West Nordic umlaut, Old Norwegian vowel harmony, and the life cycle

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In Icelandic, umlaut applies to round *a* to *ö* before a following etymological *u*. In the absence of this trigger, *a* is preserved. However, *u*-umlaut also fails to apply in contexts where we would expect it should. It is lacking in certain definite contexts, e.g. *and-a-n-um* (**önd-u-n-um*) 'breath-DAT.SG-DEF-DAT.M.SG', as well as preceding historically epenthetic *u* (*dag-ur* < Old Ice. *dag-r*).

Umlaut also displays some degree of morphologization, e.g., as the sole marker of the the plural in *barn* vs. *börn* "child"-NOM.SG./PL., and lexicalization in a wide variety of stems, e.g., *söng-* < Proto-Norse **sangw-* "song". The diverse range of (non-phonological) exceptions to *u*-umlaut raise questions whether "it is still 'productive', 'phonological', or even a 'process' in any meaningful sense" (Gunnar Hansson 2013). (See also Hansson and Wiese 2024 and Árnason 2011 for overviews).

This paper sets out to clarify the synchrony and diachrony of *u*-umlaut using data from an understudied West Nordic language, which has not so far figured in the debate: Old Norwegian as documented in manuscript evidence from the 12th to the 14th centuries. Our analysis will be couched in terms of Stratal OT (Bermúdez-Otero 2018; Kiparsky 2015) and the life cycle theory (Bermúdez-Otero 2015).

Old Norwegian *u*-umlaut exhibits the same form as Icelandic but additionally displays two critical components that cast light on the exceptions. First, Old Norwegian features word-level progressive vowel height harmony (Hødnebø 1977; Hagland 1978; Myrvoll 2014), which lowers underlying high vowels following non-high vowels, e.g. /skip-i/ 'ship-DAT.SG' vs. /segl-e/ 'sail-DAT.SG'; /skip-um/ 'ship-DAT.PL' vs. /segl-om/ 'sail-DAT.PL'. Second, Old Norwegian displays cross-dialectal variation in the underlying form of the definite suffix (/-in-/ vs. /-en-/), with distinct patterns of progressive height harmony, e.g. *in*-dialects: /hug-in-um/ → ['hug-in-um] 'mind-DEF-DAT.M.SG'; *en*-dialects: /hug-en-um/ → ['hug-en-om] 'mind-DEF-DAT.M.SG'. These contrasting definite suffix harmony patterns reveal previously unrecognized unstressed vowel deletions (Sandstedt 2017; Sandstedt 2018), which counterfeed *u*-umlaut (5).

We present a synchronic account of *u*-umlaut and progressive vowel harmony as stem- and word-level processes respectively. In diachronic terms, chronologically older *u*-umlaut has ascended through the life-cycle (evidenced by the morphologization/lexicalization of *u*-umlaut patterns). By comparison, chronologically younger vowel height harmony and vowel deletion patterns show only evidence of being bounded by the word.

Stem-level *u*-umlaut bleeds the application of word-level height harmony since the umlaut-product vowel [ɔ] is a neutral (non-lowering) vowel (e.g., stem-level /and-um/ → [ɔndum], not *[andom] "breath"-DAT.PL.; Johnsen 2003). *U*-umlaut itself is blocked by an intervening unstressed syllable, e.g., /and-a-**en**-um/. It is counterfed in both languages by word-level vowel deletion targeting the first in a sequence of two unstressed vowels, e.g., /and-a-**en**-um/ → [andanom], not *[andɔnum]. This opaque interaction produces the apparent underapplication of *u*-umlaut in Icelandic [and<u>anu</u>m] and indirectly feeds vowel height harmony in Old Norwegian [and<u>ano</u>m].

In sum, the geographic and chronological microvariation among modern and historical West Nordic dialects reveals previously unrecognized systematicities in the intricate interactions between *u*-umlaut, vowel height harmony, and unstressed vowel deletions, clarifying the grammatical status of these processes across dialects.