

American Norwegian derivational morphology in contact

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Heritage languages (HLs) reliably exhibit morphological patterns prone to change and restructuring. Yet, American Norwegian appears to be remarkably stable in terms of structure, although with some surface variability. Contact patterns have nevertheless long been observed, where original English loanwords receive Norwegian inflectional morphology. Although there is robust evidence for inflectional patterns undergoing both variation and language mixing, there is less work on the outcomes of derivational processes in language contact. We investigate the impact of HL-bilingualism on American Norwegian derivational patterns. Our analysis of corpus data demonstrates a general lack of language mixing in derivations, which supports a long-standing observation in contact linguistics that this material is borrowed as whole lexical items rather than as individual morphemes. This work contributes to our understanding of the relationship between grammatical representations and contact-induced change, further demonstrating the insights into the architecture of bilingual morphosyntax that (moribund) heritage languages provide.

Keywords: American Norwegian, morphology, derivation, language contact, heritage languages

1. Introduction

In this paper, we examine American Norwegian (AmNo) derivational morphology, with a particular focus on language mixing. This exploratory investigation draws on recent corpus data, expanding on Haugen's (1950) work on English borrowings in AmNo. Our aim is to investigate whether there is evidence of mixed derivations, or whether English derivational material is borrowed exclusively in whole words. We find that derivations, contrary to inflectional morphology and compounding, are generally language-consistent. Although there are some limited exceptions, Norwegian roots occur with Norwegian derivational affixes and English roots with English affixes. These findings are consistent with older findings for AmNo (Haugen 1950) and with van Coetsem's (1988, 2000) framework, where derived words typically pattern with unique, i.e., underived, lexical items. These preliminary findings highlight areas of further investigation into AmNo and other heritage language (HL) word formation processes, which contributes to our understanding of the nature of the bilingual lexicon and grammar.

The remainder of this paper is structured as follows: In Section 2, we provide an overview of studies on HL morphological patterns, with a focus on AmNo, and

discuss theoretical background. We outline our method in Section 3 before presenting results in Section 4. In Section 5, we offer some concluding remarks and avenues for future work.

2. American Norwegian derivational morphology and language contact

Morphological patterns in HLs are a robust area of investigation and inquiry. For AmNo, a considerable amount of research has been devoted to inflectional morphology related to grammatical gender (Johannessen & Larsson 2015; Lohndal & Westergaard 2016), tense (Lykke 2020), and definiteness (van Baal 2020). These studies show differences in the distributions of morphemes, rather than a loss of the inflectional paradigms altogether (cf. Yager et al. 2015). What is more, there is clear evidence of the co-occurrence of AmNo inflectional morphology with borrowed English lexical items (see Haugen 1969; Riksem 2018a; Riksem et al. 2019), which we view as support for the maintenance of heritage language inflectional systems, broadly construed. Compounding may likewise involve items from both languages, with English and Norwegian heads (Eik & Riksem 2022; Riksem 2018b). This pattern further demonstrates that word-building processes in AmNo operate using a bilingual repertoire (Matras 2009). We view these as operations in an integrated, bilingual grammar (Putnam et al. 2018), where word and sentence building processes and linguistic material are not marked as “Norwegian” or “English.”

In contrast to compounding and inflectional morphology, derivational morphology has not been as systematically investigated in AmNo. In an early investigation, Einar Haugen maintains that the co-occurrence of English stems with Norwegian derivational morphemes is rare, due to the lack of their productivity and brief period of contact with English (1950: 221). In general, the length of contact appears to be a critical factor for other instances of borrowed derivational morphology (Trips 2014; Winford 2005). It is therefore possible that contemporary AmNo speakers evince higher rates of mixing with respect to derivational morphology than Haugen’s (1950, 1969) informants, although contemporary work on language mixing suggests lower rates for derivations than for both inflectional morphology and compounding (Riksem 2018b). On the other hand, contemporary Spanish-German heritage speakers have productively borrowed the German verbalizer *-(is)ieren* in their Spanish (Fábregas & Rothman 2021; González-Vilbazo 2005). In other words, it is not impossible for derivational morphology to be borrowed, even after a relatively short period of time, as for the Spanish-German speakers.

We view outcomes of language contact, here discussed as language mixing, as the result of what van Coetsem (1988, 2000) refers to as recipient language (RL) agentivity and source language (SL) agentivity. These processes were proposed to represent asymmetries in both the directionality and linguistic content of mixing when speakers are more proficient in one language over another. Specifically, RL agentivity – or *borrowing* – occurs when speaking the more proficient language, while using material from the less proficient language; SL agentivity – or

imposition – on the other hand, describes the reverse situation, where an individual speaks the less proficient language with features of the more proficient one (van Coetsem 1988). For our purposes, the distinction concerns the types of material that the processes tend to affect. RL agentivity primarily involves vocabulary items, while SL agentivity targets grammatical structures (van Coetsem 1988). Based on the relative stability of material, van Coetsem (2000) argues that morphology is split across processes, with inflectional systems patterning with grammatical structures and derivational morphology being considered a subset of the vocabulary that also includes lexical items. Howell (1993: 189) presents this relationship between contact processes and the relative stability, i.e., a stability gradient, as in Table 1. Stability here can be understood in terms of how systematic the mixing outcomes are: RL agentivity reflects the borrowing of individual items, and SL agentivity involves the use of an overarching grammatical system.

Table 1: Stability gradient in language contact (Howell 1993)

RL agentivity		SL agentivity
More open to borrowing	→	Less open to borrowing
Less open to imposition	←	More open to imposition
Less stable domains (Lexical items, derivational morphology)		More stable domains (Phonology, inflectional morphology, syntax, semantic system)

These types of patterns may present themselves clearly among certain types of bilinguals, for example adult second-language learners where there is a clear difference in proficiency. However, the situation is more complicated for other groups, and particularly for heritage language speakers of the kind in this study, who have likely experienced various degrees of relative linguistic dominance in their two languages and who are likely to be proficient enough in their languages such that both processes can occur in tandem (van Coetsem 1988: 87). For AmNo, stability in the structural domains explains the high incidence of borrowing English lexical items, including as parts of compounds, within the grammatical structures that require Norwegian inflectional morphology, as described by Riksem (2018a, 2018b).

Without additional caveats, this model predicts similar mixing patterns with derivational affixes as with lexical items. However, based on earlier descriptions, especially Haugen (1950), English derivational affixes had not been freely borrowed and integrated into the AmNo derivational system to the same extent that independent words from English had been adopted and fully integrated into the AmNo vocabulary. In fact, we find a similar asymmetry in English, a language that today has productive derivational content borrowed from French, e.g., the prefixes *dis-* and *de-* and the suffixes *-able* and *-ify* (Winford 2005). Trips (2014) finds a gradual development over approximately three centuries between the time when

-able is solely borrowed as a part of French words to the time when it becomes a productive affix, occurring with Germanic vocabulary, such as *knowable*. Although English had experienced centuries of contact with French, the overall effect on English derivation morphology is rather limited, particularly in comparison with its impact on English vocabulary (Matras 2009: 211). This situation echoes the rarity of Norwegian-English language mixing in derivations, according to Haugen (1950). In the following section, we present the method for our initial investigation into whether this observation still holds for AmNo.

3. Methods

We used data from the most recent version (v.3.1)¹ of the Corpus of American Nordic Speech (CANS) (Johannessen 2015) to investigate AmNo derivational morphology. This corpus includes recordings of Norwegian and Swedish, with the Norwegian portion including approximately 730,000 tokens from 246 individual speakers. CANS houses recordings from 1931, 1936, 1937, 1942, 1987, 1990, 1992, and the period 2010–2016. Most of the recordings are from 2010 and later. Since this is an explorative study, we included the entire Norwegian part of CANS, irrespective of when and by whom the data were collected. Tracking development over time is not possible with the small number of mixed items we found. Still, we selectively include the year of recording in examples that demonstrate derivational mixing. The data were furthermore not divided based the speaker’s place of residence or other factors.

CANS was searched for two sets of derivational morphemes: one set of Norwegian origin, given in (1), and one set of English origin, in (2). The sets in (1) and (2) are not exhaustive lists, but they are common and serve as an initial point of departure for this exploration.

- (1) Included Norwegian-origin morphemes
 - a. *-bar* as in *bruk-bar* ‘useable’
 - b. *-lig* as in *venn-lig* ‘friendly’
 - c. *-het* as in *venn-lig-het* ‘friendliness’
 - d. *-skap* as in *ekte-skap* ‘marriage’

- (2) Included English-origin morphemes
-able, -full, -ish, -ly, -ment, -ness, -tion

It is not possible to search for specific morphemes in CANS. Therefore, we searched for words containing the string of letters of these morphemes, and

¹ <https://tekstlab.uio.no/glossa2/cans3>

manually sorted the results to filter out irrelevant hits and immediate repetitions.² As a result of this strategy, the results also include words with other morphemes than those in (1) and (2). These were included in the dataset, because our goal was to include as many derivations as possible. Future work can build on this study to investigate these patterns more systematically.

After the manual check, the data were analyzed for language mixing and morphological structure. For the latter, we considered how many derivational morphemes were found on each hit, and whether other morphological processes such as inflection and compounding were present. With respect to language mixing, we examined the language of the root, derivational morpheme, and (where relevant) other morphemes of the word. In addition, we checked whether the utterance containing the word was English or Norwegian. It is open to debate whether we find productively formed derivations or stored lexical items. It is, however, difficult to distinguish between these without further investigation. Because this is an exploratory study, and because of our view of a shared bilingual lexicon (see Section 2), we included all words including a derivational suffix in the present study.

4. Results

In this section we present results for Norwegian origin (4.1) and English origin (4.2) morphemes. The findings are remarkably similar: combinations of roots and derivational affixes are generally language consistent, i.e., the two morphemes come from the same language. Five hits do not follow this generalization, as we discuss below.

4.1. Norwegian-origin morphemes

In total, we find 1266 hits with a Norwegian-origin derivational affix. Almost all of these occur in a Norwegian utterance (n=1225, 97.8%), and only a few occur in fragments or English sentences. Some examples are given in (3), where the derivation is in bold. Each example is accompanied by a speaker reference code.

- (3) a. *den er **bruk-bar** men e jeg vil ikke bruke den*
'It is useable but eh I don't want to use it' (gary_MN_02gk)
- b. *og hadde store **vanske-lig-het-er** på skolen*
'And had large difficulties at school' (seattle_WA_03gm)
- c. *det var **u-venn-skap** var det ikke en ei tid?*
'There was unfriendliness, wasn't there, for a while?' (westby_WI_05gm)

² The results of a search for words including *-lig*, for example, also contains many hits of the verb *å ligge* 'to lay'. In these hits, *-lig* is not a derivational morpheme, and these kinds of irrelevant hits are all excluded.

The results show that AmNo speakers use derivational morphology from Norwegian. This is not surprising, but the relative stability of AmNo derivation contrasts the often-observed changes in inflectional morphology among heritage speakers (see Section 2). We furthermore find individual morphemes forming complex derivations, as in (3b) and (3c), and that derived words can carry inflection, like the plural suffix *-er* in (3b).

Norwegian derivational morphemes almost always combine with Norwegian roots, as in (3); the only exception in our dataset is given in (4). Here, we see the Norwegian derivational morpheme *-aktig* ‘-like’ occurring on the English-origin root *family*. It is important to note that the root is pronounced as the English *family*, and not like the Norwegian cognate *familie*. Rather, the derivation *-aktig* ‘-like’ is pronounced in an English-like manner, with /e/ rather than /a/ as the first vowel.

- (4) *de ba naboene til seg og hadde bevertning og mat og nokså family-aktig og fint*
 ‘They invited the neighbors and had food and drinks and quite family-like and nice’
 (beaver_creek_WI_01gm, 1942)

This is the only example in our data with a Norwegian derivational morpheme on an English root. The morpheme *-aktig* ‘-like’ occurs four more times in CANS, and in those cases, it combines with a Norwegian root.³

4.2. English-origin morphemes

Although we included a longer list of English-origin morphemes in our corpus search (cf. (1) and (2)), those searches led to fewer hits. In total, we found 676 words with a derivational morpheme of English origin, many of which are less relevant for our study on language mixing. They are fragments as in (5), hits occurring in complete English sentences like (6), and instances where the speaker codeswitches on purpose to ask for a Norwegian word, as in (7). It is unsurprising that speakers use English derivational morphemes in these cases, and we therefore do not discuss such examples further.

- (5) *oh my good-ness* (sunburg_MN_06gm)
 (6) *they said he couldn't talk Engl-ish just Norwegian* (archerwill_SK_02gk)
 (7) *åssen sier dere informa-tion? Forklaring kanskje*
 ‘How do you say information? “forklaring” maybe’ (stillwater_MN_01gm)

³ Interestingly, words with *-aktig* behave like compounds in many aspects (Eik 2019: 12, 55–56) and it should be investigated further whether this truly is a derivational morpheme.

From the perspective of language mixing, it is more interesting to investigate whether English-origin derivational morphemes are used when the speakers speak Norwegian. Here, our data set contains 244 instances of an English derivational morpheme in an otherwise Norwegian sentence. In the vast majority of cases, we find that these morphemes occur on a root that also has an English origin, as in (8).

- (8) a. *det er en god **busi-ness** om sommeren òg*
 ‘It is a good business in the summer too’ (spring_grove_MN_34gm)
- b. *vi levde i et norsk **settle-ment***
 ‘We lived in a Norwegian settlement’ (westby_WI_41gm)
- c. *det er ikke sånn e stor **celebra-tion** som det brukte å være*
 ‘It is not such a big celebration as it used to be’ (appleton_MN_01gm)

While the English-origin derivational morphemes occur on English roots, these complex items can be mixed with Norwegian material. We find Norwegian inflection on them, as in (9), where we see the Norwegian definite suffix in both examples. We also find the Norwegian post-nominal possessive *vår* ‘our’ in (9a). Although not an inflectional morpheme, it is a DP-internal morpheme that occurs in its Norwegian form and placement.

- (9) a. *Det var **entertain_{ENG}-ment_{ENG-en}^{NOR}** vår om vinteren det*
 It was entertain-ment-DEF.M.SG our in winter.DEF it
 ‘That was our entertainment in the winter’ (sunburg_MN_09gm)
- b. *Det papiret som du får ifra **govern_{ENG}-ment_{ENG-et}^{NOR}***
 That paper.DEF that you get from govern-ment-DEF.N.SG
 ‘That paper that you get from the government’ (stillwater_MN_01gm)

In addition to Norwegian inflectional morphemes, we also see Norwegian elements in compounds with words that have English derivational morphology. Two examples are given in (10), where we furthermore see another example of Norwegian inflection in (10a), and a compound with three elements in (10b). In both cases, the English derivational morpheme occurs on an English root, and the complex item then combines with Norwegian roots.

- (10) a. *trønder_{NOR}-settle_{ENG}-ment_{ENG-a}^{NOR}*
 trønder-settle-ment-DEF.PL
 ‘The settlements with people from Trøndelag’ (spring_grove_MN_18um)

- b. *hundre*_{NOR}-*års*_{NOR}-*celebra*_{ENG}-*tion*_{ENG}
 hundred-year-celebrat-ion
 ‘Hundred years’ celebration’ (decorah_IA_01gm)

The examples in (8)-(10) show that language mixing with derivations is possible, but that there is hardly any mixing at the level of root and derivational morpheme. We find only one exception to this generalization: The word *mestly*, consisting of the Norwegian root *mest* ‘most’ and the English derivational morpheme *-ly*, see (11). The word occurs four times in our data set, once in 1942 and three times in 2010. One speaker in 2010 produces two instances of *mestly*.

- (11) a. *alle alle ungene # prata engelsk mest-ly*
 ‘All young people speak mostly English’ (sunburg_MN_07gm, 2010)
- b. *det var mest-ly kjøtt*
 ‘It was mostly meat’ (blair_WI_17gm, 1942)

It is important to note that the English morpheme *-ly* sounds exactly like the Norwegian morpheme *-lig*, and has a similar function. Although *mestly* might have been transcribed as *mestlig* and considered an unmixed Norwegian word, it is unexpected in Norwegian. One would simply say *mest* ‘most(ly)’ in the sentences in (11), so the fact that a derivational morpheme occurs here is interesting, potentially “overmarking” it as an adverb (cf. Polinsky 2018: 49-50).

At first glance, the data set appears to include other examples of mixing at the level of root and derivational morpheme. However, these cases all include the morpheme *-full*, which we included as an English-origin morpheme, but which actually could be considered a Norwegian-origin morpheme as well. The found examples, illustrated in (12), are all established homeland Norwegian words. This illustrates that the division between Norwegian-origin and English-origin affixes is not always clear, as some morphemes could be shared among both languages. We address this issue in the next section.

- (12) a. *så var ham så skam-full*
 ‘Then he was so ashamed’ (viroqua_WI_04gm)
- b. *som er betydnings-full-t*
 ‘Which is meaningful’ (spokane_WA_01gk)

5. Discussion and conclusion

Returning to the questions that guide this investigation (see Section 1), language mixing with derivations is highly constrained in our dataset. The extent to which English derivational affixes occur in Norwegian is most consistently as borrowing of derived words, not as individual morphemes (see Section 4.2). We find little to

no evidence of any productive morpheme borrowing like in Fábregas & Rothman (2021). In this respect, the outcomes from AmNo-English contact mirror the English-French pattern (Trips 2014), albeit over a shorter period of time. We find a consistently low number of derivational mixing in the data from 1942 (two instances) as we do from 2010 (three instances). Our preliminary results are furthermore compatible with the “instability” of derivational morphology as a domain targeted by RL agentivity, where the derivational system of the SL (English) is not systematically utilized in the RL (Norwegian). These findings support van Coetsem’s (1988, 2000) observation that derivational morphology behaves as part of the vocabulary, rather than grammatical structures, in language contact.

Yet, given that borrowing, specifically RL agentivity, is common in AmNo (Haugen 1950, 1969), and that mixing appears to be productive in compounds (Eik & Riksem 2022; Riksem 2018b), we are left with the question of why the word-building processes of compounding – also a type of RL agentivity – are prone to mixing, whereas the word-building mechanisms for derivations appear resistant to it. We hope to address this issue in more detail through a comprehensive examination of AmNo derivations like those in (3). Specifically, we now can confirm that mixing in derivations is rare, but we do not know if derivation in general has waned and potentially become less productive over time.

We focused here on the patterns of language mixing in words containing a derivational morpheme. We have, however, not discussed the morphosyntactic structure of these items, nor the morphosyntactic processes that create them. For the data presented here, a central question is to what extent syntax prevents language mixing between roots and derivational morphemes. If syntax disallows such mixes, one needs to explain why a few examples were nevertheless found (i.e., *family-aktig* and *mest-ly*, and potentially other cases if a larger set of morphemes is investigated). If, on the other hand, syntax does not contain such restrictions, the question of why mixing is so infrequent remains unanswered. For reasons of space and the exploratory aim of the study, we leave the formal morphosyntactic analysis as a topic for future research. Other work on patterns of language mixing in AmNo (Eik & Riksem 2022; Grimstad et al. 2014; Riksem 2018a; Riksem et al. 2019) has advanced proposals using Distributed Morphology (DM; Halle and Marantz 1993) and incorporating derivational morphology into this framework would contribute substantially to this line of research.

In summary, the study presented here investigates the role of derivational morphology in language mixing in AmNo-English language contact with the help of corpus data. We find almost exclusively language-consistent combinations of roots and derivational morphemes. In this respect, derivational morphology is different from both compounding and inflectional morphology, where mixing is found more frequently. Our results are in line with van Coetsem’s (1998, 2000) suggestion that derivational morphology patterns with lexical items in terms of borrowing. Future work that investigates more data and more morphemes (including the process of zero derivation) could shed light on the behavior of

different derivational morphemes as well as the morphosyntax underlying words with derivational affixes. We also wish to investigate the extent to which derivational morphemes are productive in word-formation among contemporary AmNo bilinguals. Finally, a closer look at derivational morphemes that are shared across the languages (such as *-ing* and *-ly/-lig*) could elucidate the role that syntax and the lexicon play in word formation in American Norwegian and heritage languages more generally.

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