Variation in vulnerability; the role of social factors in the distribution of structural innovation in heritage speakers

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Theories on vulnerability in bilingual language use focus on the relative vulnerability of different linguistic domains. For example, the interface hypothesis posits that linguistic domains in the external interfaces are more vulnerable to change than linguistic domains in the internal interfaces (cf. Sorace 2011). The central aim of this paper is to argue that the relative vulnerability of different linguistic domains can shift depending on the social situation. For example, whereas in some speakers the ditransitive structure is most open to change, in other speakers the use of demonstratives is the most vulnerable area.

What construction is most prone to change depends on the source of the innovation. Some types of innovations depend on the level of co-activation of the two languages involved, whereas other changes might be related to factors of economy or processing ease. What factor is most relevant, depends on the language use situation of the speaker. Speakers who often use both of their languages in the same social situation with the same bilingual interlocutors are more likely to show cross-linguistic influence, whereas speakers with little input might rely most on economic structures.

Moro (2016) investigated ten different features in heritage speakers and first generation speakers of Ambon Malay in the Netherlands. She used a proximity matrix to calculate the distance between these ten linguistic features, the idea being that features that cluster together are likely to have been caused by the same mechanism. She found three groups of feature clusters that matched specific sociolinguistic profiles. An important take-away from the research by Moro is that relative openness to innovation/vulnerability across structures differs between heritage speakers.

The present study focuses on three structures in two generations of speakers of Mandarin in the Netherlands that proved to be unequally vulnerable across different speakers of Ambon Malay Moro (2016). We elicited these structures using the ELICKIT of the Traces of Contact project (PI Pieter Muysken) The structures under concern are ditransitive structures, progressive markers, and demonstrative markers. In these structures we find similar overall differences between speakers in the Netherlands versus homeland speakers, but the extent to which we find these differences per structure varies across speakers. We aim to explain the relative vulnerability of these structures to the sociolinguistic profile of the speakers. We obtained the latter information via an oral sociolinguistic questionnaire.

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Language change over a lifespan: Einar Haugen's last speaker

The most important foundation for Einar Haugen's pioneering work «The Norwegian Language in America», was the massive field work he did in the 1940s. During this period, he visited numerous Norwegian-American communities in Wisconsin and Minnesota and interviewed and/or recorded about 260 Norwegian heritage speakers. As most of those he interviewed were born more than hundred years ago, they all have passed away. However, there was one single exception from this; during the fall of 2017 I was able to identify, locate and record the last living speaker from Haugen's material, an 89 years old man living in a small town south of Madison, WI.

He was interviewed by Hagen's assistant, Magne Oftedal, in 1948, when he still was a teenager. The documentation of his language from that time consists of Oftedal's field notes, a written questionnaire (which took 6½ hours to complete), and most important in the present context: 30 minutes of sound recording of fairly good technical quality. This 70 years old material can now be matched with a two hour recording done three years ago, providing a rather unique opportunity to study individual language change over almost a lifespan.

This speaker grew up in the so-called Rock Prairie settlement, not too far from where he was living when I recorded him. This was one of the early Norwegian settlements, established in Wisconsin in the 1830s. He was a 3rd generation Norwegian-American, and his family emigrated from eastern Norway (Biri, Hallingdal and Numedal) in the 1800s. According to the 1948 field notes, this man was the youngest speaker of Norwegian in his community; he reported to speak Norwegian with his parents, but there were few others to speak Norwegian with. Oftedal judged him to be bright, socially very active and with a leading position among his peers.

70 years later he still appeared to be cognitively sharp and a lively individual. It was, however, obvious that he had not spoken Norwegian at any rate for decades, as his mastering of the heritage language had changed between the time he was a teenager in 1948 and as an old man. The most noticeable change in his heritage speech was a rather low processing speed, partly due to numerous repetitions and repairs, and frequent code switches into English. Some of these processing difficulties can be a consequence of the speaker's high age. However, this can be tested by comparing his processing ability when speaking English and Norwegian. It is reasonable to assume that general cognitive challenges due to high age, should affect not only the heritage language Norwegian, but also the dominant language English. The data available, with recordings in English as well as Norwegian, should make it possible to do a qualified judgement of this.

Furthermore, behind this «smoke screen» of processing difficulties when speaking the heritage language, we also find that language structures of different kinds have been a target for attrition and change. This includes features related to phonology, morphology and syntax, and it is my aim in the present presentation to use the two data sets to compare and finally discuss which linguistic features in the heritage language are most vulnerable for change in this kind of setting, and which ones are more robust.

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Transmission of complex variation in a heritage language context: American Norwegian argument shift across generations

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Norwegian exhibits variation with respect to how arguments are placed relatively to negation and verbal particles. NP objects generally follow negation (ex. 1). Pronominal objects, on the other hand, have a strong tendency to precede negation; this is referred to as Object Shift (OS) (Holmberg 1986, ex. 2). Pronominal subjects (when not fronted to Spec-CP) tend to precede negation; this is referred to as Subject Shift (SS, ex. 4). NP subjects show more variation (see ex. 5). Pronominal objects generally precede verbal particles (though not categorically in all dialects), while NP objects can either precede or follow the particle (ex. 6–7) (Larsson & Lundquist 2014).

In this paper we investigate how this complex variation is transmitted across generations in American Norwegian (AmNo), a heritage language spoken in the USA/Canada.[1] We use novel data from the speech corpora LIA (homeland Norwegian dialect speakers born in the 19th and (early) 20th century), and CANS (Norw. heritage speakers in North America).[2] The data set is unique in two ways: First, LIA gives us a hitherto unprecedented degree of access to spoken dialects from the time around which many of the first emigrants left Norway. Second, the latest version of CANS includes, in addition to recent recordings of AmNo, older recordings made by E.Haugen in the 1930s/40s; we can thus trace the developments that have taken place in America via the intermediate stage of the generation of AmNo speakers that provided linguistic input to today's speakers.[3] This strongly contributes to a solution of the baseline problem that has been acknowledged in many studies of heritage Norw. (e.g. Johannessen & Larsson 2015) and in heritage languages more widely (e.g. Montrul 2016:168ff).

We compare 3 groups of speakers: 1) Speakers in LIA, limited to the county of Oppland (i.e. homeland Norw. speakers who lived in a time and an area characterised by large-scale emigration). 2) AmNo speakers in CANS, recordings from the 1930s/40s. 3) AmNo speakers in CANS, recorded in 2010, limited to speakers whose ancestors came from Oppland.

Key results are the following (we focus on pronominal arguments): Pronominal objects shift in a fairly similar way in all three groups. Both of the AmNo samples include individual cases of unshifted objects that apparently fulfil the normal conditions for shift; however, this is also attested in LIA (compare ...*så han såg **ikkje meg** da* 'so he didn't see me then' (LIA) vs. … *og så **ikke meg*** 'and didn't see me' (CANS, 1930s/40s)). Pronominal subjects exhibit two developments: First, fronting of subjects to Spec-CP increases incrementally in AmNo (Table 1) (see also Westergaard & Lohndal 2019). Second, out of the subjects in the middle field (i.e. those that are *not* fronted to Spec-CP), incrementally fewer are shifted (Table 2). Relatively to verbal particles, pronominal objects exhibit variable placement in LIA; 7/38 (18%) are placed after the particle (e.g. ...*han åt **opp dei*** 'he ate them up'). In CANS 1930s/1940s and 2010, the figures are 3/25 (12%) and 5/41 (12%), thus, post-particle objects are still clearly attested, though somewhat less frequently.

The overall picture is that the complex variation in argument shift is retained across generations. We argue that the developments wrt. subject placement can be explained as quantitative fluctuations produced by an unchanged grammar, in combination with a preference for avoiding complexity. The increase of fronted subjects follows from a reluctance to front other constituents, which would entail more complex movement operations. Similarly, the decrease in SS is a strategy to avoid moving a middle field subject further than necessary. On a more general level, our findings suggest that the acquisition of heritage languages, and thus their diachronic development, is not crucially determined by frequencies or the patterns found in the dominant language; instead, universal principles and sensitivity to information structure and prosodic patterns are key, like in other natural languages (Westergaard 2013, Erteschic-Shir & Josefsson 2017).

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1 A heritage language is acquired in the home, but is not the dominant language of the larger society (Rothman 2009).
2 https://tekstlab.uio.no/glossa2/lia, https://tekstlab.uio.no/glossa2/cans3.
3 See also Riksem (2017), who, however, relies on Haugen's transcriptions and not the original recordings.

(1) Han likte **ikke boka**. (2) Han likte **den ikke**. (3) Han likte **ikke DEN.**
he   liked not book.DEF   he liked it not   he   liked not it
'He didn't like the book.'   'He didn't like it.'   'He didn't like that.'

(4) Derfor likte   **han ikke** boka
therefore liked he   not book.DEF
'Therefore he didn't like the book.'

(5) Derfor likte {**gutten**} ikke {**gutten**} boka.
therefore liked boy not boy book.DEF
'Therefore the boy didn't like the book.'

(7) Vi kastet {**det**} ut {**%det**}
we threw it   out it
'We threw it out.'

(8) Vi kastet {**søppelet**}   ut {**søppelet**}
we threw rubbish.DEF out rubbish.DEF
'We threw out the rubbish.'

Table 1	Spec-CP	Middle field
LIA	400/592 (67,6%)	192/592 (32.4%)
CANS, 1930s/40s	230/306 (75.2%)	76/306 (24.8%)
CANS, 2010	679/811 (83.7%)	132/811 (16.3%)

Table 2	Sub-neg (=SS)	Neg-sub
LIA	177/202 (87.6%)	25/202 (12.4%)
CANS, 1930s/40s	56/76 (73.6%)	20/76 (26.4%)
CANS, 2010	66/132 (50%)	66/132 (50%)

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Assignment of Grammatical Gender on English words in American Norwegian

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Introduction: It is well-known in the literature on language mixing that speakers can assign a grammatical gender to a noun which does not originally have gender (e.g., Valdéz Kroff et al. 2019). This often happens when nouns from English are mixed or borrowed into a grammatical gender language. This talk will investigate assignment of grammatical gender on English words in heritage speakers, more specifically speakers of the heritage language American Norwegian.

Background: Bilingual speakers generally and heritage speakers in particular often mix the languages they use. Ever since Flom (1903), scholars have been interested in studying how speakers of American Norwegian mix English and Norwegian, and in particular, how they assign one of the three genders MASCULINE, FEMININE and NEUTER to English nouns mixed into an otherwise Norwegian structure. The examples in (1) show three different indefinite articles whereas the examples in (2) illustrate three correspondingly different definite articles (from Riksem 2018 based on the Corpus of American Nordic Speech (CANS; Johannessen 2015)).

(1)	a.	ei **nurse**	*a.INDF.SG.F nurse*	(coon_valley_WI_02gm)
	b.	et **shed**	*a.INDF.SG.N shed*	(coon_valley_WI_02gm)
	c.	en **chainsaw**	*a.INDF.SG.M chainsaw*	(blair_WI_07gm)
(2)	a.	**field**-a	*field-DF.SG.F*	(coon_valley_WI_02gm)
	b.	**shed**-et	*shed-DF.SG.N*	(westby_WI_06gm)
	c.	**chopper**-en	*chopper-DF.SG.M*	(blair_WI_01gm)

The question is what determines gender assignment on English nouns. Haugen (1953: 44) argues that 'All nouns become masculine unless they were associated with a homophonous fem[inine] or neut[er] morpheme or a female creature', whereas Hjelde (1996) argues that it is possible to identify morphological, semantic, and phonological assignment rules. In a more recent study, Riksem (2018) argues that translational equivalence is not a guiding principle in gender assignment to English nouns, unlike what has been found e.g., when Spanish is the L1 (Liceras et al. 2008, though see Bellamy et al. 2018 on other language pairs). However, Riksem does not discuss what, if any, the assignment principles in American Norwegian actually are.

This study: The nature of gender assignment principles in American Norwegian will be investigated from a diachronic and synchronic perspective. Synchronically, we will investigate patterns in gender assignment on English nouns in the most recent version of CANS. Specifically, we will focus on FEMININE and NEUTER since these are not the default gender (cf. Haugen 1953, Hjelde 1992). Diachronically, we will compare CANS data with previous research in order to identify possible changes in gender assignment principles across time.

Results and analysis: For the synchronic speakers, we will show that there is a lot of inter-speaker and sometimes intra-speaker variability when it comes to gender assignment, and that assignment of FEMININE and NEUTER seems to be fairly random, depending on perceived phonetic similarity and associations with existing Norwegian nouns. Diachronically, we will show that there is more fluctuation and variability in CANS. That is, speakers are less consistent in their assignment of grammatical gender on English nouns in recent years. Some of this may be because of variation in the input due to dialect variation, but it may also be the case that the speakers' general fear of not speaking 'proper' Norwegian (what Eide & Hjelde 2015 and Rødvand 2017 refer to as heritage 'language anxiety') trigger them to use all three genders since this is a salient feature of 'proper' Norwegian. In terms of gender assignment, the paper will explore an analysis based on Distributed Morphology and Kramer's (2014, 2015) approach in particular. Overall, gender assignment on English nouns in American Norwegian will be argued to be vulnerable and variable, consistent with previous findings for grammatical gender on Norwegian nouns (Lohndal & Westergaard 2016, Rødvand 2017).

Endangered Languages as Heritage Languages: Divergent Attainment and Phonological Regularization of Diminutive Reduplication in ʔayʔaǰuθəm (Comox-Sliammon, Salish)

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Background: Heritage language (HL) speakers are L1 speakers who have had limited input during the later stages of language acquisition, due to the influence of a second, dominant language (Polinsky 2008). This definition can be extended to many L1 speakers of First Nations Languages (FNLs) in Canada, who were forced to attend residential schools where the use of their L1 was not only strictly forbidden, but a punishable offense (TRCC 2015). These circumstances have threatened the vitality of these languages (FPCC 2018). In the present paper, I explore diminutive reduplication patterns in ʔayʔaǰuθəm (Comox-Sliammon, a Central Salish language spoken in Canada with fewer than 50 speakers) through an FNL-HL lens.

Methods: Nagy (2017) stresses the importance of studying endangered HLs and identifies the need for adaptable and appropriate methodologies. This observation is especially pertinent for the study of FNL-HLs as there is no population of "baseline speakers" for linguistic comparison (Polinsky 2018 and references therein). In this study, I modify standard HL methodology by utilizing older documentation to provide a baseline and further by integrating multi-modal fieldwork elicitation techniques and speaker-specific ethnographic interviews.

Diminutive Reduplication: Reduplication is one of several non-concatenative morphological processes found in ʔayʔaǰuθəm. Both Harris (1981) and Watanabe (1994) noted that periphrastic phrases were often preferred by their consultants over reduplicated forms. Each of them offers language loss as an explanation for the reduced number of reduplicated forms: Watanabe (1994:47) argues that the use of periphrastic words is due to influence from English, and Harris (1981) speculates that reduplication is falling out of use as a result of a diminished number of speakers. However, from an FNL-HL perspective, it is important to ask *how* speakers produce and interpret reduplicated forms, rather than just quantifying the number produced. If an increase in periphrastic forms is correlated with erosion in the morphophonology of reduplication, this should be reflected in speaker errors and inconsistency in reduplication.

To test this, I examined the formation of diminutive nouns, drawing upon previous documentation to establish a relative baseline. The oldest documentation of diminutive reduplication in ʔayʔaǰuθəm shows an irregular pattern that must have been lexically restricted (Sapir 1915). In contrast, fieldwork with contemporary HL speakers of ʔayʔaǰuθəm reveals a phonologically regular, productive, and compositional process. This suggests that lexical attrition has affected the distribution of diminutive allomorphs by eliminating irregular reduplication patterns, which must be acquired for individual words. As HL speakers often have a smaller vocabulary (Polinsky 2018), I conclude that attrition has weakened lexical restrictions which characterized the earlier system, resulting in divergent attainment.

Conclusion: HL speakers of ʔayʔaǰuθəm have an intact grammar that can form phonologically regular diminutive reduplicated forms, which is markedly different from that of previous monolingual generations. The divergent attainment and regularization of reduplicative patterns exemplifies systematicity consistent with regular change, rather than just language attrition or loss.

Supplementary Examples

(1)   Diminutive Reduplication and Periphrastic Diminutives in Current ʔayʔaǰuθəm

Word: supayu   'axe'   takin   'sock'
Reduplication: su**s**payu   'little axe'   ta**t**kin   'little sock'
Periphrastic: <u>titul</u> supayu 'little axe'   <u>titul</u> takin   'little sock'

Note: Both reduplicated and periphrastic forms are given the same translation, judged equally acceptable across contexts, and speakers report no difference in meaning when prompted with the ʔayʔaǰuθəm forms.

(2)   Comparison of Diminutive Forms in Sapir (1915) with Current ʔayʔaǰuθəm

		Sapir (1915)	Current ʔayʔaǰuθəm
a.	water	**qi**qaẏaʔ	qaq̇yaʔ
b.	tooth	**ǰi**ǰidis	ǰəǰnis
c.	bear	**mi**miχaɬ	mi**m**χaɬ
d.	cherry		čəčlis
e.	soup		la**l**sup

Note: Vowel quality and reduplicant shape vary across older documentation, but are more systematic in the speech elicited from a current speaker of ʔayʔaǰuθəm. The productivity of the pattern is supported by loanwords that come from English (2d) and French (2e).

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