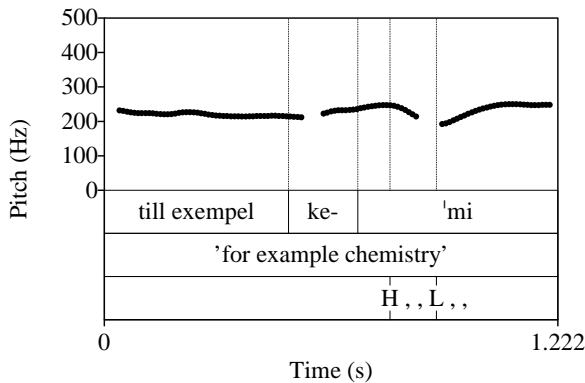


Figure 4. HL% fall with rebound after creak. E106w: *ke*¹*mi* 'chemistry'.

Creaky voice is very common in the speech of several informants, but both creak and stød are facultative properties in the dialect. Unlike Danish, then, there is no phonologization of stød in Eskilstuna. Also, while the most typical context for creak/stød is the HL% fall from focal to boundary tone, there are instances where it occurs in other HL transitions. Figure 5 illustrates a case where there are two instances of creak/stød in one and the same word.

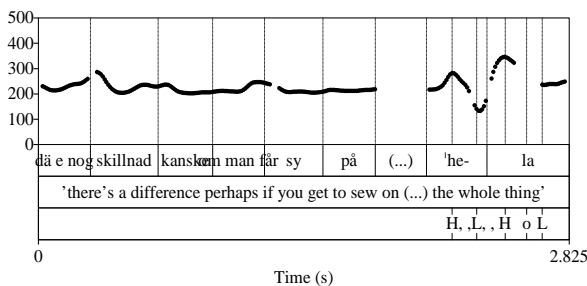


Figure 5. Two HL falls interrupted by creak and stød. E118w: ²*hela* 'the whole'. Stød in an unstressed syllable.

It is not always easy to make a categorical distinction between creak and stød in the vowel. Often, stød is followed by creaky voice, and sometimes creaky voice surrounds a glottal closure. This is as it should be, if we, following Gauffin (1972ab), treat stød and creak as adjacent on a supralaryngeal constriction continuum. Note in this connection that the phenomenon of Danish stød may be realized both as a creak or with a complete closure (Fischer-

Jørgensen 1989, 8). In Gauffin's proposal, the supralaryngeal constriction, originally a property used for vegetative purposes, could be used also to bring about quick F0 lowering, cf. Lindblom (2009a; this volume). For our purposes of connecting a tonal system with a stød system, it is important to keep in mind that there exists a natural connection between L tone, creaky voice and stød.

The distribution of HL%

The HL% fall in Eskilstuna exhibits some distributional differences compared with standard Central Swedish. In the standard variety of Central Swedish (e.g. the one described in Bruce, 1977; Gussenhoven, 2004), the tonal structure of accent 1 is LHL% where the first L is associated in the stressed syllable. The same tonal structure holds in the latter part of compounds, where the corresponding L is associated in the last stressed syllable. This is schematically illustrated in Figure 6.

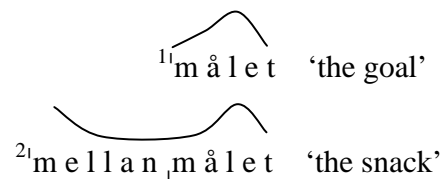


Figure 6. The LHL% contour in standard CSw accent 1 simplex and accent 2 compounds.

In both cases the last or only stress begins L, after which there is a HL% fall. In the Eskilstuna variety, the timing of the final fall tends to be earlier than in the more standard CSw varieties. Often, it is not the first L of LHL% which is associated, but rather the H tone. This holds true of both monosyllabic simplex forms and compounds.

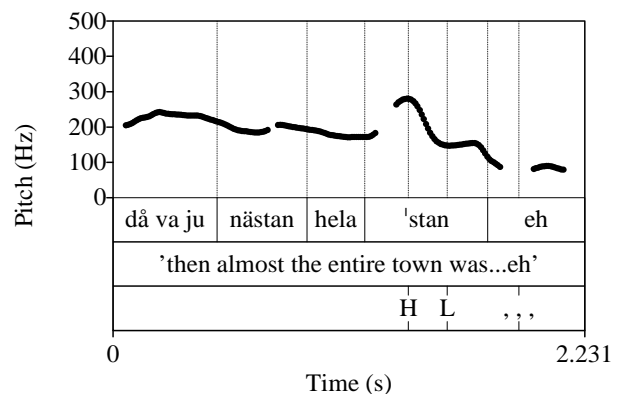


Figure 7. Earlier timing of final HL% fall in simplex accent 1. E8w: ¹*stan* 'the town'.

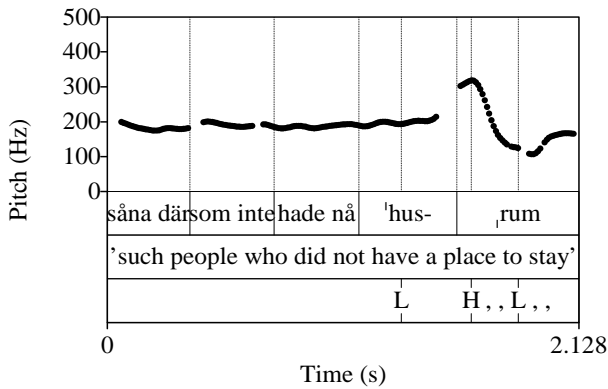


Figure 8. Earlier timing of final HL% fall in compound accent 2. E8w: ²*hus₁rum* 'place to stay'

Another indication of the early timing of HL% occurs in accent 2 trisyllabic simplex forms, where the second peak occurs with great regularity in the second syllable.

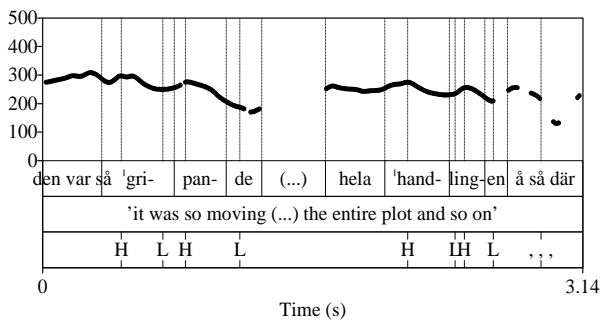


Figure 9. Early timing of HL% in trisyllabic accent 2 forms. E106w: ²*gri₁pande* 'moving', ²*hand₁lingen* 'the plot'.

In standard CSw the second peak is variably realized in either the second or third syllable (according to factors not fully worked out), a feature that points to a southward relationship with the Göta dialects, where the later realization is rule.

The compression and leftward shift at the end of the focused word has consequences also for the initial part of the accent 2 contour. The lexical or postlexical accent 2 tone in CSw is H. In simplex forms, this H tone is associated to the only stressed syllable (e.g. Figure 5 ²*hela* 'the whole'), and in compounds the H tone is associated to the *first* stressed syllable (Figure 6). In some of the informants' speech, there has been a shift of tones at this end of the focus domain, too. We can see this in the compound ²*hus₁rum* 'place to stay' in Figure 8. The first stress of the compound is associated to a L tone rather than the expected H tone of standard CSw. In fact, the H tone is missing altogether.

Simplex accent 2 exhibits the same property, cf. Figure 10.

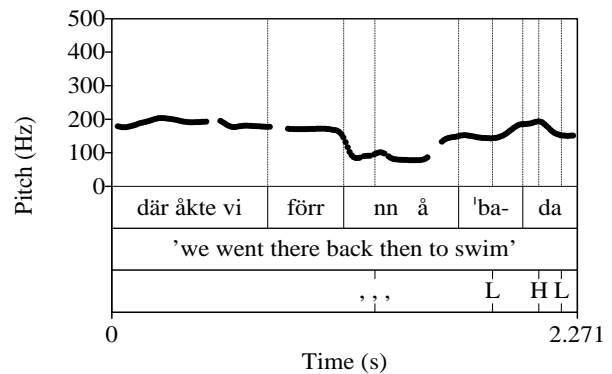


Figure 10. Lexical L tone in the main stress syllable of simplex accent 2. Earlier timing of final HL% fall. E8w: ²*bada* 'swim'.

Listening to speaker E8w (Figures 7, 8, 10, 11), one clearly hear some features that are characteristic of the Dalabergslag dialect (DB), spoken northwestward of Eskilstuna. In this dialect, the lexical/post-lexical tone of accent 2 is L, and the latter part of the contour is HL%. However, it would not be right to simply classify this informant and others sounding much like her as DB speakers, as the intonation in compounds is different from that of DB proper. In DB proper there is a sharp LH rise on the primary stress of compounds, followed by a plateau (cf. Figure 12). This is not the case in this Eskilstuna variety where the rise does not occur until the final stress.² The pattern is the same in longer compounds, too, as illustrated in Figure 11.

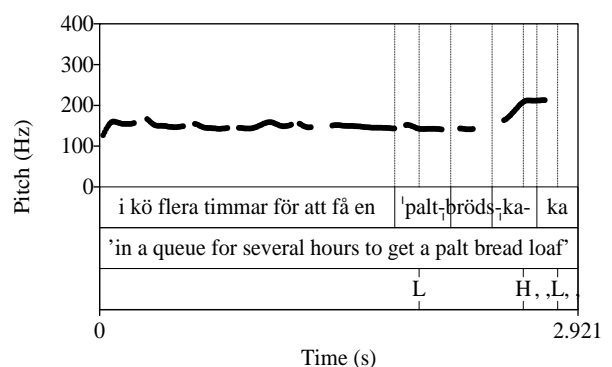


Figure 11. Postlexical L tone in the main stress syllable of compound accent 2. E8w: ²*palt₁bröds₁kaka* 'palt bread loaf'.

Due to the extra space afforded by a final unstressed syllable in Figure 11, the final fall is later timed than in Figure 8, but equally abrupt.

Variation in Eskilstuna and the reconstruction of Danish

The variation among Eskilstuna speakers with regard to whether they sound more like the CSw or DB dialect types can be diagnosed in a simple way by looking at the lexical/post-lexical tone of accent 2. In CSw it is H (cf. Figure 5), in DB it is L (cf. Figure 10). Interestingly, this tonal variation appears to co-vary with the realization of creak/stød, at least for the speakers I have looked at so far. The generalization appears to be that the HL% fall is more noticeable with the Eskilstuna speakers that sound more Central Swedish, that is, E106w, E47w, E147w, E67w and E118w. The speakers E8w, E8m and E149w sound more like DB and they exhibit less pronounced falls, and less creak/stød. This patterning can be understood in terms of compression.

According to the general hypothesis, the DB variety as spoken further to the northwest of Eskilstuna is a response to the compression instantiated by curl, hence that the DB variety spoken has developed from an earlier Eskilstuna-like system (Riad 2000ab). By shifting the other tones of the focus contour to the left, the compression is relieved. As a consequence, creak/stød should also be expected to occur less regularly. The relationship between the dialects is schematically depicted for accent 2 simplex and compounds in Figure 12. Arrows indicate where things have happened relative to the preceding variety.

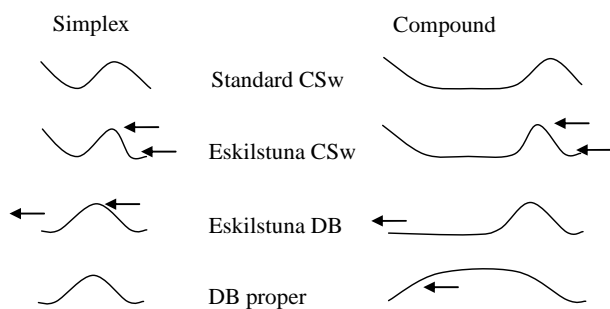


Figure 12. Schematic picture of the tonal shift in accent 2 simplex and compounds.

The tonal variation within Eskilstuna thus allows us to tentatively propose an order of diachronic events, where the DB variety should be seen as a development from a double-peak system like the one in CSw, i.e. going from top to bottom in Figure 12. Analogously, we would assume a similar relationship between the for-

mer tonal dialect in Sjælland and the surrounding tonal dialects of South Swedish, South Norwegian and West Norwegian.

The further development within Sjælland Danish, involves the phonologization of stød and the loss of the tonal distinction. The reconstruction of these events finds support in the phenomenon of generalized accent 2, also found in Eastern Mälardalen. Geographically, the area which has this pattern is to the east of Eskilstuna. The border between curl and generalized accent 2 is crisp and the tonal structure is clearly CSw in character. The loss of distinctive accent 2 by generalization of the pattern to all relevant disyllables can thus also be connected to a system like that found in Eskilstuna, in particular the variety with compression and relatively frequent creak/stød (Eskilstuna CSw in Figure 12). For further aspects of the hypothesis and arguments in relation to Danish, cf. Riad (1998a, 2000ab).

Conclusion

The tonal dialects within Scandinavia are quite tightly connected, both as regards tonal representation and tonal grammar, a fact that rather limits the number of possible developments (Riad 1998b). This makes it possible to reconstruct a historical development from a now lost tonal system in Denmark to the present-day stød system. We rely primarily on the rich tonal variation within the Eastern Mälardal region, where Eskilstuna and the surrounding varieties provide several phonetic, distributional, dialectological, geographical and representational pieces of the puzzle that prosodic reconstruction involves.

Acknowledgements

I am indebted to Bengt Nordberg for providing me with cds of his 1967 recordings in Eskilstuna. Professor Nordberg has been of invaluable help in selecting representative informants for the various properties that I was looking for in this dialect.

Notes

1. For a different view of the markedness issue, cf. Lahiri, Wetterlin, and Jönsson-Steiner (2005)
2. There are other differences (e.g. in the realization of accent 1), which are left out of this presentation.

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