Icelandic Umlaut as Morpheme-Specific Phonology
Anton Karl Ingason
University of Pennsylvania

We investigate the triggering environments of the Icelandic y-umlaut, showing that an analysis based on phonological conditioning is not tenable. The umlaut pattern surfaces if and only if specific trigger morphemes are present in the input. We formalize such an approach in terms of Morpheme-Specific Phonology in the sense of Pater (2009).

Background: The y-umlaut is the modern reflex of the Old Icelandic u-umlaut. In the general case, /a/ surfaces as /œ/ whenever /y/ occurs in the following syllable (1), as in (2).

(1) \(a \rightarrow õ /_C_0Y.\)

A phonological effect of type (2) is robustly productive and uniform. Problematically, the generalization *aCy is not surface true and the /a/ \(\sim /œ/\) alternation is equally productive with silent trigger morphemes as y-morphemes. Two types of solutions exist. Approach P proposes additional rules or constraints, modified underlying structures, and/or crucial assumptions about the architecture of the grammar (Valfells 1967; Anderson 1969a,b; Rögnvaldsson 1981; Kiparsky 1985; Gibson and Ringen 2000; Jurgec 2011), but runs into empirical problems (below). Approach MP suggests a morphophonological phenomenon of some sort (Arnason 2005; Markisson 2012; Þorgeirsson 2012), but a formal implementation is lacking.

The failure of Approach P: All analyses within Approach P use some combination of the following theoretical tools: (i) Final y-deletion has been used to avoid reference to silent triggers (e.g. neuter nominative plural), reconstructing the following development from Proto-Norse.

(3) UR (Proto-Norse) /barn-u/ ‘children.NOM.PL.’
Umlaut: /bœrn-u/
Final-u deletion: /bœrn-∅/ (Mod.Ice. /pœtn/)

Numerous y-final words provide counterexamples, e.g. stelpu ‘girl.ACC/DAT/GEN’ with no signs of deletion. (ii) y-epenthesis is assumed by several analyses, reconstructing an Old Icelandic sound change, counterfeedingly deriving the lack of umlaut in modern /taYr/ ‘day.NOM.SG.’:

(4) UR (Old Icelandic): /taY-r/ ‘day.NOM.SG.’
Umlaut: /taY-r/
Epenthesis: /taY-Yr/

There is little reason for a modern child to assume an underlying /-r/ nominative singular and an epenthesis rule, and problematically the epenthesis generalization is also not surface true. No /Y/ is inserted in [flœ:Yr] and the /-r/ \(\sim /-Yr/\) distinction is contrastive.

(5) flögr, [flœ:Yr] ‘flying-NEUT.NOM.SG.’ (deverbal) \(\sim flögur [flœ:Yr] \) ‘snacks-FEM.NOM.PL.’

The synchronic motivation for y-epenthesis is weak and it requires even further stipulations to explain (5). (iii) Derived environments are invoked in some analyses (e.g. Rögnvaldsson 1981; Kiparsky 1985) to explain why the umlaut is not triggered in (6)-a. However, non-triggering before /-ys/ requires further explanation since cuteness nicknames of type (6)-b are derived, do not undergo the umlaut, and /-ys/ \(\sim /-s/\) is contrastive, so /Y/ here is not epenthetic.

   b. Hrafn-us, [rapnys], from Hrafn, Add-us [at:ys], from Addi, Sar-us [sa:rvs] from Sara
The empirical concerns surrounding the tools above are amplified by the fact that these analyses also require (iv) morpheme-specific triggering and (v) floating features or some equivalent alternative when the modern trigger is silent, e.g. (3). In fact, (iv-v) in some form are necessary and sufficient to account for the core pattern, and we do not need historical phonology, such as the epenthesis rule in (4), to be part of the modern linguistic competence.

Morpheme-Specific Phonology Analysis: Following (Gibson and Ringen 2000), we assume that a COINCIDECOLOR constraint is violated if [-back,+round] features on a suffix fail to spread to a root. Details of the spread analysis are unimportant here as long as they capture a bifurcational ‘sour grape’ spread scenario (Padgett 1995). A COINC-Col-L constraint is co-indexed with trigger morphemes, e.g. /-ym.DAT.Pl./, but not /-ys.NICKNAME/. A unidirectional faithfulness constraint (see Pater 1999), Id-I→O[ROUND], is violated by unrounding which therefore is not available to satisfy the harmony constraint. IDENT-IO is violated for each input-output feature mismatch. Our analysis of triggering and non-triggering is exemplified by (7) and (8) respectively.

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<tr>
<th>Basic umlaut effect, döyum ‘days-DAT.Pl.’ (indexed dative plural morpheme)</th>
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<tbody>
<tr>
<td>[tax-ym-DAT.Pl.]</td>
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<tr>
<td>a. taxyym</td>
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<tr>
<td>b. tœxyym</td>
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<td>c. ta:gyym</td>
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<tr>
<th>Non-triggering with /-ys/, Hrafnus ‘Hrafn.Nickname’</th>
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<tr>
<td>[rapn-ys.NICKNAME]</td>
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<td>a. rœp:nymys</td>
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Conclusion and Further Issues: A purely phonological generalization in the spirit of (1) does not hold up empirically. Triggering must be licensed by specific morphemes. The indexed constraints approach captures the intuition that the effect is phonological, while positioning the umlaut within a literature on the nature of exceptional morpheme-associated triggering. In the talk, we also discuss cases of so-called ‘iterative’ application of the umlaut, a case of harmony which can variably target a syllable or a larger constituent. These facts can be neatly captured in our analysis under standard optimality-theoretic variation frameworks.

References

Pater, Joe. 1999. 8 Austronesian nasal substitution and other NĪ effects. The prosody-morphology interface 79:310.