Evolutionary Optimality Theory (eOT) and the typology and diachrony of Scandinavian pitch accent

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In this talk I propose to understand OT, not as a theory of I-language as conventionally assumed (Prince and Smolensky 1993), but as a theory of the evolutionary possibilities latent in a language at a given stage in its history, assuming ‘normal’ conditions of language transmission that allow gradual, regular, non-contact-induced, neo-grammatician change. Evolutionary OT, or eOT, has largely the same formal properties as Classical OT, except that constraints are understood as belonging to the E-language domain, bringing typology closer to diachrony. Also essential is that the ‘base’ in eOT corresponds to actually occurring forms at the relevant stage of the language (the base is not ‘rich’), and so opacity and ungrounded phenomena are taken to inhere in the base itself: they do not have to be accommodated within the typology. The question of how I-linguistic phonological knowledge is to be described is left open here.

For my talk, I propose to elucidate the typology and diachrony of Scandinavian pitch accent. Most dialects of Scandinavian have a lexical pitch accent distinction (Accent 1 vs. Accent 2), which owes its existence to the opacification of allophonic variation. For Old Norse we can reconstruct the initial stressed syllable of the word as bearing a H tone (contra D’Alquen and Brown 1992; Riad 1998a). This is the null hypothesis since it is cross-linguistically unmarked (de Lacy 1999). In words of more than one syllable, a lag arose in the realization of the H tone peak (Lorentz 2001, 2002). In monosyllabic words, however, this peak delay did not apply. Subsequent encliticization of the definite article (and himn—anden, Sw. ‘the duck’) and epenthesis into word-final rising sonority clusters (fugl—fugæl, No. ‘bird’) lexicalized the distribution of delayed and non-delayed H tone.

In Modern Scandinavian, the realization of the pitch accent distinction varies widely on a dialect to dialect basis (Meyer 1937, 1954), although the variation reduces essentially to four major types (Gårding and Lindblad 1973; Gårding 1977; Fintoft and Mjaavatn 1980; Bailey 1990), cross-classified by two parameters: peak timing and number of peaks. (2) illustrates how tone is mapped to syllables for disyllabic words (generally ðð). The typology has received some attention in the OT literature (Lorentz 1995; Riad 1998b), but has not so far been put in the context of de Lacy’s restrictive theory of the interaction of tone and stress. This theory entails that head syllables prefer H over L (1-a), while non-head syllables prefer L over H (1-b). Initially problematic for de Lacy’s view, though, is the fact that many dialects associate a low tone to the stressed syllable and/or a high tone to the unstressed syllable. Nevertheless, it is possible to preserve de Lacy’s universal ranking by assuming that such patterns only occur when *H/L or *NONH/D are outranked by DELAY PEAK/TRough, which requires that tone (H/L) must be offset with respect to the head mora of the syllable that sponsors it by a single mora (cf. Yip 2002). We don’t have to assume, for example, that *HD/H dominates *HD/L in any language. For our purposes, we can view delay as entailing the insertion of a tone of a polarity opposite to that of the delayed tone.

My second claim is that both of the Gårding-Lindblad parameters may be seen as falling out from the persistent satisfaction of DELPK/TR at different historical periods relative to different bases. The advantage of this is clear: it helps keep the number of constraints to a minimum, making for restrictive typologies. The first round of peak delay (followed by opacifying encliticization and epenthesis) gives 1A. 1A then provides the base to 1B, in which a further application of peak delay occurs. The result is the displacement of H one mora further to the right. In Accent 2 in 1B, delay is additionally accompanied by multiple linking of the L tone introduced by the the first application. Type 2 dialects contain two H tone peaks, which we can again understand as arising through persistent satisfaction of DELPK/TR. The base of 2A is 1B, with delay of the trough in Accent 2. In this case, the L delinks ceding the mora it occupied formerly to a H tone. Finally, 2B is the most innovative type, having repeated peak delay accompanied by the spreading of L. eOT thus facilitates a restrictive account of the Scandinavian pitch accent data with obvious implications for any diachronic explanation. In general, eOT forces us to construct restrictive typologies which are accountable to the data on dialect phenomena and their geographical distribution.
Further, by locating constraints in E-language, the proposal liberates OT to do what it does best in a way which does not run the gauntlet of recent critiques of ‘substance abuse’ in phonology (e.g. Hale and Reiss 2000).

(1) a. *HD/L≫*HD/M≫*HD/H
    b. *NONHD/H≫*NONHD/M≫*NONHD/L

(2) **Gårding-Lindblad typology**

<table>
<thead>
<tr>
<th>Type</th>
<th>Accent 1</th>
<th>Accent 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>[σ μ μ]</td>
<td>[σ μ]</td>
</tr>
<tr>
<td>1B</td>
<td>[σ μ μ]</td>
<td>[σ μ]</td>
</tr>
<tr>
<td>2A</td>
<td>[L H]</td>
<td>[H L]</td>
</tr>
<tr>
<td>2B</td>
<td>[L H]</td>
<td>[H L]</td>
</tr>
</tbody>
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**References**


